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The Honorable Alan Davidson
Assistant Secretary, Assistant Secretary of Commerce for Communications and Information and NTIA Administrator
United States Department of Commerce
1401 Constitution Avenue NW
Washington, DC 20230

Dear Assistant Secretary Davidson,

Thank you for the opportunity to provide public comments regarding implementation of the Broadband Infrastructure Law. The Pew Charitable Trusts looks forward to ongoing collaboration with the Department of Commerce and the National Telecommunications and Information Administration, particularly as Pew continues providing direct support to state programs and researching the impact of federal and state broadband policies. If our experts can provide additional information on our attached comments or ongoing work, please do not hesitate to ask.

Sincerely,

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1. ***What are the most important steps NTIA can take to ensure that the Bipartisan Infrastructure Law's broadband programs meet their goals with respect to access, adoption, affordability, digital equity, and digital inclusion?***

The Bipartisan Infrastructure Law (BIL) represents a historic moment in national broadband policy; the size and scope of the investment acknowledges the challenges at hand and how critical high-speed internet access is to ensure America's economic future. The COVID-19 pandemic, which forced millions to work, attend school, and conduct much of their lives online, has driven home that fast, reliable, and affordable broadband is a key component of the nation's infrastructure.

It also showed us the depth and breadth of the digital divide, including that the challenge may not be the absence of a connection, but the quality or reliability of connections available. Additionally, the pandemic illustrated that the cost of a broadband subscription and connected devices is burdensome for many Americans, not just low-income households.

The scope of the BIL reflects those challenges, in addition to more than a decade of research on the digital divide, by outlining a comprehensive approach the includes equitable access to infrastructure, affordability, adoption, and usage. In addition, it acknowledges research by The Pew Charitable Trusts and others that has identified states as critical entities in achieving universal availability of affordable internet services. Additionally, it emphasizes the relationship between broadband, digital equity, and other priorities, such as economic opportunity, health care, and climate resilience, and requires that state plans reflect how the BIL will help achieve those priorities.

This law continues a noteworthy shift in federal support for broadband that started in 2020 with the Coronavirus Aid, Relief, and Economic Security (CARES) Act, followed by the American Rescue Plan Act (ARPA) in 2021. States used CARES dollars to address a range of connectivity challenges specific to their communities, ranging from online learning support for K-12 and post-secondary students to line extension programs. The U.S. Department of Treasury recently issued rules regarding the usage of funds for broadband and the rules offer flexibility for states and localities to meet the complex reality of their digital divides.
While organizations operating in Washington, D.C. may paint the digital divide as a simple challenge – unserved versus served, rural versus urban, availability versus affordability – state and local governments, as well as the communities they represent, know that the reality is far less simple. The digital divide is compounded by geography, demographics, and the types of entities that provide service, which can leave one rural community unserved while a local telephone company or electric cooperative is available to provide a neighboring community "fiber to the home and to the farm and to the cabin."

NTIA can help states and other recipients resolve these complexities, particularly by:

Focusing on universal availability and equity as means to a greater end, not the end itself. Broadband and digital equity are indispensable tools for economic well-being and quality of life. While that perspective is shared by many public leaders and experts, it is not always reflected in policy or funding requirements, resulting in inconsistent deployment of quality networks, investments in obsolete technology, and limited focus on building digital skills. Pew's research found state programs that kept the "greater end" at the center of their efforts were more likely to have policies and funding requirements that invested in scalable technologies like fiber, incentivized connecting communities that offered little "business case" to providers, and supported a pivot toward digital equity and skills building.

Collaborating with federal partners, including aligning requirements between federal broadband programs and clarifying how funds from different federal sources may be used; identifying opportunities for grantees to coordinate with other federal agencies implementing BIL and ARPA funds; providing support for grantees to engage in that coordination; and workshopping challenges in other federal agencies that may lead to programmatic delays, such as permitting approvals. Additional recommendations are provided in response to Question 4.

Engaging independent experts and stakeholders so requirements reflect the recent progress made in the field and are projects designed to meet future need. As such, NTIA should consult with stakeholders from the broadband field, as well as state and local leaders, civil rights groups, and entities from fields that rely on universal availability and use – including agriculture, education, health care, and workforce development – to assess how programmatic requirements can ensure the viability and impact of the BIL. NTIA may also consider establishing a formal independent advisory council to aid this effort, as many states have done.

2. Obtaining stakeholder input is critical to the success of this effort. How best can NTIA ensure that all voices and perspectives are heard and brought to bear on questions relating to the Bipartisan Infrastructure Law's broadband programs? Are there steps NTIA can and should take beyond those described above?

As noted in Question 1, The Pew Charitable Trusts encourages NTIA to consult with independent experts and stakeholders to develop research- and expert-informed funding requirements that will achieve the goals and core principles of the bill.

