Broadband Infrastructure PLAYBOOK

Implementing BEAD and other
Broadband Deployment Programs

JULY 2022 UPDATE

Fiber Broadband ASSOCIATION

NTCA THE RURAL BROADBAND ASSOCIATION

Cartesian®

FOREWORD

America's future depends on universal connectivity to essential, reliable, robust infrastructure – whether it is electric, water, or broadband. And, with enactment of the $1.2 trillion Infrastructure Investment and Jobs Act (IIJA), we finally have the resources and direction to enable us to achieve this goal. Yet, success is not assured. We now need to turn our attention to execution, making sure we invest these enormous resources in infrastructure that will connect communities for decades to come.

The IIJA makes the largest one-time federal broadband investment in history with $65B in funding, covering 4 key areas: (1) deployment of *future-proof* connectivity to all Americans; (2) broadband subsidies for low-income users; (3) funding to accelerate the country's progress toward addressing both broadband access and adoption challenges; and (4) funding to address digital training and literacy. All these initiatives are highly dependent on decisions that each state will make when funding its critical infrastructure – the existence of a network that communities and individual users can rely upon for decades to come is foundational to promoting greater adoption and more effective use of broadband services. As a result, this Playbook is largely focused on the $42.45B Broadband Equity, Access, and Deployment program as it funds the foundation upon which everything is built for the future.

With this opportunity comes a tremendous responsibility for each state and territory broadband office to make sure this infrastructure investment yields its maximum benefit, now and into the future, so that no person or community is again left behind. As a result, the Fiber Broadband Association and NTCA–The Rural Broadband Association commissioned industry-leading consulting firm Cartesian to develop this Broadband Infrastructure Playbook.

Our goal with this Playbook is to provide a valuable resource to the states and territories to help them accelerate the availability of funding, provide best practices from past state broadband grant programs that have worked well, and help provide some consistency in the process nationwide. This once-in-a-generation funding opportunity warrants an effective and efficient approach that will deliver networks and services providing value for generations to come. We hope you find the information in this Playbook useful and that you reach out to our Associations for our expertise in fiber broadband, the rural broadband market and what it takes to serve consumers – today and into the future.

Gary Bolton
President and CEO
Fiber Broadband Association

Shirley Bloomfield
CEO
NTCA–The Rural Broadband Association

CONTENTS

A $65 billion opportunity to close the digital divide

In the 2021 Infrastructure Investment and Jobs Act (IIJA), President Biden signed bipartisan legislation providing a groundbreaking $65 billion federal investment in broadband equity and access. The scale of funding presents a once-in-a-generation opportunity to invest in broadband infrastructure that will connect millions of unserved and underserved Americans and overcome barriers that have kept millions more from adopting broadband even where available.

The IIJA makes clear – and the pandemic has confirmed – that access to affordable, reliable, high-speed broadband is critically important for individuals, families, and communities to be able to work, learn, and access vital services.

Those on the wrong side of the digital divide include communities of color, lower-income areas, and areas where broadband is more expensive to deploy. Rural communities are often affected, due to their relative remoteness and low population density.

> **"The persistent "digital divide" in the United States is a barrier to the economic competitiveness of the United States and equitable distribution of essential public services, including health care and education." – IIJA**

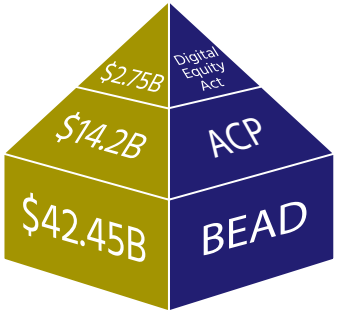
The IIJA further considers digital equity as a matter of social and economic justice. It recognizes that digital exclusion materially harms the opportunities of individuals with respect to health, wealth, education, and inclusion.

Ultimately, the IIJA makes it a national priority to ensure that every American will have access to robust and affordable high-speed internet.

The Broadband Equity, Access, and Deployment Program

The cornerstone of the IIJA's vision for broadband equity is the $42.45 billion Broadband Equity, Access, and Deployment (BEAD) program. The BEAD program will primarily fund broadband infrastructure projects that increase access and improve affordability.

Physical infrastructure of the type that will be funded by the BEAD program is the *foundation* on which other broadband provisions of the IIJA will sit, including the Affordable Connectivity Program and Digital Equity Act – together comprising a further $16.95 billion investment.



Responsibility for awarding BEAD funding to new infrastructure projects is entrusted to the state governments and comparable entities in US territories and the District of Columbia. (For readability, States, US Territories, and the District of Columbia will hereafter be referred to as "states.")

State officials have the advantage of being close to the communities in need of critical broadband infrastructure, providing a unique

understanding of both what is needed and the importance of making effective choices in awards. But the size, scale, and statutory requirements of the BEAD program brings new challenges, expectations, and demands even for those states that have administered broadband grant programs of their own in the past.

The need for reliable, high-speed broadband

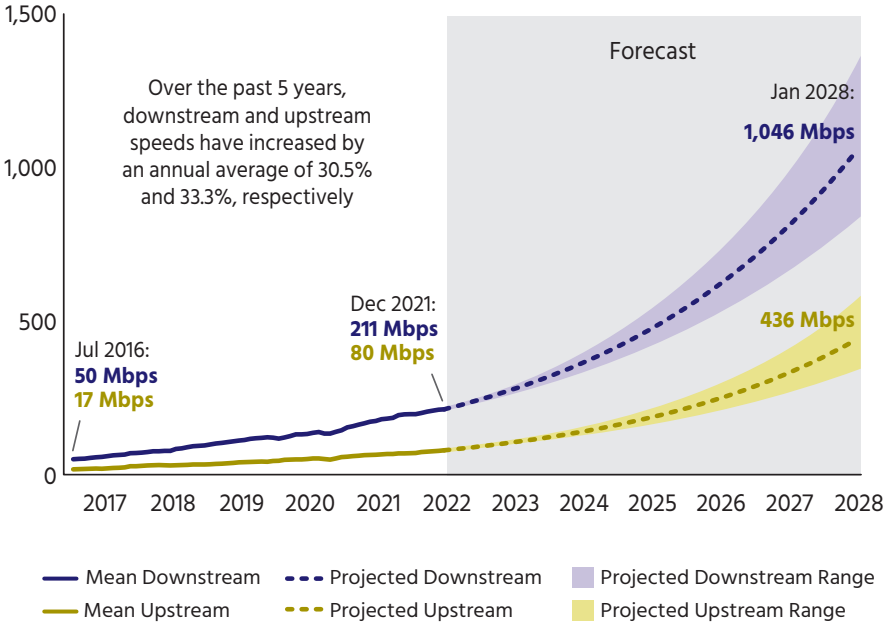
Few now doubt that access to reliable and affordable high-speed broadband is a requirement for full participation in society. The COVID-19 pandemic made this clearer than ever. During the last two years, hundreds of millions of Americans have depended upon high-speed connections for their work, education, and access to vital services.

Over the next 10 years, our reliance on broadband will become even greater. Emerging applications use progressively larger amounts of data. More and more services will be delivered online.

This is not a new trend as the chart below shows. Consumer demands for higher internet speeds have been increasing steadily for years and are projected to do so into the future. The average US download speed in December 2021 was 3.7 times higher than in December 2016, an annualized growth rate of 30.5%. Over the same period, upload speeds increased even faster, growing by a factor of 4.2, or an annualized growth rate of 33.3%.

Higher upload speeds will improve remote work, distance learning, telehealth, real-time interactive applications such as videoconferencing, and next generation technologies like precision agriculture, in which uploading and viewing data sets from automated vehicles or drones will be highly data intense.[1]

Historical and Projected Average US Internet Speeds (Mbps)



Note: forecast is based on full period CAGR with a 15% margin of error. Source: Ookla (2016-2021)

From the same chart, one can see that the average US broadband connection already delivers 211/80 Mbps as of December 2021. Five years from now, given evolving applications and the kinds of network investments being seen in urban and suburban areas today, this undoubtedly will be even greater. Indeed, many providers offer symmetric gigabit speeds today and already have the capability to extend this to 10 Gbps symmetric and beyond. Consumers are also increasingly adopting these higher speeds as they seek to make use of new applications as more daily commerce, education, and entertainment move online.

In parallel with faster speeds, low latency is becoming increasingly important to support a new generation of interactive applications

and industry use cases. Emerging technologies such as self-driving vehicles, precision agriculture, and virtual reality will all demand predictable low latency connections.

Data from today's networks reveals average latency on US broadband networks to be around 25 ms.[2] Virtual reality (VR) applications will require less than 20 ms and augmented reality (AR) as low as 5 ms.[3]

Finding a lasting solution to the digital divide

The BEAD program is a once-in-a-generation opportunity to help close the digital divide. If executed effectively, it promises to transform the lives of unserved and underserved households and businesses by investing in broadband infrastructure that will have a lasting effect.

The need for action is clear. In 2021, the Federal Communications Commission (FCC) found that 17.3% of rural Americans lacked fixed terrestrial access to speeds of 25/3 Mbps, compared to 1.2% of urban Americans.[4]

With BEAD program funding, states can fund networks that close these performance gaps. But execution is key – it is critical that states plan not just for today's needs by patching gaps but rather build networks that will meet anticipated demands for generations.

The pandemic taught people that simply having broadband was not enough; it was the type of broadband that mattered.

This foresight is key to achieving the IIJA's promise of decades of progress in broadband infrastructure. No one expects that the federal government will invest further billions for a network refresh in 5- or 10-years' time. It would be a tremendous loss of opportunity for any given state – and put that state at a competitive disadvantage in a national and global marketplace – if the networks funded today fail to keep pace with the demands of their citizens and community needs.

Preparing for the BEAD Program

The BEAD program is by far the largest single federal investment in broadband infrastructure. It places states at the heart of the program, presenting them with both a golden opportunity and a significant responsibility. Fortunately, many states have previously administered their own broadband deployment grant programs and have experience that will be invaluable in the delivery of BEAD program funding. However, even these states will need to adapt to the new BEAD requirements and NTIA guidance.

With the publication of the Notice of Funding Opportunity (NOFO) in May 2022, state officials are invited to submit a Letter of Intent to the NTIA to participate in the BEAD funding. They must then follow a multi-stage process to secure the funds and make subgrant awards. Every state will want to maximize use of funds to close the digital divide and thus, states will need to pay careful attention to many details in the NOFO.

Within this context, the Fiber Broadband Association and NTCA commissioned industry-leading research firm Cartesian to develop the Broadband Infrastructure Playbook. This Playbook will assist state governments in ensuring that this historic investment in broadband infrastructure delivers immediate local impact and benefits generations to come. The Playbook outlines the statutory requirements and NOFO guidance that states will need to comply with to receive BEAD program funds, provides recommendations on successful broadband grant program elements, and illustrates best practices from prior programs as examples. The Playbook is intended to serve as both a resource and a reference for state governments to assist through all stages of implementing the BEAD program.

Using the Playbook

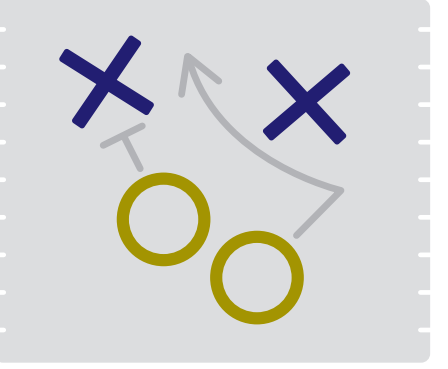
The Playbook is organized into 4 sections that cover key topics state broadband offices will need to address.

