Broadband Equity, Access, and Deployment (BEAD) Program

Delaware Initial Proposal Volume II
<mark>**Public Comment Version**</mark>
Published October 13, 2023

Delaware Broadband Office
Department of Technology and Information

This is a draft document being published for public comment. Comments submitted will be considered and changes may be made to this document before its final submission to NTIA as part of the BEAD process. Accordingly, nothing in this document should be considered a binding commitment by DTI, as significant changes are possible prior to final submission.

Comments as to this document should be sent by email to broadband.comments@delaware.gov. Comments will be received until 11:59 PM on Monday, November 13.

Contents

Tables

Figures

1 Objectives (Requirement 1)

Delaware's goal for broadband deployment is to be the first state to deliver universal broadband—that is, to ensure a high-speed internet connection to all homes and businesses in the State.[1]

The State's primary objectives for broadband deployment are aligned with the principal focus of the BEAD Program:[2]

1. Serving 100 percent of unserved locations (i.e., below 25/3 Mbps) within five years
2. Serving 100 percent of underserved locations (i.e., between 25/3 and 100/20) within five years
3. Delivering gigabit connections to certain community anchor institutions that do not have that level of service within five years

Should BEAD funds remain after the first three objectives are fulfilled, the State will then focus on the next set of priorities:

4. Constructing line extensions to unserved and underserved residences that are determined to be extremely high-cost locations (i.e., replacing fixed wireless or satellite connections to those locations)
5. Upgrading internal wiring in multiple-dwelling-unit buildings that were not already declared unserved or underserved, to ensure the availability of reliable broadband access in low-income and affordable housing

Other digital equity initiatives, developed through ongoing community engagement and development of the Digital Equity Act Plan, may be prioritized above items 4 and 5 above as needs are assessed and refined.

---

[1] "Delaware Broadband Initiative," Delaware Department of Technology and Information, https://broadband.delaware.gov/pages/index.shtml?dc=DelawareBroadbandStrategy.

[2] "NOFO: BEAD Program," NTIA, https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf, at p. 7.

2   Local, Tribal, and regional broadband planning processes (Requirement 2)

This section describes the comprehensive external engagement process the Department of Technology and Information (DTI) conducted in preparation for this Plan. DTI intends to continue its stakeholder engagement and outreach efforts around high-speed internet deployment and digital equity in the State—particularly to engage with Covered Populations and stakeholders that historically may not have had as much representation in public planning processes.

DTI developed an inclusive engagement model to facilitate feedback on the creation of this Plan from diverse stakeholder groups throughout Delaware. DTI utilized its existing relationship with Delaware stakeholders to identify and engage with private individuals, community anchor institutions, elected officials, faith-based communities, rural communities, labor unions, industry entities, civil rights organizations, small businesses, and the unserved, underserved, and underrepresented communities of Delaware. The stakeholder engagement process also included representatives of the Covered Populations[3] that have been identified as core stakeholder groups.

DTI actively collected and updated its stakeholder list throughout the engagement process to further diversify and expand outreach efforts. In total, over 500 representatives from organizations and constituents were invited to attend DTI's engagements.

The stakeholder engagement effort comprised email outreach; 19 statewide, townhall-style meeting with a complete range of stakeholders; over a dozen public presentations at meetings hosted by stakeholder groups; over 80 one-on-one and small group meetings; a phone survey of Delaware residents; written stakeholder surveys, including a Digital Equity Needs Assessment survey made available on DTI's website for both stakeholders and the public. The process demonstrates collaboration with local and regional entities (governmental and non-governmental), reflecting DTI's effort to facilitate an inclusive and effective engagement model.

---

[3] Per NOFO Section I.C.g, referencing IIJA Section 60302(10), the covered populations are: (1) Individuals who live in covered households; (2) Aging individuals; (3) Incarcerated individuals, other than individuals who are incarcerated in a Federal correctional facility; (4) Veterans; (5). Individuals with disabilities; (6) Individuals with a language barrier, including individuals who—(a) Are English learners; and (b) Have low levels of literacy; (7) Individuals who are members of a racial or ethnic minority group; and (8) Individuals who primarily reside in a rural area.