3. Transparency and public accountability are critical to the success of the Bipartisan Infrastructure Law's broadband programs. What types of data should NTIA require funding recipients to collect and maintain to facilitate assessment of the Bipartisan Infrastructure Law programs' impact, evaluate targets, promote accountability, and/or coordinate with other federal and state programs? Are there existing data collection processes or templates that could be used as a model? How should this information be reported and analyzed, and what

standards, if any, should NTIA, grant recipients, and/or sub-grantees apply in determining whether funds are being used lawfully and effectively?

The Pew Charitable Trusts is encouraged by NTIA's ongoing commitment to transparency and accountability. Data collection and analysis play a crucial role in those efforts, in addition to helping policymakers, researchers, and others draw lessons on the design and impact of programs. A rigorous research program designed at understanding and elevating analysis from the BIL programs will help accelerate progress toward the BIL's goals.

To date, the availability of unbiased, nonpartisan research on broadband availability, network deployments, and digital equity programs has been limited. This gap has created challenges for state and local governments and their partners seeking to build programs informed by research.

This is compounded by the level of resources needed to gather, analyze, and communicate data, particularly when granular information on infrastructure assets and community needs are required. BIL recipients may not have the existing capacity to execute data strategies and that may be difficult to sustain in the long-term.

Pew encourages NTIA to consider the following when designing its data strategy:

- Provide technical assistance for data collection that will help grantees and other partners effectively and systematically collect data.
- Offer technical assistance or funds for post-award monitoring, data collection, and maintenance. This support may help avoid repeating the learning loss the field experienced when Recovery Act programs concluded.
- Look to state programs with comprehensive data initiatives designed to answer questions regarding operations, progress against goals, and the short- and long-term impacts of those investments.
- Establish and maintain consistency in data collection and reporting, which will minimize the burden on grantees and sub-grantees and improve quality of the data, as well as the ability to evaluate the program over time. Clarifying data collection standards – including pre-award, oversight, post-award monitoring, and evaluation – at the beginning of the program and maintaining them will reduce confusion for recipients, particularly important for entities who are new to federal funding programs.
- Promote standardization whenever possible, including by providing a single data collection tool and/or platform for all BIL recipients to use. Recipients should also have the flexibility to use additional tools and collect other sources of data as needed.
- Establish mileposts to evaluate programmatic activities and, when possible, adjust efforts to improve outcomes. These mileposts could be set by specific increments of time or at the conclusion of funding phases (e.g., completing unserved).
- Consider information needs for lawmakers and the public, including the agency's oversight and administration of funds, as well as progress against the priorities outlined

in the BIL. The expansiveness of the law indicates that a range of information will be required, such as evidence to support NTIA's data collection strategy, the programmatic and operational costs incurred by BIL grantees, and progress against goals in equity. Assess how states and other grantees can help meet these informational needs, including by collecting and sharing information (e.g., testimonials, qualitative research with specific stakeholder groups) that may provide valuable insight for Congress and the public.

- Allow states and territories to add additional data collection requirements if that will help meet the priorities of their respective programs, particularly if those priorities are identified through the BEAD planning process. However, NTIA should avoid unintentionally penalizing states that choose not to collect additional data.
- Consult with independent experts and other officials to identify how NTIA can collect data that may be used to understand trends across states and within stakeholder groups.

4. NTIA has an interest in ensuring that the Bipartisan Infrastructure Law is implemented in a way that promotes the efficient use of federal funds. How should NTIA and grant recipients verify that funding is used in a way that complements other federal and state broadband programs?

NTIA should issue clear guidelines for what it means to "align the use of grant funds proposed in the final proposal under clause (i) with funds available from other Federal programs that support broadband deployment and access." Many existing state grant programs prohibit overlap between areas that receive state funds and those that have received federal funds. Such requirements can limit the efficiency of these funding sources, as well as the feasibility of projects. When creating these guidelines, NTIA should specifically acknowledge that to deploy infrastructure to unserved areas, it is often necessary to build through areas that have received funding through other federal or state broadband programs.

NTIA should also help states assess how different streams of federal and state broadband funding can be leveraged to expedite builds and increase the cost effectiveness of projects. For example, several states, including Virginia, used CARES Act funds to accelerate builds from the Federal Communication Commission's Rural Digital Opportunity Fund (RDOF). This combined the funds in a way that created increased efficiency of federal funds, allowing projects to deliver service to homes and businesses more quickly than they otherwise would have.

In addition to coordination between other federal and state broadband programs, NTIA should encourage states to look at opportunities for coordination between broadband programs and other infrastructure funding programs, including those focused on grid modernization and transportation improvements. Finally, NTIA should work with other federal agencies to ensure that funding rules for these programs don't preclude coordination between funding streams that can encourage efficient use towards multiple objectives.

5. In implementing the Bipartisan Infrastructure Law's programs, NTIA will offer technical assistance to states, localities, prospective sub-grantees, and other interested parties. What kinds of technical assistance would be most valuable? How might technical assistance evolve over the duration of the grant program implementation?