1 The State Broadband Office	2 The BEAD Application	3 Grant Program Design	4 Grant Program Administration
Best practices for organizing and running a state broadband office well prepared for administering BEAD	Stages of the BEAD application to the NTIA including statutory requirements and pointers in preparing to unlock funding	Key steps in designing the state broadband grant program to achieve state and federal goals	Process steps involved in running a successful state grant program
For states that have yet to establish their Broadband Office, or that are seeking to augment their existing office to meet the scale of BEAD	***Start here to unlock your $5 million in planning funds***	*How to ensure BEAD delivers the strongest foundation for digital access & equity in your state*	*Recommendations and case studies from best practice state programs*

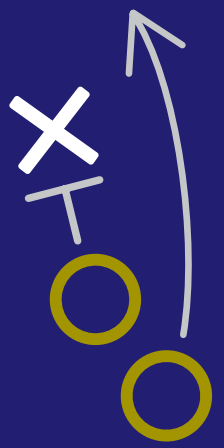
At a high-level the Playbook is organized chronologically. The state broadband office must be established and organized, then funding must be secured from the NTIA, after which states will award grants and monitor subgrantee projects. However, every state will need to pick and choose its own priorities from this general structure consistent with the NOFO. Each state must consider the current capacity of its state broadband office, the level of preparedness of its state grant program, and its experience administering and overseeing subgrantees.

This version of the Playbook incorporates content from the NTIA NOFO. While Section 1 addresses the fundamentals of establishing and operating a state broadband office, in Section 2 of this Playbook states will find guidance and recommendations for each of the key stages of the BEAD funding process based upon the NOFO:

- **Section 2.1:** The application timeline
- **Section 2.2:** Submitting the Letter of Intent and applying for Planning Funds
- **Section 2.3:** Building the 5-Year Action Plan, including state objectives, coordination with local government and Internet Service Providers, and data needs
- **Section 2.4:** Preparing the Initial Proposal setting out how reliable, affordable, high-speed broadband will be made accessible to every resident – and unlocking the initial 20% of funds
- **Section 2.5:** Administering a Challenge Process to target funds to where they are needed consistent with the BEAD program requirements
- **Section 2.6:** Preparing the Final Proposal to unlock the remaining funds



1
THE STATE BROADBAND OFFICE



The IIJA places state broadband offices at the tip of the spear for the BEAD program ("state broadband office" will hereby refer to the state or territory entity that is securing and distributing BEAD program funding from the NTIA). Broadband offices will set state broadband goals, apply for BEAD program funding, and administer the state broadband grant program. States, regardless of whether they already have well-established broadband offices or whether they are developing one, will need to understand and then implement the entirely new BEAD program regime.

To date, each state has taken its own approach in establishing a broadband administrative function. Some broadband offices are housed in the governor's office, while others reside in state departments, agencies, or commissions. Given these differences, the following section is not one-size fits all, but instead covers best practices relevant to any state broadband office. It can be treated as a checklist of priorities, which state broadband offices can use to ensure that they are fully prepared to implement the BEAD program.

1.1 Objectives & Mission

State broadband programs require clear objectives to establish accountability, support effective governance, and build stakeholder trust.

The state broadband office is responsible for setting broadband objectives and defining the state's mission to close the digital divide. In addition to coverage goals, state objectives should consider affordability, adoption, and inclusion.

The foundation of digital access and equity is the physical infrastructure that underpins these policy goals. To secure lasting

EXAMPLE STATE BROADBAND OBJECTIVES	
Performance & Scalability	 "Make high performance broadband more accessible, resilient, competitive, and affordable" – *Wisconsin*
	 "No later than 2026, all businesses and homes have access to at least one provider of broadband with download speeds of at least 100 megabits per second and upload speeds of at least 20 megabits per second" – *Minnesota*
Digital Equity & Economic Development	 "Promote digital literacy, adoption, and inclusion while leveraging investment in new broadband infrastructure to spur advances in such areas as economic development, education, precision agriculture, and telehealth" – *Illinois*
Stakeholder Buy-In	 "Convene state and federal agencies and advise the Governor, state agencies and the Congressional Delegation on broadband" – *Oregon*

change, states must invest in infrastructure that will scale to meet future demand and keep pace with ever evolving needs. Future-proof fiber optic technology provides such a solution, as the NTIA confirms in designating all-fiber builds as priority broadband projects for BEAD funding.

Recommendations:

1. Define specific state broadband objectives that are:
   a. measurable
   b. realistically achievable
   c. capture the unique broadband challenges facing the state
   d. and propose enduring solutions to solve long-term connectivity issues
2. When setting goals, focus on solving connectivity issues now and for future decades by prioritizing high-speed, low latency future proof networks where possible.
3. Leverage stakeholder input to develop the state's broadband vision and recognize the importance of both public and private resources to BEAD's success.

1.2 Resourcing & Funding

States must rapidly identify and resolve internal capacity gaps in preparation for administering BEAD.

To deliver BEAD, the state broadband office must act as a grant administrator, regulatory expert, and an informed leader on broadband gaps, technology options, and required investment. Further, as the NOFO sets forth, the office will need to engage in a robust outreach campaign to gather information about needs and priorities from local governments and other stakeholders. All of this means that states will require significantly more headcount than previous broadband programs. Understanding resource needs for these roles – and how they need to scale for BEAD – is essential to determine the full resourcing and funding needs of the office.

Based on guidance from the NTIA, states will be able to leverage their $5 million in Planning Funds to augment staff capacities, which will be available after the state's Letter of Intent is accepted. In addition, Congress allows states to spend up to 2% of their allocated BEAD funding, a sum of at least $2 million per state, on "expenses relating … to administration of the grant." Access to this additional funding will follow the acceptance of the state's Initial and Final Proposals.

The NTIA is expected to provide further technical guidance on resourcing a state broadband office, including example job descriptions, grant support, asset management, data collection, policy considerations, outreach, and engagement.

Recommendations:

1. Map out all the activities required to deliver BEAD program funding, from pre-award engagement through to post-award monitoring and reporting. For each activity, detail the skills/capabilities required.
2. Estimate the expected volume of work by activity, e.g., the scale of outreach, the quantity of applications, the number of successful projects to report upon. Consider the phasing of activities and how the volume will ramp over time.
3. Combining the above, build a profile of the expected resource needs over time. Identify activities in different phases that require similar skills.
4. Explore potential resourcing options for each activity, either through employee training, building capacity in the broadband office, upscaling other state agencies, or outsourcing to external parties – but ensure critical decision-making roles related specifically to broadband grant administration are retained in the broadband office.

5. For states that have run previous funding rounds, consider whether existing interfaces and resourcing assumptions are still valid given the scale and requirements of the BEAD program. Investigate alternative options where these make sense.

Rationale: Broadband offices have typically operated with fewer than 10 full-time staff in previous state funding rounds (with some existing offices having as few as 2 staff). The scale of the BEAD program will require a full re-think of staffing levels, and the Planning Funds that can be obtained by submitting a Letter of Intent as soon as possible will likely prove important in scaling the state broadband office to execute upon this opportunity. States will need to address additional requirements for outreach, processing a larger number of grant applications, greater demand for stakeholder engagement throughout the process, and significant federal reporting requirements.

With grant administration requiring financial, legal, policy, technical, and general administrative capacities, states should maintain an open mind is key when it comes to resourcing options. Adding incremental capacity to existing functions within other state agencies may be more efficient than hiring into the broadband office. Contracted support can provide scarce technical expertise and help deal with short-term peaks in demand, such as assessment of applications and periodic post-grant compliance reviews.

1.3 Department & Agency Interfaces

The scale of the BEAD program requires broadband offices to establish strong interdepartmental and interagency connections for joined-up planning and support during deployment.

State Broadband Offices reside in a variety of government departments and commissions. The location is often a product of local circumstance which in turn determines the primary resources available to the office: an office housed in the department of economic

AGENCY	PLANNING SUPPORT	DEPLOYMENT SUPPORT
Finance & Administration	• Securing BEAD program funds • Establishing reporting requirements	• Subgrantee contracting • Subgrant payments • Federal reporting
Labor & Human Services	• Contract compliance with state and local labor laws	• Subgrantee compliance with state and local labor laws
Transportation & Rail	• Permitting requirements • Prime agencies for incoming requests	• Construction permitting and highway and railroad crossing requests
Education & Health	• Assess telehealth and remote learning needs	• Address educational barriers to adoption
Workforce & Economic Development	• Develop broadband technician training incentives	• Quantify subgrantee impact on economic development
Agriculture & Natural Resource	• Permitting requirements • Understand farming demands including precision agriculture	• Permitting for projects to pass through protected areas

development will have a focus on promoting commerce and business activity; in a public service commission, there is greater need for public comment and policy analysis; collocation within a governor's office provides direct access to key state decisionmakers but may be more removed from the resources of other arms of state government.

Wherever the office is placed, effective communications with other state functions will be essential to successfully plan and deliver the BEAD program. NTIA specifically encourages close communication between the state officials working on BEAD and those working on any efforts by the state related to Digital Equity planning. A collaborative approach among state government stakeholders is recommended throughout the administration of the BEAD program.

Relevant state agencies and departments for BEAD program support will include state finance, administration, labor, transportation, education, rail, workforce development, and economic development organizations, among others. The table to the left highlights typical interactions.

Recommendations:

1. If not already in place, create a matrix to identify the roles of state and federal agencies in each phase of the BEAD program.
2. Pay particular attention to potential communication blind spots resulting from the state broadband office's location within government.
3. Engage with relevant state departments and agencies to understand needs relating to the BEAD program and how the broadband office can support them to ensure smooth delivery of the program.
4. Explore whether other departments and agencies hold data or other resources that could be useful in BEAD program planning or deployment.
5. Establish a regular forum to communicate with key state departments or agencies, where issues with BEAD program administration can be raised.
6. Proactively notify state departments and agencies of the location and timing of upcoming broadband projects to allow adequate preparation and minimize delays.

Rationale: Straightforward communication can resolve inter-government communication issues. Personal relationships and trust count for a lot, as does having a regular forum to raise issues as they arise. Each state will face its own unique challenges in administering the BEAD program, and open communication is one of the best ways to overcome them.

Giving state departments and agencies plenty of advance warning of broadband construction activity is also important, especially at key steps in the grant process. For example, advising the department in charge of state railroads about eligible grant areas that intersect with rail lines. This heads-up will give the department time to prepare for issuing permits for crossing tracks, a notoriously time-consuming process.

1.4 Interfaces with Stakeholders Outside the State Government

Engage closely with local governments, community stake-holders, and experienced service providers. Collaboration between these groups will be critical to the success of the BEAD program.

NTIA requires each state to coordinate with local political sub-divisions, Tribal Governments, local and community-based organizations, and unions and worker organizations and other groups when preparing its BEAD proposals, administering subgrants, and making awards. States are expected to consider input from each of these groups and provide an opportunity for these bodies to comment on the state proposal prior to submission.

Beyond these explicit requirements, to best understand broadband availability gaps, state broadband offices will want close engagement with local communities and Internet Service Providers.