3   Local coordination (Requirement 4)

The Local Coordination Tracker Tool is attached as Appendix A.

3.1   Full geographic coverage (local coordination criterion 1)

DTI engaged the full geographic range of Delaware through both stakeholder outreach and public engagement. DTI maintains ongoing communication with the organizations and agencies that it services—including Legislative, Executive, and Judicial government branches, public schools, and other government and non-government agencies that serve Delaware. Additionally, the Delaware Broadband Office staff engages in outreach via interviews and small group conversations with government agencies, organizations, key stakeholders, legislators, and constituents.

To ensure the entirety of the State had the opportunity to engage with the planning efforts, DTI began its stakeholder outreach by hosting a Virtual Statewide Kickoff Meeting on February 23, 2023. The Virtual Statewide Kickoff Meeting invitation was distributed to an initial list of 204 identified stakeholder contacts throughout Delaware. Over time as interest in the program grew, the stakeholder contact list great to over 500 as of the publishing of this plan. Each event below was publicized to this stakeholder list, and many were also publicized on social media and through stakeholder partnerships.

Overall, including the Kickoff, DTI has hosted 19 virtual and in-person townhall-style stakeholder meetings. Attendees in both the Statewide Kickoff Meeting and the 18 additional stakeholder meetings were asked to complete surveys about the broadband and digital equity needs of their organization, their constituents, and the State of Delaware.

These meetings provided a broad review of high-speed internet access, current DTI initiatives and projects, and how the public can engage in infrastructure and digital equity planning and development. The forum was open for questions, comments, and feedback from the public. In-person forums have been held in each of the State's three counties including events in Georgetown and Seaford (Sussex County, the most rural county), two in Dover (Kent County), and one in Wilmington (New Castle County). Each in-person forum was also livestreamed to allow online participants the ability to ask questions and provide feedback.

DTI also engaged the public through a residential phone survey. The survey interviewed a random sample of adult Delaware residents sourced from a commercially available dataset of phone numbers about broadband availability, digital skills, and their broadband needs.

In addition to these DTI-sponsored events, the Broadband Office (the office) staff made presentations at over a dozen membership meetings sponsored by nonprofits and government agencies. These presentations allowed DTI to meet constituents where they are and lowered

barriers for participation and opportunities for feedback. Finally, the office has met one-on-one and in small groups with over 80 stakeholders and constituents, diving deep into the digital connectivity issues facing Delawareans.

3.2   Meaningful engagement and outreach to diverse stakeholder groups (local coordination criterion 2)

At each engagement DTI conducted, several strategies were implemented to ensure the attendees had a comprehensive understanding of Delaware's broadband goals and were able to provide meaningful feedback. This included a substantive overview of the program ("Broadband 101" and an introduction to broadband technologies), as well as opportunities throughout the stakeholder engagements for all participants to provide input.

DTI leveraged its existing collaborative relationship with stakeholders to expand its already inclusive, diverse outreach list. Entities on the list included organizations representing aged populations, unions, universities, regional governments, school districts, healthcare facilities, Internet Service Providers (ISPs), organizations representing veterans, community centers, industry-associated organizations, and many more representing the diverse communities of Delaware.

Some of these stakeholder engagements were themed to ensure DTI was providing a comprehensive overview of the program. These themed engagements included: Local and Regional Governments on March 15th and 16th; Community Anchor Institutions on March 22nd and 23rd; Internet Service Providers on March 29th and March 30th; Digital Equity and Covered Population Serving Organizations on April 5th and 6th; Workforce Development on April 12th and 13th, and Business and Economic Development on April 19th and 20th. Stakeholders had the opportunity to ask questions and provide feedback on broadband challenges, needs, and potential opportunities specific to their constituents and community.