One of the BIL's strengths is that it empowers those closest to the digital divide – state governments and local entities – to design and implement solutions to solve the problem. Another strength of the law is the recognition that recipients may need support applying for and implementing funds.

In August 2021, Pew launched its Broadband Education and Training Initiative (BETI), which provides no-cost support to states as they expand or create new broadband offices. This program helps states respond to and prepare for the historic increases in state and federal funding. BETI is built on a foundation of Pew's research on state broadband policies and programs, which found that there are a common set of effective activities and strategies that states and partners can use to increase the availability of high-speed, reliable, and affordable broadband. This 12-month program provides participants with training, facilitated expert and peer-to-peer engagement, and assistance on a wide range of broadband issues. From program design to data strategies, these resources help states develop evidence-based strategies and expand operational capacity to administer incoming federal funds.

Our BETI program has underscored lessons learned through our research: there is no one single program model or solution that will work across all states. State broadband offices vary in the number of full-time staff, as well as their duties and responsibilities as assigned. It is reasonable to assume that these variabilities – often driven by circumstances outside the control of the state broadband office – will continue.

NTIA should help resolve gaps in expertise and capacity, through technical assistance or other program requirements. As NTIA considers building this support, however, it is important to remember that states may not be able or choose to sustain positions once federal funding is spent. Additionally, as noted in earlier responses, NTIA should provide support working with other federal agencies. As needed, The Pew Charitable Trusts is also happy to provide additional insight regarding lessons from BETI.

Like states, local governments' capacity to lead these programs varies widely across jurisdictions, and many communities, especially rural and underserved ones, may not have the necessary expertise, staff, or financial resources. State programs responded by providing support to build the capacity and expertise that communities need to be successful. In some cases, partners within states also helped meet this need. NTIA should consider supporting states in pursuing this type of capacity building program activities and partnerships.

As NTIA begins building its technical assistance program, consulting with states and their partners would add valuable insight to understanding how to best design technical assistance programs that help facilitate, and not serve as a barrier to, achieving programmatic outcomes.

6. The Bipartisan Infrastructure Law requires states and territories to competitively select subgrantees to deploy broadband, carry out digital equity programs, and accomplish other tasks. How should NTIA assess a particular state or territory's subgrant award process? What criteria, if any, should NTIA apply to evaluate such processes? What process steps, if any, should NTIA require (e.g., Request for Proposal)? Are there specific types of competitive subgrant processes that should be presumed eligible (e.g., publicly released requests for proposals and reverse auctions)?

Competitive grant programs can correct the market failures that have left many people without access to high-speed, reliable internet. Well-designed competitive programs contribute the following to broadband efforts:

- A set of evaluation criteria for proposed projects that includes items such as demonstrated community support or economic need in the service areas. These criteria help states make decisions based on factors other than just cost per household served.
- Matching funds from the applicant and eligible partners, such as localities, to cover a certain percentage of the project's cost, demonstrate commitment from the applicants, and help ensure efficient use of public funds.
- An emphasis on faster speeds, such as by requiring scalable technology and prioritizing projects that meet speed requirements, to help ensure that funded projects can meet future usage needs without additional state investment.
- Alignment between community plans and applicants' proposals to confirm that infrastructure projects meet local needs and help funders manage risk by ensuring that communities have assessed their options and gained resident and partner buy-in.
- Effective stewardship of public funds via clear accountability measures for grant recipients to help ensure that funded proposals achieve their intended purpose and help project leaders assess and communicate progress to policymakers and the public. Robust accountability provisions may include well-structured challenge processes to allow input from both incumbent and applicant providers; clear milestones for deployment, reporting, data collection, and field visits to monitor project progress; and post-grant requirements, such as abiding by the principles of net neutrality.
- Reduced costs of deployment in high-cost areas.
- Greater availability of broadband connections and progress toward secondary goals, such as use of networks to strengthen local economies.

7. NTIA views the participation of a variety of provider types as important to achieving the overall goals of the Bipartisan Infrastructure Law broadband programs. How can NTIA ensure that all potential subrecipients, including small and medium providers, cooperatives, non-

profits, municipalities, electric utilities, and larger for-profit companies alike have meaningful and robust opportunities to partner and compete for funding under the programs?

States have different numbers and types of internet service providers. This variation is the result of historic regulatory and investment decisions that still affect who provides service and where—including middle- and last-mile availability. Provider footprints may also be influenced by state laws defining what entities can and cannot provide broadband service. Some states, such as California, are primarily served by several large national or regional providers. Others, such as Minnesota and Wisconsin, have many smaller providers, including independent telephone companies, telephone cooperatives, and fixed wireless providers that serve small and rural communities. Some states, including Tennessee, have multiple cooperatives that provide electric service in rural areas and may provide broadband service, while in other states, such as West Virginia, electric cooperatives do not have a significant presence.