BEST-PRACTICES IN STAKEHOLDER COMMUNICATION	STATE EXAMPLE
Establish regular communication channels with core stakeholder groups within both local governments and industry, such as providers, cooperatives, municipals, and local governments.	*Tennessee* 
Create state broadband champions through planning and deployment initiatives. Issue community Broadband Ready Certifications to signal interest in infrastructure deployment.	*Tennessee* 
Leverage existing organizations to communicate with local communities and providers in the state. Third party stakeholders with extensive knowledge in areas such as rural engagement and access and equity solutions can help communities develop broadband initiatives.	*Minnesota* 
Develop communications channels such as a blog, newsletter, or social media presence to connect with existing providers, governments, and community stakeholders.	*Louisiana* 

Recommendations:

1. Locate and educate a diverse set of broadband champions: local governments or communities that act as strong advocates for broadband infrastructure projects in their territories. Broadband champions leverage community resources to assist projects in permitting, support incumbent service providers, and accelerate service adoption.
2. Engage all experienced service providers throughout the state, including large and small companies, rural ILECs, rural electric cooperatives, municipal network providers, etc. Small providers often operate in the hardest-to-reach areas across the nation and are well positioned to serve unserved rural households. Proven track records in construction and ongoing service delivery and the leveraging of existing network assets in neighboring areas can help ensure near-term deployment goals and long-term project success.
3. Leverage local expertise from providers and state provider associations to inform grant program design and decision making.
4. Establish regular communications with stakeholders. This includes recurring meetings, periodic communications such as newsletters, and having a standard process to notify all stakeholders of critical information.
5. Be transparent in the coordination process. Maintain public documentation of meetings and publish results of community input on the state's BEAD program application.

1.5 Information Needs & Mapping Program

Reliable information sources are essential to design and manage state broadband programs and inform the BEAD program grant application.

The FCC Broadband DATA Map will determine both the BEAD program's allocation of funding to states and, along with the state

challenge process, state distribution of funding on deployment projects. The Broadband DATA Map will provide location-level serviceability data across the country for the first time, replacing the current FCC maps, which are based on census block level data. States should consider gathering availability information to ensure the FCC maps are accurate – specifically using such information to participate in the FCC's challenge process – and to aid in the development of the 5-Year Action Plan and in project prioritization (although the NOFO is clear that a state's decisions must be made by reference to the FCC maps, as enhanced by the state challenge process). The states can use a share of their allocated $5 million in Initial Planning Funds to fund such data collection initiatives.

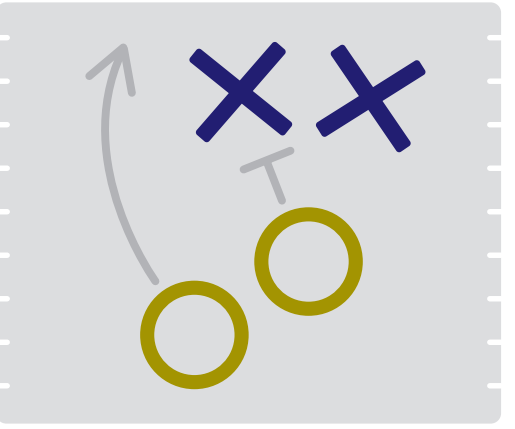
Recommendations:

1. Determine information needs for the entire program and identify potential sources. Explore existing data sets held by the state that could be used to support the BEAD program. Identify options to address any gaps.
2. Leverage relationships with state departments, agencies, and universities to source market and economic research data specific to the state. Consider obtaining additional data from third party stakeholders, such as policy research groups.
3. Consider state investment in mapping data to assist in state planning and FCC map review. Mapping data can be obtained directly from state ISPs, by contracting with a mapping expert, and/or from commercial third-party services.
4. Seek to create broadband models informed by state data that quantify the impact of localized broadband deployment and develop a timeline for reaching universal broadband access within the state.

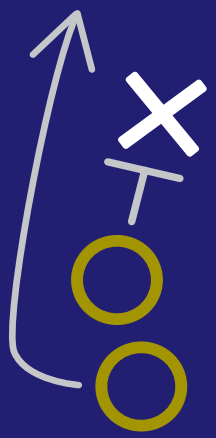
POTENTIAL INFORMATION AND DATA NEEDS

Data	Purpose
Broadband Availability & Mapping	☐ Identify possible unserved and underserved locations, and community anchors lacking 1 Gbps symmetrical ☐ Understand the footprints of existing providers ☐ Identify railroads and protected territories that require specific permits ☐ Determine other topographical factors that will affect deployment
Market & Economic Research	☐ Quantify existing and future demand ☐ Understand barriers to broadband adoption ☐ Model the impact of the low-cost option ☐ Ensure the BEAD program's digital equity goals are met ☐ Quantify time to universal broadband service given state specific deployment and adoption research ☐ Clarify forward-thinking broadband goals by assessing consumer demand trends and forecasts
Network Costs	☐ Understand provider lifetime cost-to-deploy to inform realistic objectives for subgrant funding ☐ Sense-check budgets in subgrantee applications to assure they are financially sustainable

BEST-PRACTICES IN INFORMATION AND DATA COLLECTION	STATE EXAMPLE
Partner with a local university to source state economic and statistical studies.	*Louisiana* 
Identify relevant data collected by other state agencies and departments, such as K-12 home internet availability data from the department of education.	*Wisconsin* 
Create a state broadband availability mesh based on collected state provider footprints to aid in state planning initiatives and grant program development. Mapping can be done in-house, using an outside partner, or through purchase on the private market.	*Minnesota* 



2
APPLYING FOR BEAD PROGRAM FUNDING



This section describes how states will apply to the NTIA to unlock their allocated BEAD program funding. The application process presents an opportunity for states to assess their programs and resources, guiding the planning, decision making, and implementation of the BEAD program.

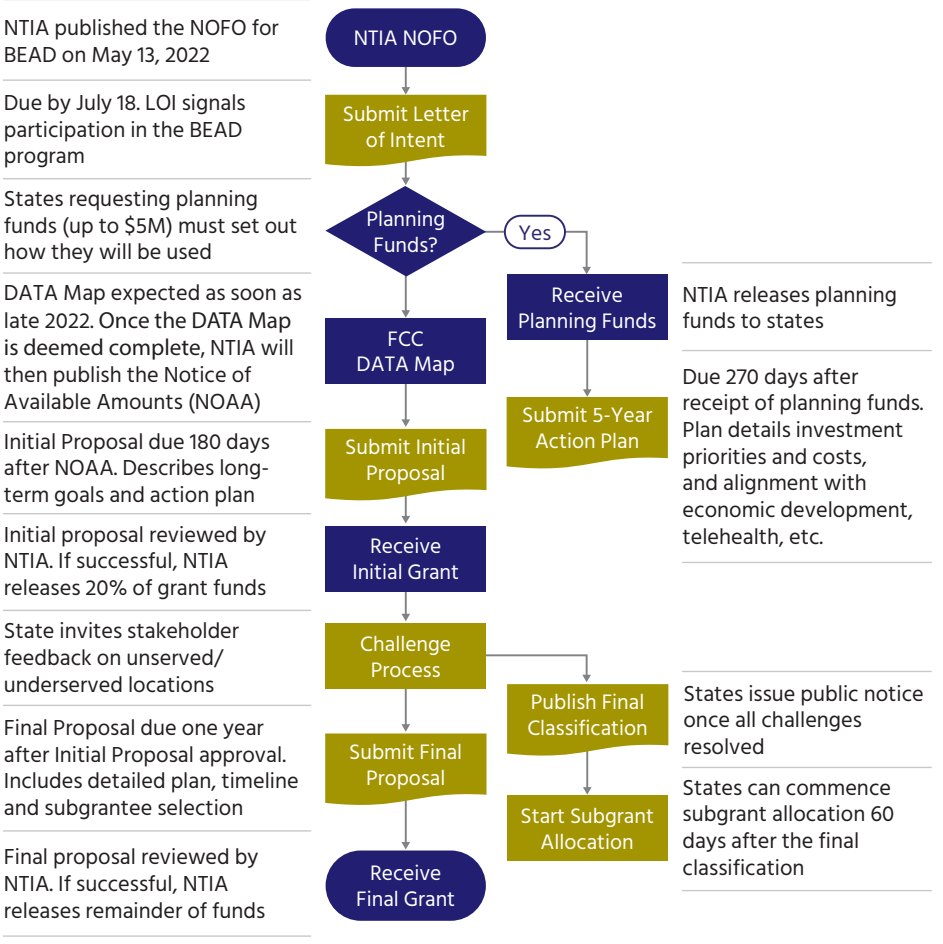
Although the NTIA has set deadlines for key stages it will review applications on a rolling basis. That means each state will have the opportunity to expedite its funding by submitting its application as early as possible, which the NTIA encourages.

BEAD allocates a minimum allowance of $100 million to each state. The remainder of the $42.45 billion will be distributed between states based on each state's share of unserved locations in high-cost areas (out of $4.25 billion), and any unserved locations in the state (out of the remaining funding). The inputs to the high-cost and unserved calculations will be sourced from the FCC Broadband DATA maps.

All completed application materials must be submitted electronically through the NTIA's application portal, which can be found at https://grants.ntia.gov/. The NTIA will provide additional technical application guidance to states at a later date.

2.1 Application Timeline

The application timeline is shown in the figure below. The process commenced when the NTIA released the Notice of Funding Opportunity (NOFO) for the BEAD program on May 13, 2022.



2.2 Letter of Intent & Request for Initial Planning Funds

The Letter of Intent is the first step in the BEAD program application. It confirms participation in the program and enables states to request up to $5 million in Planning Funds.

The NTIA issued a template for the Letter of Intent (LOI) in May 2022. The letter specifies which department, agency, or office will administer the BEAD program for the state, and is to be signed by the Governor.

Within the LOI, states are also able to request up to $5 million of Initial Planning Funds. This early injection of cash could be essential in helping states to ramp-up as they prepare to receive and administer the BEAD funds. However, states that request planning funds must submit a 5-Year Action Plan within 270 days of receipt of such funds (see next section).

The NOFO lists activities that the planning funds may be spent on.[5] These include:

- Research and data collection
- Developing a preliminary budget for pre-planning activities
- Publications, outreach, and communications support
- Technical assistance to potential subgrantees, through workshops or events
- Broadband office employee training, related staffing capacity, consulting, or contracted support
- Establishing, operating, or increasing capacity of a broadband office
- State mapping initiatives to understand adoption, affordability, equity, access, and deployment
- Surveys to understand barriers to adoption in unserved, underserved, and underrepresented communities
- Local coordination efforts

Request for Initial Planning Funds – Template

Checklist:

- ☐ Applicant details
- ☐ Proposed duration of planning activities
- ☐ Total cost of planning project
- ☐ Total federal funding and matching funds (optional)
- ☐ Brief narrative of proposed project (less than 1000 words)
- ☐ Detailed Planning Fund budget, by section:
  - ☐ Administrative & legal expenses
  - ☐ Land, structures, rights-of-way, appraisals, etc.
  - ☐ Relocation expenses & payments
  - ☐ Architectural & engineering fees
  - ☐ Project inspection fees
  - ☐ Site work
  - ☐ Demolition & removal
  - ☐ Construction
  - ☐ Equipment
  - ☐ Miscellaneous
- ☐ Narrative describing budget and justification of estimated costs

States that decide to request Initial Planning Funds are required to submit a detailed budget justification that describes how the funds will be used, what the intended outcomes are, and identifies any partners or subrecipients. Applications must be made online through the NTIA application portal at https://grants.ntia.gov/ no later than **July 18, 2022.** A state must submit its request for Initial Planning Funds no later than **August 15, 2022**.