DTI also held six general-topic stakeholder engagements in person at local libraries and government offices to encourage community participation in a familiar and accessible location. Each in-person engagement offered a hybrid option that allowed a resident from anywhere in Delaware to both watch the live presentation and submit feedback in real time.

During each engagement DTI considered the recipient's level of familiarity with broadband. To assure the public and stakeholders could make informed insights about their and their constituents' broadband and digital equity needs, DTI provided a custom overview of broadband history, usage, and functionality. DTI then reviewed its major broadband initiatives and funding for both infrastructure and digital equity made available through BEAD.

3.3   Multiple awareness and participation mechanisms (local coordination criterion 3)

For all stakeholder engagements, DTI sent a mass invite through email to all contacts on the stakeholder list in advance of the forums. In addition to the meetings, stakeholders and the public were able to provide feedback through surveys. Links to targeted stakeholder surveys were provided during meetings and in a post-meeting follow-up email. A Digital Equity Needs Assessment survey was also made available on DTI's website to enable stakeholder feedback from both expert representatives and the public.

3.4   Clear procedures to ensure transparency (local coordination criterion 4)

DTI took significant steps to ensure compliance with all applicable laws and best practice procedures. Participants were able to attend meetings anonymously and closed-caption transcripts were available in real time to enable additional engagement for some participants with differing abilities. The surveys allowed respondents to choose which questions to answer, which allowed individuals to control the level of personal detail provided.

Information was collected from meeting chats, Q&A sessions, and surveys. If contact information was provided, individuals were added to the stakeholder list. The intent to include the participants in future stakeholder outreach was clearly communicated during meetings.

3.5   Outreach and engagement of unserved and underserved communities (local coordination criterion 5)

DTI took a proactive approach in advance of all forums to engage representatives from organizations that serve defined Covered Populations by ensuring the contact list used for outreach was both comprehensive and inclusive. DTI additionally engaged with unserved and underserved communities by ensuring accessibility to materials, meetings, and information.

The stakeholder engagements with in-person options hosted at public facilities on public transit routes All locations were accessible and compliant with the Americans with Disabilities Act (ADA) in accordance with federal law. When possible, in-person meetings were held at libraries. Libraries serve as a familiar resource hub for underrepresented and underserved communities. Delaware libraries provide reading materials in accessible formats for individuals who are unable to read or use standard printed materials, host job and career assistance, enable access to social workers, and offer private telehealth kiosks. Individuals who were not able to join the meetings in person were able to attend virtually and engage in the Q&A segment of the presentation.

Going forward, DTI will continue to find opportunities to present to membership of community organizations (meeting constituents where they are). DTI will also host regular (quarterly) virtual town halls to give updates on the program and provide additional opportunities for the public to submit comments on DTI's work.

4   Deployment subgrantee selection (Requirement 8)

This section of Volume II describes in detail how DTI proposes to structure, design, and implement its grant program to award BEAD funds to subgrantees to deploy broadband infrastructure in Delaware. This section includes extensive discussion of the structure of the program, the timeline, the scoring, and steps DTI will take to try to maximize the reach and impact of the BEAD funds throughout Delaware.

4.1   Deployment subgrantee selection process

4.1.1   Openness, fairness, and competition

DTI, the designated Eligible Entity for Delaware government, has long been dedicated to using available resources through fair, open, and competitive process to deploy broadband to unserved and underserved Delaware residents.

DTI intends to use the capabilities and structures developed for pre-BEAD programs to inform, to the greatest extent possible, the BEAD deployment subgrantee selection process in a way that is fair, open, and competitive. All elements of the BEAD program have been designed with these goals at the forefront, and with a commitment to openness, fairness, and competition.

Openness represents a core value and guiding principle for DTI as it undertakes both the BEAD program and other broadband and digital equity initiatives. Openness is crucial to ensure the best outcomes for unserved and underserved communities and will involve a range of strategies:

1. Open and inclusive eligibility for grant awards, welcoming applications from both public and private entities, as well as collaborations and public-private partnerships.
2. Community input at all stages of the BEAD process, including engagement and feedback to the planning process and the plans themselves.
3. Openness and transparency in the evaluation process, with feedback to ISPs who apply for BEAD funds ("Applicants") and are unsuccess, to build trust and encourage participation.