Despite this diverse landscape, many state grant programs have participation from a range of providers, including small and medium telephone and cable companies, electric and telephone cooperatives, and larger for-profit companies. For example, in its 2021 grant round, the Wisconsin Broadband Office awarded funds to small telecom companies, large for-profit providers, a tribal government, and a municipal utility. Similarly, the Colorado Broadband Office's Broadband Deployment Fund has awarded funds to a range of providers, including small and medium providers, electric cooperatives, and larger for-profit companies. And Maryland made grant awards to small regional providers, an electric cooperative, a municipal utility, and a large national cable provider.

States conduct outreach to potential grant applicants and their associations and provide resources to support them throughout the application process. As it works to ensure participation from the range of subrecipients, NTIA can draw on the work of state grant programs, which have balanced due diligence requirements with accessibility to funds.

8. States and regions across the country face a variety of barriers to achieving the goal of universal, affordable, reliable, high-speed broadband and broadband needs, which vary from place to place. These challenges range from economic and financial circumstances to unique geographic conditions, topologies, or other challenges that will impact the likelihood of success of this program. In implementing the Bipartisan Infrastructure Law's broadband programs, how can NTIA best address such circumstances?

The Pew Charitable Trusts recommends that NTIA meet these circumstances by defining funding requirements to minimize confusion and clarify funding priorities. Those requirements should establish high federal standards for speed and accountability. They should also provide recipients with the authority and flexibility to meet those federal standards in a way that best aligns with their local needs and challenges.

9. Several Bipartisan Infrastructure Law broadband programs provide that, absent a waiver, a grant or subgrant recipient must contribute its own funding, or funding obtained from a non-federal source, to ''match'' funding provided by the BIL program. Under what circumstances, if any, should NTIA agree to waive these matching fund requirements, and what criteria should it assess (in accordance with any criteria established by the statute) when considering waiver requests?

Matching requirements extend the reach of public funds and help ensure that grant recipients have a financial stake in the project. States may give more weight to grant applications that provide matching funds beyond the minimum requirement. However, when match requirements are exceedingly high, they can be difficult to meet for communities most in need of grant funding, such as those in rural and low-income areas. To address this concern, some states use sliding scales for match percentages to ensure consideration of projects in areas that cannot raise substantial matching funds. For example, California uses a baseline of 60% grant to 40% matching funds, with a sliding scale up to 100% grant funds.

Other states use sliding scales to incentivize potential applicants to use more advanced technologies. Projects that build out higher speed capacity receive a larger percentage of grant funding. For example, Iowa funds up to 75% of projects that will result in available speeds of 100/100 Mbps or more, up to 50% for speeds from 50/5 Mbps up to 100/100 Mbps, and up to 35% for speeds of 25/3 Mbps up to 50/5 Mbps.

As it works to develop useful match guidance, NTIA can draw on the work of state grant programs and consult with providers that have experience serving communities where match requirements may need to be waived.

10. The COVID–19 pandemic has disrupted global supply chains and impacted employment patterns. What is the likely impact of current workforce and supply chain constraints on the speed with which states, service providers, and others achieve the Bipartisan Infrastructure Law's network deployment objectives? Are the areas unserved or underserved by broadband networks, which will see substantial new deployments under the Bipartisan Infrastructure Law's broadband provisions, likely to face particularly significant workforce or supply-chain constraints? What steps, if any, should NTIA take to mitigate the impact of workforce or supply-chain limitations?

The Pew Charitable Trusts is actively exploring answers to these questions and is happy to share information with NTIA when it is available.

11. One objective of the Bipartisan Infrastructure Law is to ensure American workers have access to high quality jobs, especially those who were impacted the most by the pandemic, including women and people of color. What federal policy tools can NTIA apply to help ensure that broadband funding is deployed in a way that maximizes the creation of good paying jobs and that women and people of color have full opportunity to secure those jobs.

NTIA should work with other agencies, particularly within the Department of Commerce, to help recipients meet these goals. It should also consult with state programs that have already tied broadband programs to goals in equitable economic development, such as West Virginia. The first phase of funding will offer states an opportunity to work with NTIA and other federal partners in outlining solutions to this goal.

12. What steps, if any, should NTIA take to ensure maximum use of American-made network components and that supply shortages are addressed in ways that create high quality jobs for all Americans? What impact, if any, will application of the ''Buy American'' requirements in the Bipartisan Infrastructure Law have on supplychain and workforce challenges and on the speed with which the nation can reach the goal of 100% broadband connectivity?

Although the BIL encourages projects to deploy as quickly as possible, the considerations outlined above may offer challenges to that objective. Additionally, related costs may limit the opportunity of small and/or non-traditional internet service providers to compete for funding. It is Pew's recommendation that NTIA not discourage and/or disqualify participants due to fiber shortage or delays.