Recommendations:

1. Leverage the planning funds to build capacity in the broadband office – through staff augmentation and training – as outlined in Section 1.2
2. Ensure clear linkage between the outcomes in the planning fund application and the objectives of the Initial Proposal and 5-Year Plan.
3. Consider what investment in research, mapping, and data gathering will be needed to build a comprehensive needs assessment for the state.
4. In planning, combine Planning Funding with state Digital Equity Program allocation – NTIA is clear that resources should be combined to best attack state digital equity and broadband deployment goals.

2.3 The 5-Year Action Plan

States that request Planning Funds are required to develop a state 5-Year Action Plan that outlines broadband development in the state.

States have 270 days from when they receive their Initial Planning Funds to submit a 5-Year Action Plan to the NTIA. The Plan is an opportunity for the state to step back and assess the future of broadband for its citizens, communities, and local businesses. In the NOFO, the NTIA explicitly encourages states to develop their 5-Year Action Plan in coordination with a State's Digital Equity Plan (which a state can choose to prepare through a separate application for funding from NTIA under a different notice of funding opportunity).

The NTIA has carved out an exception for any state that developed a comparable plan within the 12 months prior to receiving the planning funds. Such a plan must comply with the NTIA guidelines and requirements laid out in the NOFO.

Recommendations:

1. Gather support from state leadership, including the governor, state senators, and state agencies. Explicit support for the 5-Year Action Plan provides credibility and emphasizes the wider, long-term benefits of the program.
2. Engage broadly with internal and external stakeholders. Solicit input on the needs of residents and businesses, investment priorities, perceived challenges, and potential solutions.
3. Leverage local knowledge of territories such as quantification of the unserved and underserved population, deployment challenges, and permitting disputes.
4. Consider how needs will evolve beyond the 5-year horizon of the plan. What physical infrastructure will be required to meet longer-term demand? How can the state ensure networks easily scale for speed and capacity?
5. Look ahead to the needs of the Initial Proposal. Ideally, the 5-Year Action Plan will provide much of the required detail.

2.4 Initial Proposal

The Initial Proposal covers the steps to achieve BEAD program deployment goals in greater detail and unlocks the first tranche of federal deployment funds.

Once NTIA announces the Notice of Available Amounts, states will have 180 days to submit their Initial Proposal using the online application form developed by NTIA. Upon NTIA approval of the state's Initial Proposal, the state will receive at least 20% of its estimated funding allocation. This first round of funding can be used to fully fund projects covering impoverished unserved areas — a key BEAD program priority.

States must make the Initial Proposal available to public comment and the state must incorporate resulting feedback prior to submission.

5-YEAR ACTION PLAN GUIDELINES & CHECKLIST

Guidelines:

1. Collaborate with local governments, community stakeholders, and existing service providers
2. Coordinate the 5-Year Action Plan with a State Digital Equity Plan or otherwise address digital equity needs and concerns
3. Detail investment priorities and associated costs
4. Explain how planned spending aligns with economic development, telehealth, and related connectivity efforts
5. Assess the amount of time it would take to build out universal broadband service in the eligible entity

Checklist:

- ☐ Describe existing state broadband office and programs, broadband activities currently conducted by the state, previous state broadband planning and goal-setting initiatives, and any past rounds of broadband grant awards
- ☐ Summarize current full and part time staff of the state broadband office, along with any contracted support, who will assist in planning for and administering the BEAD program
- ☐ Identify available state and federal funding for broadband deployment or related activities
- ☐ Identify existing federal efforts to deploy broadband in the state
- ☐ Identify known and potential obstacles for successful administration and implementation of the BEAD program and how the state plans to address them
- ☐ Identify and provide details on all broadband adoption, affordability, equity, access, and deployment activities occurring within the state
- ☐ Explain the state's plans for local coordination, including with regional and Tribal entities, underrepresented communities, and unions and workers organizations
- ☐ Incorporate all available broadband adoption and availability data (such as Affordable Connectivity Program enrollment data)
- ☐ Identify geographic broadband service needs or gaps within the state, including all unserved and underserved locations, and Community Anchor Institutions without gigabit symmetrical broadband access
- ☐ Develop a high-level plan for universal reliable, high-speed broadband deployment throughout the state, by:
  - ☐ Estimating the timeline and cost to universal service
  - ☐ Planning the use of federal, state, and local funding
  - ☐ Prioritizing areas for federal support
  - ☐ Considering how public-private partnerships or cooperatives can address state needs
  - ☐ Creating affordability strategies, such as those that increase in enrollment in the Affordable Connectivity Program
  - ☐ Creating strategies to ensure the availability of a highly skilled workforce to minimize BEAD program project deployment interruptions
- ☐ Identify digital equity and inclusion goals and implementation strategies, which may include crossover with or satisfaction by a State Digital Equity plan developed through separate NTIA funding
- ☐ Detail how the 5-Year Action Plan will align with other planned economic development, telehealth, workforce development, and related connectivity priorities and efforts in the state
- ☐ Describe what additional capacity and resources the state needs to successfully implement the BEAD program

Recommendations:

1. Treat the Initial Proposal as a project in its own right. Identify clear ownership for each aspect of the proposal, understand dependencies, set and track actions.
2. Start as early as possible, using the state's 5-Year Action Plan as the foundation. Build on expected challenges and forward-thinking deployment planning.
3. Leverage the state's existing grant processes where possible; adapt and scale to the BEAD program as necessary. States without existing processes can refer to Section 3, drawing on experience from established programs.
4. Consider barriers and challenges at each stage of the grant process: pre-application, application, assessment, award and contracting, reporting (deployment), and payment. Refer to Section 4 for potential issues.
5. Include challenges that other state agencies will face because of the BEAD program. For example, there may a high demand for environmental permits or railroad crossings.
6. Consider the role of the state in workforce development, to ensure there is sufficient skilled labor for network deployment.
7. Include not only the grant program processes but design decisions. Explain how the processes satisfy BEAD program requirements and achieve state goals.

2.5 Challenge Process

Before the state can award *any* of the allocated funding received from the Initial Proposal, it is required to complete a challenge process on the locations it has identified as unserved or underserved.

The BEAD program mandates that states complete a challenge process to accurately identify unserved and underserved locations at

Climate Resilience

The NOFO directs states to sufficiently account for current and future weather- and climate-related risks in their Initial and Final Proposals. Risks to broadband infrastructure currently include wildfires, flooding, extreme heat and cold, and extreme winds from events such as tornadoes and hurricanes. States must account for how these risks may evolve given BEAD-funded infrastructure is expected to have a lifetime of 20 years or more.

At a minimum, the Initial Proposal and Final Proposal should:

1. Identify the geographic areas that should be subject to an initial hazard screening for current and future weather- and climate-related risks
2. Identify which weather and climate hazards may be most important to in these areas
3. Characterize any weather and climate risks to BEAD infrastructure for the 20 years following deployment
4. Identify how the proposed plan will avoid and/or mitigate the weather and climate risks identified, and
5. Detail plans for periodically repeating this process over the life of the program

States can enhance the climate resilience of BEAD projects by selecting proposals that bury fiber where possible and avoid placing electronics in the field where it may be exposed to hazards. Similar principles were adopted by the FCC in its scoring criteria to facilitate resilient and reliable networks in Puerto Rico and the U.S. Virgin Islands following the hurricanes of 2017. The NTIA notes that "communities that lack broadband are also often the most vulnerable to extreme weather and climate events."

Initial Proposal – Illustrative Template

1. Introduction

- ☐ State progress since Letter of Intent, including on 5-Year Action Plan and Grant Program Design (optional)
- ☐ Any updates in historical state initiatives or funding sources (optional)

2. State Broadband Objectives

- ☐ Goals and long-term objectives for deploying broadband, closing the digital divide, enhancing economic growth and creating jobs
- ☐ Any applicable information developed by the state as part of its 5-Year Action plan, or from any comparable strategic plan developed by the state
- ☐ How infrastructure deployed will ensure digital equity is met through service quality and scalability (optional)

3. Supporting Activity

- ☐ Identify and outline steps to support local and regional broadband planning processes or ongoing broadband deployment and digital divide efforts
- ☐ Describe coordination with local governments
- ☐ Coordination with state agencies and departments (optional)
- ☐ Identify existing efforts funded by the Federal Government or state to deploy broadband and close the digital divide

4. Grant Program Plan

- ☐ Design decisions, detailed plan for grant administration and award
- ☐ Detailed plan for conducting a challenge process of unserved/underserved territories
- ☐ Process for identification of Extremely High Cost Per Location Threshold, and how the threshold maximizes end-to-end fiber deployment
- ☐ Describe the low-cost plan to be offered by subgrantees
- ☐ Certify that the state intends to comply with all application and reporting requirements of the bill
- ☐ Certify the state plans to waive all laws prohibiting public or public-private partnerships from receiving BEAD program funding

5. Eligible Grant Areas

- ☐ Identify each unserved or underserved location, along with each community anchor institution in the state using the most recent FCC Broadband DATA Maps
- ☐ Describe the state's approach to identifying eligible Community Anchor Institutions and assessing their needs

6. Deployment Planning

- ☐ Actions to ensure the availability of a diverse and highly skilled workforce
- ☐ Plan to ensure subgrantees comply with applicable labor standards
- ☐ Plan to involve minority and women-owned businesses, and labor surplus area firms where possible
- ☐ Steps to reduce costs and barriers to deployment, such as re-using existing infrastructure, dig-once policies, streamlined permitting processes, and pole and conduit access
- ☐ Climate threat assessment and proposed mitigation efforts in BEAD deployment
- ☐ Describe the intended use of the initial 20% funding allocation

least 60 days before awarding grants. As described further below, this is separate from and incremental to the challenge process that will be used in conjunction with the FCC's initial creation of the Broadband DATA map; the state challenge process is intended to capture the most-up-to-date information reflecting availability specifically in the areas where projects are proposed for funding. Congress is specific that the state's challenge process must be "transparent, evidence based, and expeditious" allowing any "unit of local government, nonprofit organization, or other broadband service provider" to submit a challenge. A challenge may dispute any eligibility determination by the state in the Initial Proposal, including whether an area is considered served, unserved, or underserved.

States will also have an interest in the challenge process as the underlying FCC Broadband DATA Map data will be used by the NTIA to determine the available amount of BEAD funds for each state, and the FCC map will also form the baseline for identifying which areas in each state are initially eligible for funding (subject to the state's own subsequent challenge process once project applications are filed).

The FCC Broadband DATA Map is due to be published as early as late 2022. The FCC's challenge process will then commence. Because it is unclear when NTIA will decide that the FCC Broadband DATA Map is sufficiently accurate that it can be used to estimate the funding that would be allocated to each state, states should not wait to "correct the record" based upon their own data and should instead participate in the FCC's challenge process as soon as possible.

Recommendations:

1. Conduct the state challenge process immediately upon submission of the Initial Proposal to move seamlessly into grant administration and award.
2. Advertise the challenge process to all BEAD program stakeholders – including providers and local communities – to promote engagement.
3. Set clear benchmarks for proof of service. Collect all provider, locality, and resident information as record. A technical evaluation can be a helpful addition to information that is submitted and provide objective reason for disputed territories.
4. Consider what data sources will be necessary or helpful for verifying the Broadband Maps. What data does the state already hold on premises locations and broadband coverage, and are there other

Challenge Process Case Study

Illinois

Many states with mapping initiatives have already conducted similar challenge processes to the one outlined in BEAD. Illinois provides an opportunity to challenge the accuracy of the grant eligibility map before the state makes awards. A challenger must provide the office with shapefiles or specific location addresses where it can demonstrate service at or above the program speed thresholds defined by the state.