Fairness for Applicants in a competitive grant program for building broadband infrastructure is essential to encourage competition, innovation, and the efficient use of resources while ensuring that both unserved and underserved areas receive the connectivity they need. To ensure fairness in its BEAD grant process, DTI anticipates the following:

1. Open and transparent process, with all grant materials and guidance available to all potential Applicants on the same timeline, including publication of the scoring rubric and guidance for how to self-score applications based on the scoring criteria established by DTI.

2. Ongoing and frequent communications with written materials and live Q&A events to enable maximum information sharing with potential Applicants.
3. Inclusive eligibility criteria that is clear, inclusive, and not overly restrictive, within the parameters of the BEAD program, to ensure that entities of all sizes, both public and private, can participate.
4. Transparent scoring criteria.
5. Competitive process that encourages Applicants to submit innovative proposals and cost-effective solutions.
6. Fair review process that is impartial and based in data and quantitative measures.

Competition is at the heart of DTI's goals, methodology, and commitments. Creating a competitive environment for the BEAD grant program will be ensured through multiple means:

1. Broad eligibility and participation, including of both public and private entities.
2. A low-burden grant program that is designed to make it feasible for all sizes of entities to compete without facing unreasonable costs or level of effort.
3. Incentives for collaboration by Applicants with other providers, local governments, and community organizations.

4.1.2 Technical assistance and communications

To support openness, fairness, and competition in its BEAD grant efforts, DTI plans include extensive communications, technical assistance, and administrative support for Applicants throughout the process. DTI will use its existing communications channels to provide all partners in the State with the most accurate and up to date information regarding key deadlines and milestones for its BEAD program. DTI's outreach processes and technical assistance materials will provide guidance, templates, and information about each of the subgrantee selection process elements discussed below.

DTI has an extensive email list of stakeholders, including service providers, local governments, Community Anchor Institutions, State agencies, nonprofit organizations, and constituents. DTI also has a web and social media presence. DTI will use these tools to alert potential Applicants of each milestone during the process outlined below, as well as providing information on technical assistance opportunities or updated information about program requirements. DTI's partners will also be encouraged to further distribute information about the BEAD program through their own email lists and website postings. DTI will also use its website as a repository for potential Applicants to access detailed application materials and technical assistance resources.

DTI expects to implement the following process for its BEAD grant funded outreach and communications:

- DTI will announce the dates of its Prequalification Phase at least 30 days prior to the opening of the window or acceptance of Prequalification Phase applications. Potential subgrantees must participate in the Prequalification Phase to submit a project-specific funding proposal during the Scoring Phase.
- At approximately the same time as this announcement of the application dates, DTI will make BEAD application materials available on its website using a dedicated webpage. These materials will consist of an Application and Guide, Program Guide, and Frequently Asked Questions (FAQ) documents. DTI will provide an additional resource page on its website to direct potential Applicants to third party resources that may be of use, including those provided by the NTIA, the National Institute of Standards and Technology (NIST), the Federal Communications Commission (FCC), and others.
- DTI will conduct a virtual application workshop within the first week of the Prequalification Phase window. This workshop will provide general instructions, discuss the program's goals and objectives, map out major program milestones, answer questions, and provide other technical assistance. This workshop will be recorded and available on the DTI website and the FAQ document will be updated to reflect questions and answers from the workshop.
- During the Prequalification Phase window, DTI will have a dedicated email address available for participants to use to ask questions and request technical assistance. To provide transparency, fairness, and additional technical assistance, DTI will update its FAQ document on a regular basis with the questions and answers generated by the email inquiries and in-person meetings.
- DTI will notify Applicants if they are prequalified and eligible to submit a Scoring Phase Application within 30 days of the close of the Prequalification window.
- DTI will allow for reasonable curing to seek to ensure an optimal participation level of qualified ISPs.