13. NTIA is committed to ensuring that networks built using taxpayer funds are capable of meeting Americans' evolving digital needs, including broadband speeds and other essential network features. What guidance or requirements, if any, should NTIA consider with respect to network reliability and availability, cybersecurity, resiliency, latency, or other service quality features and metrics? What criteria should NTIA establish to assess grant recipients' plans to ensure that service providers maintain and/or exceed thresholds for reliability, quality of service, sustainability, upgradability and other required service characteristics?

Pew recommends that federal broadband dollars prioritize fiber deployment. While policy may be technology neutral, that does not mean technology performs equally. Establishing funding requirements that prioritize faster speeds and scalable technology ensure federal investments will meet current and future needs.

This prioritization will build on efforts already underway in states such as Washington, Minnesota, and Iowa, as well as promote alignment between the BIL and ARPA programs.

14. NTIA is committed to ensuring that networks constructed using taxpayer funds are designed to provide robust and sustainable service at affordable prices over the long term. What criteria should NTIA require states to consider to ensure that projects will provide sustainable service, will best serve unserved and underserved communities, will provide accessible and affordable broadband in historically disconnected communities, and will benefit from ongoing investment from the network provider over time?

Pew encourages NTIA look to state programs for guidance in achieving the priorities outlined above, including state scoring guidelines for grant programs, allowing funds to be used for line extensions, implementing robust challenge processes, and promoting adoption and affordability.

Explanations are included below, but NTIA may choose to reference the following documents for additional details and matrixes:

- How State Grants Support Broadband Deployment: https://pew.org/304wXnY
- How State Broadband Offices Use Scoring Metrics to Evaluate Grant Applications: https://pew.org/3fUEtX4
- How States Can Use Line Extension Programs to Expand High-Speed Internet Access: https://pew.org/34doCzZ
- How 'Challenge Processes' Can Improve the Efficiency, Reach of State Broadband Grant Programs: https://pew.org/3AtzOEY

Scoring guidelines

State grant programs use different point scales for scoring grant applications. For example, Minnesota uses a 120-point scale, Indiana uses a 250-point scale, and Virginia uses a 300-point scale. For comparative purposes, the below examples include the equivalent percentage of points awarded per category.

Each program emphasizes different components in its scoring of applications, based on state priorities:

- Virginia awards up to 135 points (45%) for the applicant's project budget and cost appropriateness. This includes up to 125 points for a cost-benefit index calculated by using the total amount of Virginia Telecommunication Initiative funding requested and the total number of serviceable units.
- Minnesota places a greater emphasis on speed and the overall change in level of service available. Minnesota's scoring rubric uses a sliding scale of points available depending on current speeds, speeds after the build, and the total number of passings (up to 20 points or 17%).

- Indiana places a greater emphasis on the match contributed by applicants and utilizes a sliding scale of up to 65 points (26%) for projects with a higher cost match, with applicants offering to cover more than 75% of the cost receiving the maximum points.

States may also incorporate other priorities into grant scoring. For example, several states award points for digital equity, affordability, adoption efforts, or for specific priority populations (e.g., Indiana awards up to 15 points [6%] for the inclusion of "Economically Disadvantaged Student Household Service Packages"). Virginia's "Commonwealth Priorities" category allows for a flexible awarding for projects that align particularly well with the agency's goals and directives.

States can prioritize policy goals either by including them in the scoring rubric or by addressing them through screening eligibility requirements or a subsequent review phase following the application scoring process (i.e., if the final grant selection process is conducted by a board or commission, as in Colorado and Wisconsin). States can also reference these priorities as a component of a category on their scoring rubric.

Notably, the potential impact of a state grant program's scoring process may be limited by a need to classify areas that have received past federal or state funding as ineligible for grant funds. While this can serve as a protection against "overbuilding" or for complying with federal requirements, projects funded through these previous programs may offer service at inadequate speeds and census block-level analysis may overrepresent the actual level of coverage.

Line extensions

The cost of connecting an individual household or business to a network can be prohibitively expensive to achieve broadband access despite being located in a served area, as a significant portion of these costs typically falls to the property owner.

State programs can support this final stretch of deployment by subsidizing these individual connections to existing infrastructure through line extension programs.

State approaches to line extension programs have provided funds in the form of grants either directly to households and property owners (e.g., California and Vermont) or to the providers, following individual submissions (e.g., Indiana).

California's Line Extension Program, which provides grant funds to offset the costs for households that qualify for California LifeLine or California Alternate Rates for Energy (the utility bill discount program for low-income households). The program subsidizes 100% of the cost, up to a maximum of $500 for a fixed wireless installation or $9,300 for wireline installations.