This challenge begins a dialogue between the stakeholder and the Office of Broadband, where no award is given until stakeholders are offered an opportunity to comment on the mapping and service level. The office has welcomed a variety of evidence, ensuring the result will be fair and not a result of a technicality.

Illinois's challenge process is transparent with few restrictions. It satisfies applicants while being a fair process that ensures the grant eligibility map will help select the best broadband projects.

data sets which could be used to identify high-need areas?

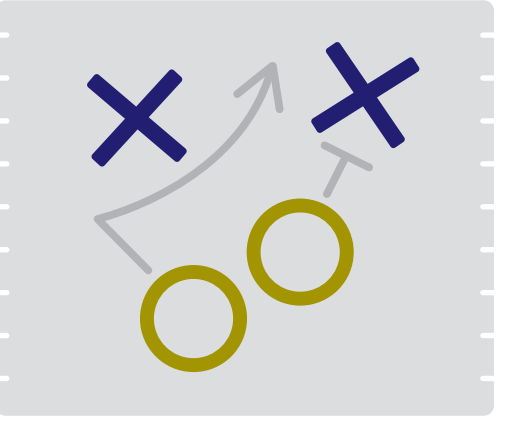
5. Invite local residents and/or communities to highlight unserved and underserved properties, paying particular attention to locations that are nominally covered but cannot receive wireless broadband due to line-of-sight obstructions or low signal strength.
6. Publish challenges lodged in the process on the state website to ensure transparency. Include challenger information, details of the disputed area, and evidence used in the final decision.

2.6 Final Proposal

The Final Proposal is the last step to unlocking the remaining BEAD program allocation. It describes the outcome of the state's subgrantee selection process and the provides a detailed plan for administering the grant funds.

After NTIA approves a state's Initial Proposal, the state has one year to administer the challenge process, select subgrantees, and submit its Final Proposal. The Final Proposal will be submitted using an online application form developed by NTIA.

As with the Initial Proposal, the state must make a draft of its Final Proposal available to public comment and incorporate any feedback.



Recommendations:

1. The Final Proposal will also benefit from systematic project management. As with the Initial Proposal, identify clear ownership, understand dependencies, and set and track actions.
2. Start planning the Final Proposal as early as possible. There is no need to wait until acceptance of the Initial Proposal, and the Final Proposal contents will help inform actions in the challenge, application, and provisional allocation stages of the program.

Final Proposal – Illustrative Template

1. Proposed Use of Grant Funds

- ☐ Results of the challenge process
- ☐ Outcome of the subgrantee selection process
- ☐ Allocation of grant funds in accordance with the prioritization framework in the NOFO
- ☐ Certification that all unserved and underserved locations will be served, if the state is seeking to fund deployment to CAIs or other activities
- ☐ Supporting evidence and decision process for any planned uses of BEAD funding that are not last-mile broadband deployment projects
- ☐ Alignment of grant funds with other broadband funds the state receives
- ☐ Implementation timeline

2. Program Administration

- ☐ Oversight and accountability processes

3. Implementation Status

- ☐ Steps to promote streamlined permitting processes and cost-effective access to poles, conduits, easements, and rights of way
- ☐ Labor and workforce activities
- ☐ Use of minority businesses, women-owned businesses, and labor surplus area firms
- ☐ Low-cost plan requirements
- ☐ Plans relating to climate change and resilience

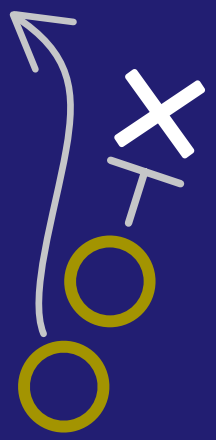
4. Certifications and Compliance

- ☐ Certification of the state's coordination efforts with stakeholders including with Tribal Governments and local community organizations; a description of these efforts and the impact this had on the Final Proposal
- ☐ Resolution of Consent from relevant tribal governing bodies for projects on Tribal Lands
- ☐ Compliance with environmental and national historical preservation requirements
- ☐ Steps taken to ensure the participation of non-traditional broadband providers, and explanation in cases where awards were made to competing proposals
- ☐ Details of unsuccessful applications that were affected by state laws restricting participation in the BEAD Program, as described in the NOFO

5. Provisional Subgrantee Details

- ☐ Details of each provisional subgrantee proposal
- ☐ Commitments from subgrantees relating to the prioritization framework (Priority Broadband Projects, primary and secondary criteria)

3
DESIGNING A BROADBAND GRANT PROGRAM



A well-designed broadband grant program will not only comply with BEAD requirements but will efficiently deliver impactful broadband projects to communities throughout the state.

Failure to design an effective grant program risks leaving unserved communities stranded for years to come.

In the following sections, we set out recommendations that align with the requirements of the BEAD program statute and guidance from the NTIA.

3.1 Scope and Eligibility

The NOFO specifies qualifying criteria for the BEAD program and requires states to run an open, provider-neutral selection process.

In the NOFO, the NTIA reinforces the core objective of the BEAD program – to deploy high-speed, reliable broadband service to unserved and underserved locations. The NTIA makes clear that end-to-end fiber is the preferred technology. Fiber being an enduring infrastructure can easily scale speeds over time.

Unserved locations (less than 25/3 Mbps) receive top priority. Once deployment to these locations is secured, states must then focus on addressing the underserved (less than 100/20 Mbps). Only when all of the unserved and underserved locations have been addressed can states look to funding eligible Community Anchor Institutions (CAIs), namely those with less than gigabit broadband.

QUALIFYING BROADBAND	
Non-CAI Location:	**CAI Location:**
Min. Speed: 100/20 Mbps Max. Latency: 100 ms	Min. Speed: 1 Gbps symmetrical Max. Latency: 100 ms
Reliable Broadband Service is a fixed broadband service that is available with a high degree of certainty, both at present and for the foreseeable future.	

In extreme cases, states may permit subgrantees to use alternative, non-fiber technologies – even those that do not qualify as a "reliable broadband service." However, such cases are expected to be rare and must pass the Extremely High-Cost Per Location Threshold (see Section 3.3).

Besides last-mile broadband deployment, BEAD also permits funding of necessary middle-mile infrastructure for those last-mile's connections. States may also seek to justify non-deployment projects, although the NTIA strongly urges states to allocate any remaining funds instead to improving connectivity to CAIs.

The NOFO provides examples of CAIs including libraries, health facilities, educational establishments, public safety entities, and community support organizations. NTIA also allows states to propose additional types of institutions that should qualify as CAIs.

Regarding the eligibility of subgrantees, BEAD requires states to run grant award programs that are open and provider neutral. States may not exclude private companies, public-private partnerships, public or private utilities, cooperatives, public utility districts, local governments, or non-profits. NTIA restates the principle of openness in the NOFO, strongly encouraging states to waive laws that exclude or disadvantage selected organizations. In placing all providers on equal footing, NTIA does not express a preference or priority for any type of provider.

Case Study

Maine

Maine has a long history of state grant awards for broadband. Over time the state broadband office has increased the service requirements in funding rounds to ensure residents and businesses receive high-quality broadband.

In 2020, projects were only required to provide a service of 10/10 Mbps. The highest tier projects were those which offered service at 100/10 Mbps or above. In the most recent round of funding, Maine requires providers to deploy broadband infrastructure that delivers service of at least 100/100 Mbps. This reflects the rapidly increasing demand for faster and symmetrical speeds.

By increasing the service requirement above the minimum, Maine is ensuring that the infrastructure can meet a broader range of needs today and for the future.

Recommendations:

1. Carefully analyze expected deployment costs to determine how best to fully service all unserved and underserved locations with reliable, high-speed broadband.
2. Compile a comprehensive list of CAIs within the state and identify those that lack symmetrical gigabit broadband. Engage with local communities to identify non-traditional institutions that may also qualify as CAIs for BEAD funding.
3. Review state laws and identify any that would preclude or disadvantage selected types of provider. Determine if and how any laws that conflict with BEAD may be waived to enable an open, provider-neutral selection process.

Rationale: The NTIA's strong preference for full fiber networks should come as no surprise. The IIJA was clear that reliable, high-speed broadband is now essential for individuals, families, and communities. Fiber not only delivers that reliability and speed — it is also best placed to easily scale speeds over time.

3.2 Project Selection

The BEAD program requires end-to-end fiber to be prioritized in the last mile. After fiber has been prioritized to as many locations as possible, states may then select among competing proposals that would leverage other technologies.

NTIA has established a framework for states to select subgrantees for BEAD program projects through a competitive process. The framework places substantial emphasis on scalable projects that provide future-proof broadband access to unserved communities.

In the first stage of the selection process, states must assess whether a project constitutes a Priority Broadband Project (see box). These end-to-end fiber projects are prioritized over lesser technologies.

NTIA has determined that "Priority Broadband Projects" are those that use end-to-end fiber-optic architecture. Only end-to-end fiber will "ensure that the network built by the project can easily scale speeds over time to … meet the evolving connectivity needs of households and businesses" and "support the deployment of 5G, successor wireless technologies, and other advanced services."

In cases where there are competing Priority Broadband Projects for the same location(s), states must then apply primary and secondary selection criteria as defined in the NOFO. States may optionally include additional prioritization factors in the Initial Proposal subject to the NTIA's approval.

For locations where no Priority Broadband Projects have been proposed, states may also need to decide between competing proposals. The NOFO again provides a set of primary and secondary selection criteria that the states must follow.

For both Priority and Non-Priority project selection, the primary selection criteria as described in the table below must be given the greatest weight.

States have discretion on the choice of geographic unit for defining project areas. States may choose to define project areas (e.g., per census block), or allow prospective subgrantees to define proposed project areas themselves. In the latter case, states will require a process to enable comparison between competing proposals that partially overlap.

Recommendations:

1. Balance the weighting of primary and secondary selection criteria to encourage high quality applications and achieve the BEAD program objectives.
2. Solicit input from local providers on the choice of geographic unit for project areas. Understand the tradeoffs between large and small areas, and how this may affect the number and quality of proposals.
3. If prospective subgrantees are invited to propose their own project areas, then put in place measures to ensure all unserved and underserved areas will be served (assuming sufficient funding).

Rationale: NTIA addressed questions about the definition of the Priority Broadband Project by articulating a simple and specific requirement: fiber. Fiber ensures that the Priority Broadband Project "can easily scale speeds over time" as required by the IIJA. This ease of scalability will enable households and businesses to retain the

MANDATORY SELECTION CRITERIA	
Priority Broadband Projects	**Non-Priority Broadband Projects**
Primary Criteria: • Minimal BEAD Program Outlay • Affordability: the most affordable 1 Gbps symmetrical service • Fair Labor Practices: record of compliance with labor laws Secondary Criteria: • Speed to Deployment	Primary Criteria: • Minimal BEAD Program Outlay • Affordability: the most affordable 100/20 Mbps service • Fair Labor Practices: record of compliance with labor laws Secondary Criteria: • Speed to Deployment • Speed of Network and Other Technical Capabilities (e.g., easily scalable, long asset lifespan, low future investment)

benefits of connectivity as application requirements change over time. It is also necessary to support the backhaul needs of 5G and successor mobile technologies. Broadband offices should be clear that this is one of the most critical criteria for the long-term future of communications infrastructure in their state.

The physical infrastructure funded by the BEAD program is the foundation on which the other broadband provisions of the IIJA will be built, including the Affordable Connectivity Fund and Digital Equity Act.

3.3 Extremely High-Cost Per Location Threshold

Each state must quantify and set a threshold beyond which they may choose not to prioritize fiber. NTIA encourages this be set as high as possible to maximize the reach of fiber before resorting to other technologies to fill remaining gaps.