Vermont's Line Extension Customer Assistance Program, which was established with CARES Act funding in 2020 through H.B. 966. The program funds a maximum of $600 for fixed wireless satellite installation and up to $3,000 for wireline installations. In April 2021, H. 315 allocated $1.6 million in Coronavirus State and Local Fiscal Recovery Funds from ARPA to the COVID response program. Grants are awarded directly to qualified consumers: those who could demonstrate a COVID-19-related need—such as remote learning, telehealth, or telework—lacked a minimum of 25/3 internet service, and were roughly less than one mile from a cable provider or other internet service provider. Nearly 500 households were connected through this program in 2020.

This program is similar to Vermont's cable line extension program, which uses a formula based on density to allocate costs between the provider and the customers (Vermont's online cable line extension calculator assumes a cost of $30,000 per mile). The calculation can be summarized by the following formula:

- *A=(CT/N)*(1-(N/(H*L)))*
- *A is the dollar contribution from each new customer.*
- *CT is the actual cost of the line extension.*
- *N is the number of verified subscribers in the project area who will be making the contribution in aid of construction.*
- *L is the length of the extension in miles.*
- *H is a number designated by the cable company's tariff representing the number of verified subscribers per mile, counting all the miles proposed on the extension, above which the company will not require a contribution in aid of construction.*

Challenge processes

Challenge processes allow service providers to contest or "challenge" an application on the grounds that they already provide service in a grant application area, have started construction in that area, or have plans to provide service within the proposed grant area. This stage in the grant award process is intended to prevent subsidies from going to areas where providers are already offering or are in the process of building equivalent service.

Following the close of the grant application window, states publicly post the proposed grant areas eligible for awards. Challengers then have a defined window—for example, 30 days (e.g., Minnesota, Indiana, and Wyoming)—to submit a challenge to any of the applications. Those wishing to challenge the proposed areas are required to provide documentation to support their claim that they currently provide service or will provide service in the application area in a set period of time (typically between 6 and 18 months, depending on the state). States require different documentation to substantiate a challenge, although many require a formal attestation or affidavit from the service provider confirming that the service claims made in its challenge are true and correct.

For example:

- California requires a .csv file with households served within the challenge area and a customer bill from one subscriber in each census block included in the challenge, demonstrating that the reported service was available prior to filing the challenge.
- Indiana requires maps of the service area, an Excel sheet with census blocks, and information on the technology specifications of the area that is served or to be served.
- Virginia requires that challenges provide current Federal Communications Commission data on the applicant's proposed project area, the minimum and maximum speeds available in that area, the number of serviceable units, street-level data on the number of customers receiving service within the project area, and a point shapefile with proposed passings (for wireline providers) or a heat map with a received signal strength indicator (for wireless providers).

State offices then review the challenges and associated materials to determine whether they are credible. Some states (e.g., Alabama, Indiana, and Virginia) allow changes to a grant award following a challenge, allowing the applicant to receive funding for parts of the project area that do not overlap with the challenger's service territory. Other states (e.g., Nebraska and Minnesota) do not allow funding to be awarded to a proposed project if the challenge is found to be credible.

As referenced above, states have set timelines for challengers to complete builds if they challenge on the grounds that they have started construction or plan to provide service in a proposed project area. The timelines range from 180 days (e.g., California) from when the grants are awarded to 12 months (e.g., Missouri and Tennessee), and 18 months (e.g., Minnesota, Nebraska, Pennsylvania, and Wyoming). If the challenger fails to provide service within the state's timeframe, the challenger may be disqualified from challenging applications for the next two grant cycles (e.g., Florida, Minnesota, Missouri, and Pennsylvania) or next two fiscal years of funding (e.g., Nebraska and Wyoming).

Affordability and adoption

Although state programs prioritize projects that can meet the service, speed, and location requirements, they also consider affordability and adoption goals when awarding grants. Several states encourage the inclusion in applications of provisions to ensure that the new service will be affordable for and utilized by lower-income communities and evaluate applicants' proposed activities, such as special outreach, low-cost subscription plans, and digital literacy programs, when deciding which projects to fund. For example, Michigan requires that applicants demonstrate their ability to offer Lifeline subsidies—a federal program that provides discounts on monthly telephone and broadband service to eligible low-income households—and gives preference to projects that include an affordable internet service plan for low-income and vulnerable communities.[17] In Wisconsin, applicants must provide a proposed schedule of retail prices or describe any planned affordability options for low-income subscribers.[18] And

Virginia requires applicants to explain how they will promote customer uptake and describe their digital literacy efforts.

15. In its effort to ensure that BEAD-funded networks can scale to meet Americans' evolving needs, and to ensure the public achieves the greatest benefit from the federal investment, NTIA seeks to understand reasonably foreseeable use cases for America's broadband infrastructure over the next five, ten, and twenty years. What sort of speeds, throughput, latencies, or other metrics will be required to fully connect all Americans to meaningful use over the next five, ten, and twenty years? How can the BEAD program meet our nation's broadband network connectivity needs in the future and what other benefits can Americans expect from this program and the networks it will help fund in other industries and across the economy? How can existing infrastructure be leveraged to facilitate and amplify these benefits? What are the best sources of evidence for these questions and for predicted future uses of broadband?