NTIA makes clear in the NOFO that fiber is the priority technology for projects funded by the BEAD program. States may only consider competing proposals for alternative technologies in limited cases where the deployment cost is extremely high.

In those limited cases where a project's cost exceeds the Extremely High Cost Per Location Threshold, the state may select an alternative solution to end-to-end fiber. The alternative solution must still meet NTIA's reliable broadband service requirements.

States are invited to determine their own thresholds, considering their unique geographies, barriers to service, and existing infrastructure. However, NTIA encourages states to set their threshold "as high as possible to help ensure that end-to-end fiber projects are deployed wherever feasible." The intent of NTIA is clear: the Extremely High Cost Per Location Threshold should not be used to deny fiber to individuals, businesses, and communities unless absolutely necessary.

Recommendations:

1. Estimate the number of unserved and underserved locations in the state based upon the FCC's Broadband DATA map and the state's own mapping data, if available.
2. Model the deployment costs for serving these unserved and underserved premises and compare this against the state's expected allocation of BEAD funding to determine whether all premises can be reached with fiber.
3. Gather input from local providers on the extent to which the reach of fiber can be increased through leveraging of existing infrastructure, in-kind matches, or other innovative approaches.
4. Explore supplemental sources of grant funding, for example state funds and eligible Federal funding programs.
5. Consider not only the upfront costs, but the total costs over time including operational costs and the cost of replacing electronics every 5 to 10 years.
6. From the above, determine the highest point at which the Extremely High Cost Per Location Threshold can be set while still ensuring all unserved areas will be served – for example, it may be determined that there are 100,000 unserved locations in a state, but deploying fiber to the final 5,000 of those locations would consume 50% of the available BEAD funding. In that case, the state could set the Extremely High Cost Per Location Threshold at a level that contemplates applications from technologies of all kinds to deliver reliable broadband to those final 5,000 locations, while ensuring that fiber will be prioritized for the remainder.

Rationale: Determining the Extremely High Cost Per Location Threshold is one of the most critical activities in the BEAD program. As directed by the NTIA, states are encouraged to set this threshold

as high as possible. Careful analysis is therefore required to set the threshold at the point where benefits can be shared most widely and as far as reasonably possible in rural high-cost areas where the digital divide can be persistent.

Setting the threshold too low runs the risk of fiber being supplanted by inferior technologies, denying residents long-term benefits such as reliability, low latency, and easy of scaling speed over time – which is a particular concern given that funding at the scale of the BEAD program to reach these residents is unlikely to be available again in the foreseeable future. States may want to defer establishment of the threshold until later in the process when the allocation of funds from NTIA to each state is identified, and they have a better estimate of how many unserved and underserved locations need to be reached.

Case Study

Vermont

Vermont published its 10-Year Telecommunications Plan in 2021. The plan aims to provide best-in-class, resilient connectivity for Vermonters for decades to come, and fiber is assessed to be the most efficient and effective technology to achieve this. Supporting this conclusion is a detailed cost study which found fixed wireless to be more expensive than fiber over a 5-year period. In addition to having much higher operational costs, the study found that nearly all of the capital costs of fixed wireless networks are due to the network electronics which require a refresh every 5 to 10 years.

In cases where alternative technologies are considered, States should conduct due diligence on the long-term financial sustainability of proposed solutions, given that non-fiber networks have higher ongoing costs and a greater need for ongoing investment to replace obsolete equipment. Additional commitments may be required to provide assurance that future capital costs will be met by the provider, such that the speed, capacity, and latency of the service keeps pace with demand over 10 or 20 years.

3.4 Affordability & the Low-Cost Option

Building on the foundations of infrastructure deployment, affordability will enable wide-spread broadband adoption in low-income areas.

The BEAD program requires every state to have a plan for middle-class affordability, and every subgrantee to offer a low-cost broadband service option. States are required to consult with NTIA and prospective subgrantees on the proposed affordability solutions – including the definition of the low-cost option – before submitting the proposal to NTIA for approval. In addition, the NOFO requires states, in evaluating Priority Broadband Projects, to select projects based in part on the proposed price for 1 Gbps/1 Gbps broadband service.

From the NOFO, the low-cost option definition should address:

1. All subscriber costs, recurring, non-recurring, including fees.
2. The download and upload speed, latency, limits on usage or availability, any material network management practices.
3. Whether customers can use the Affordable Connectivity Benefit subsidy towards the plan.
4. The ability to upgrade to a new low-cost plan with faster speeds or better performance.

Households eligible for the low-cost option must meet NTIA's Eligible Subscriber criteria. Either the household must quality for the Affordable Connectivity Program, or meet any of the following:

a. Calendar year household income at or below 200% of Federal Poverty Guidelines.
b. Any household member receives benefits from a federal aid program, participates in Tribal specific assistance programs, is enrolled in a school that participates in the USDA Community Eligibility Provision, or has received a Federal Pell Grant during the current award year.
c. Household meets the eligibility criteria for a provider's existing low-income internet program.
d. Household satisfies any additional criteria proposed by the state and approved by the NTIA.

Recommendations:

1. Avoid complexity in the definitions of both the low-cost broadband service option and middle-class affordability. Wherever possible, reflect what is already in the market or required by government and keep these simple to administer and deploy.
2. In setting these parameters, it will be essential to consider the economics of deployment and the continuing viability of providing services – especially in deeply rural areas where both the initial costs of deployment and the ongoing costs of delivering service are higher (as recognized in the IIJA's own observation with respect to high-cost areas).
3. Engage with state agencies, universities, and other relevant institutions for data on broadband adoption and poverty, and other insight that can be used in the low-cost option design.
4. Engage early with potential subgrantees to solicit ideas and understand any potential concerns.

Case Study

Wisconsin

One of the objectives of the Wisconsin Broadband Office is to make high-speed broadband affordable. The goal of the office is for 75% of households with income below 200% of the federal poverty level to have access to a fixed, home internet service costing less than $25 per month by 2025.

Wisconsin uses two FCC programs to help achieve its affordability goal. First, the Lifeline program allows eligible telecommunications carriers to offer telephone and broadband services for a discounted lifeline base rate such as service packages for $25. Second, the ACP – part of the IIJA – offers discounts for internet service and a one-time discount for a computer or tablet. The benefits from these programs can be combined for those who are eligible.

Digital equity programs such as this are mutually beneficial for providers and customers. They allow low-income individuals to access good broadband service and increase the take-up rate for providers.

5. Investigate potential tradeoffs, such as the terms under which providers may be discouraged from participation, especially in high-poverty unserved areas and high-cost rural areas where the business cases can be more difficult to make to justify investment and sustain ongoing operations.

Rationale: The low-cost option needs to both be affordable for low-income households to achieve its objective and economically viable for the providers for it to work. Similarly, the middle-class affordability consideration must not be so far-reaching that it overwhelms project

economics, undermines the business case for investment and ongoing service delivery, and thus becomes a barrier to provider participation.

The primary concern of the providers we spoke to was that they wanted the low-cost option and middle-class affordability provision to reflect what they are already providing in the market or what government is already supporting. A service option that is easy to deploy will secure greater support from the subgrantees, and one that is economically scalable will grow with demand over time.

3.5 Match Funding

Match funding rules that properly consider the economics of infrastructure deployment in grant areas will achieve greater participation and better outcomes.

BEAD mandates a state or subgrantee minimum contribution of 25% towards each project's total cost, except in high-cost areas. Eligible sources of match include any combination of funds or in-kind matches from:

- Private companies
- States and local governments
- Nonprofits, cooperatives, utility companies
- Regional planning or governmental organizations
- Federal regional commissions or authorities

High-cost projects are exempt from this 25% match requirement, and although discouraged, NTIA may waive the match requirement for other individual projects upon request. (Note: "high-cost" is still to be defined by the NTIA but is likely to be based on the average national cost of unserved buildout, considering at least the remoteness, population density, and unique topography of the area.)

The BEAD program permits selected federal funding to be used as matching funds. Specifically, funds allocated to states or local governments through the Families First Coronavirus Response Act, the Coronavirus Aid, Relief, and Economic Security Act (CARES), the Consolidated Appropriations Act of 2021, and the American Rescue Plan Act (ARPA) are all eligible.

Finally, NTIA expresses a preference for projects that minimize the BEAD program outlay: the selection criteria in the NOFO incentivizes matches greater than 25%.

Recommendations:

1. Assess the likely costs of deploying infrastructure to hard-to-serve communities and premises within the state to inform the match funding strategy.
2. Engage with potential subgrantees to understand the point at which prospective deployment projects become viable.
3. Identify available sources of match funding at the state and local level (including federal coronavirus relief funds) that can be directed towards the BEAD program.
4. Avoid imposing artificially high match requirements on BEAD program projects as this may discourage subgrant applications.
5. Remember that the federal 25% match requirement does not have to be fully met by the subgrantee. States can be creative and flexible in part-funding the match to overcome barriers to subgrantee participation.
6. When the definition for "high-cost" projects becomes available, determine whether it exempts all hard-to-serve projects in the state from the 25% match. If not, identify individual projects that may require an NTIA waiver or need further support from the state to become viable.
7. Ensure that where a project is subject to a waiver from matching requirements – such as in "high-cost" areas as expressly contemplated by the IIJA – this does not penalize those projects

vis-à-vis others in the state. Put another way, a state will need to consider in its scoring or weighting of applications how to make sure that projects that do not include matching because they are in high-cost areas and thus exempt from such requirements will be considered on equal footing with those that do include matches in other areas where those are required.

Rationale: Historically, state broadband programs have required a relatively high share of project costs to be met through match funds. At the time, states were operating with limited funds and there were many low-hanging project opportunities that were on the cusp of commercial viability.

For the BEAD program, neither of these conditions necessarily hold true. State officials have expressed concern that:

1. Many of the easiest-to-solve broadband projects have already been funded.
2. The remaining unserved and underserved areas have a more challenging business case.
3. Projects targeting these hardest-to-reach areas are not viable when providers must front a substantial percent of the project cost.

Funding the remaining areas may require states to take a different view on expectations for match funding. Already states have begun to lower the minimum match requirement from a high of 95% down to 25% or eliminating it altogether.

With a better understanding of deployment costs and the subgrantee business case, states can make informed choices about how low to set the minimum match to achieve their coverage goals.

Some states will likely transpose the federal 25% requirement directly into the subgrantee requirements, but there are alternatives. States can accept applications with below-25% match if they direct financial resources from other sources (e.g., Federal coronavirus relief funds) to bridge the gap. This will open the BEAD program to a wider range of projects, covering more challenging locations.

The exemption for high-cost projects is expected to address many such cases – by allowing projects with a private match below 25% – however, there is a risk that the high-cost definition as implemented by NTIA could be too narrow to capture the full range of situations in every state. Elsewhere, states will have to navigate the NTIA waiver process or intervene themselves by partially funding the match.

Ultimately, states will need to develop a strategy that maximizes the reach and benefits delivered by BEAD by attracting external investment. Careful design of the match requirements will lead to more projects being funded, incentivize providers to maximize their contribution, and ensure that projects are financially sustainable.

3.6 Reporting

States should prepare for a step-change in the amount of reporting that will be required.

The BEAD program requires states to submit semiannual reports to the NTIA that describe the status of the program, grant-funded coverage, and uptake. An initial report and final report are also required at the start and end of the BEAD program respectively.

The BEAD program also specifies detailed reporting requirements for the subgrantees. In the case of infrastructure projects, this includes lists of serviceable locations, a description of the facilities, and detail on the services offered.