As detailed in other responses, Pew recommends that funds prioritize the deployment of fiber. With respect to the use of existing infrastructure, several states have focused on engaging electric cooperatives and collaborating with other state agencies. Examples are included below.

Electric cooperatives

States, including Alabama, Georgia, Maryland, Mississippi, North Carolina, and Texas, have enacted bills giving electric cooperatives the authority to provide broadband, either directly or through an affiliate, doubling the number of states that permit this approach. Five of these states—Georgia, Maryland, Mississippi, North Carolina, and Texas—along with Colorado, further clarified that electric cooperatives can use their existing electric easements for broadband service. This allowance prevents cooperatives from having to negotiate new easements with property owners, thus removing a barrier that can increase costs and time.

In 2021, the Virginia made permanent a pilot program that allows investor-owned utilities to petition the state's Corporation Commission to lease excess capacity on their fiber optic cables to internet service providers in unserved areas. Similarly, West Virginia passed a law establishing a process for electric utilities to conduct feasibility studies and get permission from the state's Public Service Commission to build and lease middle mile fiber along their existing electric service delivery infrastructure.

State agency collaboration

In California, legislation passed in 2016 created a "dig once" policy, which requires the California Department of Transportation to notify internet service providers of planned

roadwork projects and develop clear procedures for allowing providers to access state rights of way. Its aim was to streamline the process for these providers to deploy infrastructure along state highways by identifying opportunities to bury fiber-optic cables in ground that has already been opened for roadwork. This is implemented with help from the California Broadband Council (CBC), formed in 2010 to create a forum in which state agencies could share information and identify ways to work together to improve broadband access. The CBC has five task forces that engage a range of external stakeholders – one of those is the Strategic Corridors Task Force, which focuses on prioritizing highways for broadband deployment.

Colorado also has an interagency working group, which meets biweekly to discuss priorities, share updates on projects, and identify opportunities to share resources. Participants include the Department of Local Affairs, the Department of Regulatory Affairs, the Office of Economic Development and International Trade, and the Colorado Department of Transportation.

16. Broadband deployment projects can take months or years to complete. As a result, there are numerous areas where an entity has made commitments to deploy service—using its own funding, government funding, or a combination of the two—but in which service has not yet been deployed. How should NTIA treat prior buildout commitments that are not reflected in the updated FCC maps because the projects themselves are not yet complete? What risks should be mitigated in considering these areas as ''served'' in the goal to connect all Americans to reliable, affordable, highspeed broadband?

When looking at previous funding obligations, whether an entity is planning to deploy service with its own funding, government funding, or a combination of the two, NTIA should consider whether the service that the entity has committed to providing meets the standards of projects that will be funded through the BEAD program. If current commitments to deploy service are for speeds between 25 Mbps/3 Mbps and 100 Mbps/10 Mbps, NTIA risks leaving these areas underserved.

18. The Bipartisan Infrastructure Law provides that BEAD funding can be used in a variety of specific ways, including the provision of service to unserved and underserved areas, connection of community anchor institutions, data collection, installation of service within multi-family residential buildings, and broadband adoption programs. The law also permits the Assistant Secretary to designate other eligible uses that facilitate the program's goals. What additional uses, if any, should NTIA deem eligible for BEAD funding?

As of January 28, 21 states have appropriated ARPA funds for broadband. Much of this money is going to expand existing programs, though some is being used to establish new broadband

grant programs. States are also using federal funds to meet specific needs or priorities. Examples include:

- Texas: appropriated $500 million for broadband infrastructure with a requirement that $75 million be used for pole replacement. That step was intended to ensure that older, deficient utility poles can be replaced to enable installation of new broadband infrastructure.
- Kentucky: appropriated $50 million for broadband projects "in furtherance of securing economic developing opportunities for commercial and industrial customers."
- Connecticut: appropriated $10 million for low-income and multifamily curb-to-home broadband buildouts in addition to $10 million for grants to underserved areas.
- Washington set aside $5 million for equity and affordability grants. That money will be used to assist eligible applicants in areas with access to minimum speeds of 100 Mbps for downloads and 20 Mbps for uploads. The state broadband office and department of equity will identify areas where access to existing service is not affordable or equitable.
- Arizona has focused its broadband appropriation on highways, allocating $100 million to its Department of Transportation to expand broadband infrastructure along interstates 17 and 19 to increase broadband affordability in rural areas. That work will also help to improve highway safety and enable smart infrastructure projects in rural and tribal areas.

States' usage of pandemic relief funds demonstrates how dollars may be applied to meet state needs while satisfying federal requirements. Pew encourages NTIA to establish funding requirements that manage risk while avoiding over-prescription, which would limit the ability to resolve lessons that will be learned in the forthcoming planning process.