Recommendations:

1. Start planning for reporting requirements early on. Many important aspects can be progressed such as how data will be collected, where it will be stored, and team responsibilities for collation, analysis, and quality assurance.

STATE REPORTING CHECKLIST

A. Initial Report (submitted no later 90 days after receiving funds)

- ☐ Describe the planned and actual use of funds
- ☐ Describe the planned and actual process of disbursing grants
- ☐ Identifies the establishment of appropriate mechanisms to ensure all grantees comply with eligible uses
- ☐ Any information required by NTIA (yet to be announced)

B. Semiannual Report (not later than 1 year after receiving funds, and every 6 months after until funds are expended)

- ☐ Describe how the state expended the grant funds
- ☐ Describe each service provided with the grant funds
- ☐ Describe the number of locations at which broadband service was made available
- ☐ The number of locations where broadband service was utilized
- ☐ Certify that the state complied with requirements from the IIJA
- ☐ Include Federal Financial Report and meet Department of Commerce Financial Assistance Standard Terms and Conditions.
- ☐ Certify that the state complied with any additional reporting requirements prescribed by NTIA

C. Final Report (not later than 1 year after all funds are expended)

- ☐ Describe how the state expended the funds
- ☐ Describe each service provided with the grant funds
- ☐ Describe the number of locations at which broadband service was made available
- ☐ The number of locations where broadband service was utilized
- ☐ Include each report that the state received from a grantee (see table on right)
- ☐ Certify that the state complied with requirements from the IIJA
- ☐ Certify that the state complied with any additional reporting requirements prescribed by NTIA

SUBGRANTEE SEMIANNUAL REPORT CHECKLIST (FOR DURATION OF THE SUBGRANT)

A. Describe each type of project using the grant and the duration of the grant

B. Details of the broadband infrastructure project

- ☐ List of addresses or locations that constitute the service locations that will be served by the broadband infrastructure
- ☐ Identify new locations served within each project area by type at regular intervals
- ☐ The type of facilities that have been constructed and installed
- ☐ The peak and off-peak actual speeds of broadband service being offered
- ☐ The maximum advertised speed of the broadband service being offered
- ☐ Non-promotional prices, including any associated fees, by service tier
- ☐ Requested interconnection agreements and their status
- ☐ The quantity and value of contracts and subcontracts awarded by the subgrantee
- ☐ Any other data that would be required to comply with the data and mapping collection standards of the FCC
- ☐ A Federal Financial Report that meets Department of Commerce requirements
- ☐ For projects over $5 million in expected total cost, provide certifications regarding minimum wage and other requested labor details
- ☐ Compliance with any reasonable reporting requirements determined by the state or NTIA

C. Certify that the information in the report is accurate

2. Develop a template for the subgrantee reports to facilitate data collection and, potentially, enable some automation of the analysis.
3. Understand the NTIA reporting timeline and plan this into the monthly activities of the team.
4. Consider how best to combine federal and state-level reporting needs to avoid duplication and increase efficiency.
5. Assess how much additional resource will be required to manage the expected volume of work.
6. Determine whether and to what degree any of the compliance requirements identified in the NOFO may present challenges based upon existing state laws or policies and engage with NTIA liaisons regarding how to address them.

Rationale: Until now, states have been largely free to design their own broadband office reporting regime, providing it complied with general accounting practice and audit requirements. With the BEAD program, the federal government is being more prescriptive. Not only are states handling high-value grants, but the federal agencies will want to ensure a level of consistency across the program.

3.7 Payments

An efficient payment process helps subgrantee cashflow enabling them to build further faster.

NTIA requires states to ensure subgrantee accountability through:

1. Distributing subgrantee funds on a reimbursable basis
2. Including a claw-back provision
3. Timely subgrantee reporting mandates
4. Robust subgrantee monitoring practices

Existing state broadband schemes have used a variety of approaches, and may be tailored to fit the NTIA's mandate above:

- Reimbursement on expenditure, where individual receipts are submitted to the state broadband office and reimbursed thereafter.
- Project milestone payments, where expenses are reimbursed at key project milestones such as the percent of households passed.
- Partial calendar payments, such as every quarter or every half year.
- Total reimbursement on project completion.

Recommendations:

1. Adopt a payment approach that minimizes the lag between subgrantee expense and reimbursement while ensuring adequate oversight.
2. Identify opportunities to streamline existing payment processes, for example using an electronic workflow for payment approval.
3. Ensure that teams responsible for managing payments are adequately staffed for BEAD and primed to handle the expected volume of transactions.
4. Set clear expectations with applicants to avoid reimbursement adversely affecting broadband deployment.

Rationale: Consideration should be given to the impact that delays in reimbursement may have on subgrantee cashflow, particularly for small ISPs. Identifying opportunities to reduce the time to process payments will help avoid this becoming a blocking factor. The goal is to not dissuade experienced, capable providers from applying for BEAD program funding, which is why expectation setting from the very beginning is critical.

4
ADMINISTERING THE BROADBAND GRANT PROGRAM

This section outlines the processes required to successfully run a state grant program, based on the design decisions outlined above. The sections are organized chronologically, from pre-award to post-award.

4.1 Pre-Application Engagement

Effective engagement will result in greater participation, higher-quality applications, and better state outcomes.

Stakeholder engagement receives express attention in the Location Coordination requirements established in the NOFO. States are required to consult extensively when developing their BEAD program submissions. The precise form of local engagement is a matter for each state to determine; however, NTIA encourages pulling together a diverse group of stakeholders, with granular geographic insight, and ensuring the process is transparent and well documented.

Recommendations:

1. Map out relevant stakeholders within the state and identify the information they need to secure full participation in the program. Include prospective subgrantees, local governments, community groups, unions and worker groups, underrepresented communities and others that may play a role in delivering on the promise of BEAD.
2. Create a communications grid for the program, showing when information will be communicated, to whom, and through which channels.
3. Identify program areas on which each state should solicit stakeholder feedback. Determine the timing of any consultations, calls-for-input, and written open comments. Add these to the grid.
4. Publish a state grant program funding notice with as much detail as possible. See the suggested checklist below.
5. Host a series of Q&A sessions with key stakeholder groups. Publish transcripts or recordings of all sessions on the state website.
6. Allow for a period of written clarifying questions. Publish the (anonymized) answers to ensure a level playing field.

Rationale: Effective stakeholder engagement will result in greater participation in the program. Advertising the funding opportunity can encourage applicants to apply and bring their unique broadband expertise, increasing the state's odds of reaching all unserved locations.

CHECKLIST – RECOMMENDED CONTENTS OF STATE FUNDING NOTICE

- ☐ Available funding
- ☐ Required application materials
- ☐ Application timeline
- ☐ Application scoring methodologies
- ☐ Project prioritization criteria
- ☐ State or federal laws pertaining to hiring practices
- ☐ Workforce development incentives
- ☐ State and federal subgrantee reporting and reimbursement requirements
- ☐ Draft subgrant agreement
- ☐ Matching fund requirements

Publication of the state's funding notice communicates important grant details to the prospective subgrantee community. Providers who are well-informed by the state funding notice are likely to submit higher quality applications. They can use explicit priorities and evaluation guidelines to tailor applications to fit exact community need.

Workforce Development Case Study
Louisiana

Louisiana highlighted in its NOFO an incentive to include a workforce plan prioritizing the hiring of local workers in applicant project proposals. At a minimum this includes the commitment to offer the prevailing wage rate or above and include a description of the safety and training standards. The plan will ideally include a signed letter of intent with a post-secondary educational institution to make a 'good-faith' effort to hire recent graduates of broadband related programs. This often involves the company working with local community colleges to develop a curriculum for their labor needs.

Louisiana's approach highlights the value of building relationships with local institutions. It ensures projects will have the necessary workers while also supporting local education institutions.

Broadband offices should note that Workforce Opportunities for Rural Communities (WORC) and the Apprenticeship Readiness grant programs by the Department of Labor can be used for training broadband workers.

Finally, the BEAD program will require the support of a variety of stakeholders, including providers, local governments, communities, and state agencies. The state funding notice informs each of these parties about the availability of funds and ensures they have time to prepare in assisting applicants.

4.2 Subgrant Application

States are likely to be inundated with subgrant applications. Templated forms that support objective scoring will reduce processing time.

The BEAD program sets out the criteria by which state broadband offices must prioritize broadband infrastructure projects but does not specify precisely what information should be collected. In addition to answering the check-box eligibility conditions, states will need to collect information to evaluate the quality of the proposed project, and the capabilities of the applicant.

Recommendations:

1. Use templated forms with multiple choice questions where possible to enforce a consistent format for responses. Design the form such that the metrics used for scoring can be easily accessed or computed.
2. Gather information to enable applicants to be assessed objectively for financial, managerial, technical, and operational capability.
3. Allow applicants to include descriptive narrative, setting out the context, vision, and objectives for their proposed project. This should not form part of the assessment.
4. Hold the application period open for 1 to 2 months to allow all applicants to prepare high-quality submissions.
5. Publish all non-sensitive application materials on the website after all applications have been submitted.

CHECKLIST – INFORMATION REQUIRED FROM APPLICANTS

Overview

- ☐ **Executive Summary:** Narrates the current problems and the applicant's capacity to solve them. The executive summary can show officials that the applicant has the wherewithal to deliver on meaningful solutions.

Applicant Details

- ☐ **Company Information:** Registered address; details of incorporation; officers; DUNS number; etc.
- ☐ **Financial Information:** Recent financial data; capacity to finance the project (T/F).
- ☐ **Managerial Capability:** Description of previous broadband infrastructure deployment projects; experience working with federal/state broadband grant programs; number of successful project deployments.
- ☐ **Operational Capability:** Organization chart; headcount; capacity to deliver the project (T/F).
- ☐ **Technical Capability:** Prior experience of deploying and operating target technology; number of applicant networks operating on target technology.

Mandatory Requirements

- ☐ **BEAD Requirements:** Confirmation that the project meets the BEAD minimum criteria, including compliance with state and federal labor laws.

Project Details

- ☐ **Project Summary:** Project size, scope, technology, and digital equity efforts; proposed service speed, and maximum scaling capacity.
- ☐ **Project Location Information:** In the form of an address level map or shapefiles.
- ☐ **Broadband Service Description:** Product portfolio; service tiers; pricing.
- ☐ **Evidence of Community Support:** Such as letters of support from residents, businesses, or local governments; proposed project partnerships.
- ☐ **Project Readiness Documentation:** Program plan; permits; certifications. Demonstrates the applicant has thoughtfully planned their project.
- ☐ **Customer Strategy:** Plans for customer acquisition and stimulating adoption.
- ☐ **Technical Design:** Detailed engineering plans (including clear statement of assumptions with respect to capacity requirements and performance capability); network architecture; deployment methods; cybersecurity plan.

Financial Details

- ☐ **Proposed Budget:** Including estimated material and labor costs by category.
- ☐ **Match Amount:** Proposed match amount and match sources, including other public sources.
- ☐ **Impact and Sustainability:** Business case quantifying premises served; scalability of technology and financial sustainability; Net Present Value analysis beyond the first upgrade cycle.
- ☐ **Financial Documents:** Model letter of credit and audited financial statements

Rationale: Opening the grant application process is a major milestone in the state's grant program. It is important to both state broadband officials and to subgrantees. The office must ensure that all necessary information for scoring, and evaluation of proposed projects is included in the application. For subgrantees, the application will represent tens if not hundreds of hours of work and is the only opportunity they have to represent and advocate for their project vision.