19. Community engagement is critical to eliminating barriers to broadband access and adoption. NTIA views strong involvement between states and local communities as key to ensuring that the broadband needs of all unserved and underserved locations are accounted for in state plans submitted for funding. What requirements should NTIA establish for states/territories to ensure that local perspectives are critical factors in the design of state plans?

Pew recommends that NTIA consider mimicking federal programs with similar state-local planning requirements, including those within the Department of Transportation. This will avoid process duplication and help facilitate knowledge sharing across state agencies.

Additionally, NTIA should learn from state policy and programs, which have already implemented local planning requirements. These include the ConnectMe Authority's extensive community engagement requirements for infrastructure grants and Virginia Code 15.2-2223,

which requires local planning commissions to prepare a comprehensive plan that considers current and future broadband needs for residents and businesses.

20. When formulating state broadband plans, what state agencies or stakeholder groups should be considered in the development of those plans?

As states formulate their broadband plans, there are a range of state agencies and stakeholder groups who should be engaged. States should engage with a broad range of stakeholders who have different priorities, needs, and perspectives when it comes to broadband. The exact agencies and stakeholder groups will vary from state to state.

State agencies should include Departments of Transportation; Departments of Economic/Community Development; Departments of Elementary, Secondary, and Higher Education; Departments of Information Technology; Departments of Health and Human Services; State Public Utilities Commissions; Departments of Labor/workforce agencies; Departments of Agriculture; public safety agencies; and natural and cultural resource agencies.

Other stakeholder groups should include local governments and their statewide associations, tribal governments, internet service providers and their statewide associations, regional planning and economic development agencies, public housing agencies, school districts, universities, libraries, health care facilities and their statewide associations, state AARP chapters/affiliates, digital equity groups, farm bureaus, and chambers of commerce.

21. How can NTIA ensure that states/ territories consult with Tribal governments about how best to meet Tribal members' needs when providing funding for broadband service to unserved and underserved locations on Tribal lands within state boundaries?

In states and territories with tribal governments, Pew encourages having a staff position in the broadband office focused on tribal community engagement and coordination.

22. The Bipartisan Infrastructure Law requires that BEAD funding recipients offer at least one low-cost broadband option and directs NTIA to determine which subscribers are eligible for that low-cost option. BIL § 60102(h)(5)(A). How should NTIA define the term ''eligible subscriber?'' In other words, what factors should qualify an individual or household for a low-cost broadband option?

Pew recommends that NTIA align its guidance with the U.S. Department of Treasury's final rules for the State and Local Fiscal Recovery Fund.

23. Under the Bipartisan Infrastructure Law, states and territories are charged with developing low-cost broadband service options in consultation with NTIA and broadband providers interested in receiving funding within the state. BIL § 60102(h)(5)(B). What factors should NTIA consider in guiding the states in design of these programs to achieve this goal? Should NTIA define a baseline standard for the ''low-cost broadband service option'' to encourage states/ territories to adopt similar or identical definitions and to reduce the administrative costs associated with requiring providers to offer disparate plans in each state and territory? What are the benefits and risks, if any, of such an approach?

Although few states have taken steps on this issue, Pew encourages NTIA to consult with California, including the California Emerging Technology Fund, and Virginia. California has the highest Lifeline enrollment in the country and the Virginia General Assembly approved $8 million in ARPA funds "to the Department of Housing and Community Development for the Line Extension Customer Assistance Program to support the extension of existing broadband networks to low- to moderate-income residents."

27. Equity is also a named goal of the BEAD program described above. How should NTIA ensure that State Digital Equity Plans and the plans created by states and territories for the BEAD program are complementary, sequenced and integrated appropriately to address the goal of universal broadband access and adoption?

While Pew does not hold expertise on digital equity programs, our research identified the importance of connecting planning to funding decisions. This includes incentivizing or requiring planning processes for individual projects, such as in Colorado or Maine, or using statewide broadband plans to outline funding strategies. Given the scope of the BEAD planning and funding requirements outlined in the BIL, NTIA may also consider using BEAD plans to outline strategies for digital equity, while using the State Digital Equity planning process to detail implementation.

Pew will publish a brief on state broadband plans in spring 2022.

35. How can the Middle Mile Broadband Infrastructure program leverage existing middle-mile facilities, access to rights of way, poles, conduit, and other infrastructure and capabilities that are owned, operated, or maintained by traditional and non-traditional providers (public and investor-owned utilities, grid operators, co-ops, academic institutions, cloud service providers, and others) to accelerate the deployment of affordable, accessible, high-speed broadband service to all Americans? What technical assistance or guidance should NTIA provide to encourage applications for this program? Are there examples of successful deployments and/or benefits provided by non-traditional providers to highlight?

As noted throughout the document, states have experience working and coordinating with non-traditional providers, specifically with the intent of providing last mile services.