Transparency in the application process, both in providing clear guidelines and publishing submitted applications, will aid subgrantees in completing their application and build trust with the stakeholder community at large.

4.3 Application Challenge Process

Hosting an additional challenge process that opens applications to scrutiny and challenge helps to avoid funding unnecessary projects.

In earlier funding rounds, state broadband offices found mapping data was often unreliable: premises considered served were unserved, and vice versa. States resolved this by inviting providers to challenge applications prior to grant awards. In addition to resolving data quality issues, the challenge process also allowed providers to identify areas that are already planned for commercial deployment.

Recommendations:

1. Conduct a challenge process after applications have been received and published online.
2. Require challengers to bear the burden of proof, for example, in demonstrating current service speeds of a territory, drops in service speeds over time, the existence of a prior commitment to deploy broadband in the area pursuant to an enforceable governmental program or obligation, or evidence of a clear commitment to build and provide service to a territory within a reasonable period of time.
3. Assess challenge validity with care leveraging state broadband office expertise and data sources to determine whether reliable service is available or not.
4. Discourage vexatious challenges by imposing penalties on those who intentionally lodge unsubstantiated claims.
5. Capture information from successful challenges to refine the broadband availability map.

Rationale: The FCC Broadband DATA map promises to resolve many of the issues that states previously encountered. However, even this updated map will not be perfect. A separate and subsequent challenge process conducted by the state itself with respect to proposed project areas is essential to catch any progress in deployment since the FCC data collection and allow for future build plans to be considered.

Moreover, the bar for a successful challenge should require the presence of reliable broadband service, as defined by the NTIA. Specifically, unlicensed fixed wireless and satellite are not considered reliable by the NTIA, and thus do not count towards coverage.

4.4 Scoring & Consideration

A well-designed scoring rubric will enable states to assess applications efficiently and fairly.

The NTIA makes clear the factors and overall weighting criteria that states must consider when assessing infrastructure projects and selecting between competing proposals. Ultimately, the state's scoring procedure needs to ensure complete coverage of unserved and underserved locations, selecting all-fiber priority projects wherever possible. Within the factors and weighting criteria set forth in the NOFO, states are able to set scoring parameters to best fit their

needs. States also have discretion in how they judge the capabilities of subgrantees to deliver against their obligations.

Recommendations:

1. Assemble an impartial state evaluation committee with expertise in technology, engineering, geospatial analysis, and financial assessment. Include members with strong knowledge of state and local conditions, such as terrain, technical restrictions, permitting, and labor law.
2. Introduce an initial screening stage to verify applications are complete and comply with basic requirements.
3. Use the expert panel to vet applicants for financial, managerial, technical, and operational capability.
4. Adopt scoring methods for project prioritization that are simple, transparent, quantifiable, and objective – using key inputs taken directly from the application forms.
5. Provide feedback to unsuccessful applicants so that they can improve in subsequent rounds. Also consider publishing scores to improve transparency in the assessment process.

Rationale: Based on the expected volume of applications, an efficient scoring process will be critical. Excel workbooks can be particularly useful for quantitative information, lending themselves to efficient analysis of applicant data.

Assessment of applications needs to be objective, which is why scoring applicants based on quantifiable data is key. Subjective scoring of the project narrative should be avoided as far as possible as it can lead to the assessment missing important application details in favor of "shiny" solutions and will dissuade competent providers from participating.

Technical vetting is the one area where expert opinion will likely be required. Applicants should clearly demonstrate they have the wherewithal and capability to deliver and operate the proposed project. An impartial engineering panel will be able to assess applicant credibility in this area.

The BEAD program places responsibility on each state broadband office to deliver meaningful and lasting change to the state's communities, so it is imperative that the methods used by the office install confidence in the system and convey program fairness. Having

Scoring & Consideration Case Study

Iowa

Iowa has a scoring process that relies heavily on a formula driven approach. Beyond freeing up state resources, Iowa found that applicants appreciated the level of clarity quantitative scoring provided.

The scoring is completed by two teams. The first performs the technical review and quantitative scoring. It is comprised of both Iowa state broadband staff and external technical contractors familiar with the Iowa state broadband grant program. The contractors assess the application's engineering plan, while the Iowa officials check the completeness of the application. If any areas are missing, or if they have any engineering questions, they reach out to the applicant for complete information. For the quantitative scoring section, the team uses formulas laid out in Iowa's grant NOFO. Applications are then ranked based on the score calculated from the formulas.

The second team is the disqualification review team, who evaluate the project for any factors that would disqualify it. This team comprises of only Iowa state broadband staff, as the section requires a subjective review of the application.

Example BEAD Scoring Framework

1. LOCATION CLASSIFICATION
Certification that the project meets the minimum location classification requirements.
1. Eligible Unserved Areas (up to 20% served or underserved locations)
2. Eligible Underserved Areas (up to 20% served)
3. Community Anchor Institution Areas

2. PROJECT CLASSIFICATION
Certification that the project meets the minimum project requirements.
Priority Broadband Service [Y|N]
Reliable Broadband Service [Y|N]

3A. PROJECT SCORING – PRIORITY BROADBAND PROJECT	
Criteria to select between competing project proposals.	
Primary Criteria	Match Amount
	Affordability
	Fair Labor Practices
Secondary Criteria	Speed to Deployment
Additional Factors (Optional)	Equitable Workforce Development and Job Quality
	Open Access
	Local and Tribal Coordination

3B. PROJECT SCORING – OTHER BROADBAND PROJECT	
Criteria to select between competing project proposals.	
Primary Criteria	Match Amount
	Affordability
	Fair Labor Practices
Secondary Criteria	Speed to Deployment
	Speed of Network and Other Technical Capabilities
Additional Factors (Optional)	Equitable Workforce Development and Job Quality
	Open Access
	Local and Tribal Coordination

4. MANDATORY CRITERIA
Assess that project satisfies all the following items to be considered eligible.
Less than 48 hours of outage/year
Expect to complete deployment within 4 years of grant date
Plan to provide wholesale backup option if no longer operating network
Offer at least one low-cost broadband option
Provide broadband service to each customer that desires it
Provide public notice of service and carry out a public awareness campaign

a transparent quantitative scoring system, minimizing the scope of qualitative assessment, and providing clear communication of award considerations, will help to demonstrate that process is fair and open to all providers.

4.5 Award & Contracting

Application selection and subgrantee contracting cement the legacy of the state broadband grant program.

Having prioritized the eligible projects, states will need to determine which combination of projects will deliver broadband to all unserved and underserved locations. At this stage, the state must address overlapping applications to avoid overbuild between subgrantees.

Recommendations:

1. Systematically analyze the coverage of prioritized applications to determine how to fully serve each Location Classification in turn.
2. Identify and eliminate overlap by working with applicants to ensure projects are viable after addressing overlaps and by pruning back the footprints of lower scoring applications. Provisional subgrantees should be given an opportunity to approve any application modifications prior to contracting.
3. Publish details of successful projects on the state broadband office website for full transparency.
4. Organize publicity to celebrate the subgrant awards.
5. Return to scored list of applicants and offer additional awards if any projects fall through.

Rationale: It is likely that states will find overlap between eligible project footprints. Eliminating an entire application due to a partial overlap is inefficient. Instead, the state should work with an applicant to amend its application to serve a viable area.

Following the selection process, publishing the details of successful projects maintains transparency, creates accountability, and builds trust. Publicizing the signing of the subgrant awards celebrates an important milestone and notifies stakeholders that the BEAD program is now moving into the infrastructure deployment phase.

4.6 Post-Award

Following the subgrant award, the state must monitor project progress and regularly report on the impact of BEAD program funding.

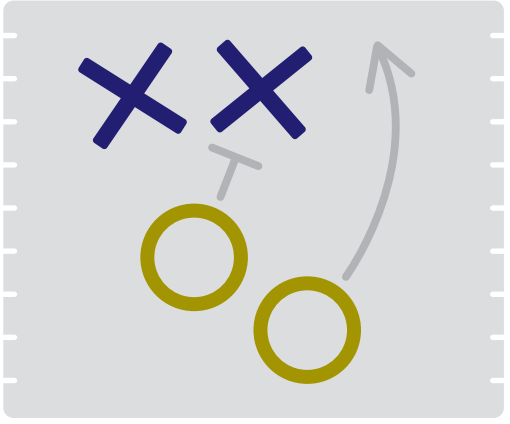
States will require a monitoring and reporting function for the life of the BEAD program. The final report is due the year after all funds are expended, and eligible projects may still be under construction for years after a subgrant award. This operational team will require technical and financial expertise and must be right sized for the scale of broadband infrastructure construction within the state. Performance testing for service attributes such as speed and latency, either by the FCC or an equivalent, can ensure projects meet promised performance capacities upon completion and beyond.

Recommendations:

1. Build good relations with subgrantees. Communicate after award to assess subgrantee preparation and review guidelines.
2. Conduct a preliminary site visit. Meet with awardees and partners, visit construction sites, and ensure regulatory and programmatic compliance.
3. Maintain effective stakeholder management throughout the program. Communicate regularly with state agencies and local government representatives to identify and overcome barriers to deployment.
4. Publish regular press releases on subgrantee progress and celebrate important milestones to show the public that taxpayer dollars are being put to good use.

5. Conduct a final site visit. Meet with customers, validate project scope adheres with application commitments (e.g., network span, speeds, solutions, pricing, etc.), and celebrate the project completion
6. Perform audits on subgrantees after project completion to ensure financial accountability. Submit any concerns directly to the NTIA.
7. Test service performance at and after project completion to verify provided service meets applicable speed and latency requirements.
8. Publish an assessment quantifying the impact of BEAD funding on state broadband development.

Rationale: After all grant agreements have been signed, the state can shift focus to monitoring and supporting project execution. In a construction program of this scale, it is inevitable that unforeseen issues will occur. With good relationships, the broadband office can play a key role in coordinating the response.



ACKNOWLEDGMENTS

The authors would like to thank everyone that supported the development of the Playbook. We are indebted to the state broadband officers for sharing the insight gained from previous funding rounds enabling us to impart this to other states as they prepare for BEAD.

REFERENCES

1 The FCC notes that the requirements for farms interested in these next generation technologies will be different than the traditional residential asymmetrical profile seen today across some rural communities: Microsoft Word – Connectivity Demand Working Group Report Final.docx (fcc.gov)

2 Ookla United States Mobile and Broadband Internet Speeds - Speedtest Global Index

3 https://www.gsma.com/futurenetworks/wiki/cloud-ar-vr-whitepaper/

4 https://docs.fcc.gov/public/attachments/FCC-21-18A1.pdf

5 NOFO Sec. IV.B.2

Established in 2001, and the only all-fiber trade association in the Americas, the Fiber Broadband Association (FBA) provides advocacy, education and resources to companies, organizations and communities who want to deploy the best networks through fiber to the home, fiber to the business and fiber everywhere. Our member-led association collaborates with industry allies to propel fiber deployment forward for a better broadband future here and around the world.

www.fiberbroadband.org

NTCA–The Rural Broadband Association is building a better broadband future for rural America. Proudly representing nearly 850 independent, family-owned and community-based telecommunications companies, NTCA's members build and deliver broadband connectivity and operate essential services in rural and small-town communities across the U.S.

www.ntca.org

Cartesian is a specialist consulting firm focused on the global telecoms, media, and technology (TMT) industries. For over 30 years, we have helped clients build and execute strategies that transform their networks, products and services. Combining strategic thinking, robust analytics, and practical experience, Cartesian delivers superior results.

www.cartesian.com