DTI expects to follow the same steps detailed above for its Scoring Phase. During the Scoring Phase, DTI will also provide details regarding the Grant Areas and associated materials and information, detailed below. DTI will continue to use all available communication channels to update Applicants on milestones, deadlines, updated FAQ material, and technical assistance resources as they are made available by DTI, the NTIA, FCC, NIST and other relevant partners. To ensure fairness, all questions submitted in writing will be included in the FAQ document so all ISPs can see the same information.

4.1.3 Overview of planned Subgrantee Selection Process
The following is DTI's planned Subgrantee Selection Process, which is part of DTI's larger plan for ensuring broadband for 100 percent of all Delaware locations that are currently unserved or underserved, as well as Community Anchor Institutions.

DTI anticipates a multi-step process for selecting subgrantee for its BEAD funds that will begin with prequalification of Applicants (hereinafter referred to as the Prequalification Phase) and then proceed to receipt and scoring of grant applications for fiber-to-the-premises (hereinafter referred to as the Scoring Phase).

DTI's analysis is that, so long as an adequate competitive dynamic is created for the application process, the BEAD funds will likely be sufficient to fund fiber-to-the-premises to the vast majority of, if not all, unserved and underserved locations in Delaware. This approach is based on the economics of fiber deployment and operations and the financial contributions that Applicants are projected to commit though a match.

Given this analysis and the State of Delaware's absolute preference for fiber-to-the-premises as the optimal communications infrastructure, DTI intends to limit its initial round of its BEAD grant funding process to fiber. Should it become necessary to establish an Extremely High-Cost Per Location Threshold (see below at Section 5.10) or if the first funding round does not result in commitments to deploy to all unserved and underserved addresses in the State, alternative technologies will be explored.

4.1.4 Phases
The BEAD funding effort will be comprised of the following two key phases:

1. **Prequalification Phase**, to establish the qualifications of prospective Applicants
2. **Scoring Phase**, which will include
   a. **Grant Area determinations** – to specify the geographic boundaries of the grant areas for which prospective subgrantees can apply
   b. **Receipt of fiber applications** – Applicants will submit their proposed projects
   c. **Negotiations** – DTI will engage with Applicants to reach final project boundaries and costs

This BEAD funding effort will be followed by the Post-BEAD Funding Process for alternative technologies to remaining locations.

The following is detail on the two key phases DTI anticipates for the BEAD funding grant process. Further, additional detail is also provided in the sections below, per NTIA's template for the Initial Proposal, Volume II.

4.1.4.1 Prequalification phase
During the Prequalification Phase, DTI will accept prequalification materials from all prospective Applicants, enabling Applicants to establish their qualifications and DTI to prequalify them in advance of the Scoring Phase.

The Prequalification Phase is designed to serve several crucial purposes.

First, it helps mitigate the challenges of the compressed timeline for BEAD. It will enable DTI to maximize the limited time available for the Scoring Phase, extending the available time to this earlier phase to allow both prospective Applicants and DTI's reviewers sufficient time to address qualifications. Given the rigorous and robust documentary requirements for BEAD, a prequalification process will enable Applicants to spread their grant application efforts across a lengthier timeline.

Second, the process will help to manage DTI's own resources efficiently. By filtering out Applicants who do not meet the minimum criteria, a prequalification process can ensure that reviewers can focus their time and attention on evaluating proposals from organizations that meet NTIA's and the State of Delaware's requirements and are most likely to achieve the objectives of the BEAD program.

Third, a prequalification process will enable adequate curing opportunity by providing additional time for follow-up data requests by DTI, as necessary, and provision of additional information by Applicants. With an earlier process for qualification, this curing need not take place at the same time as curing of proposed project applications themselves.

Delaware's BEAD application materials will specify the materials and certifications that are required for prequalification, together with the format and date for submission. The materials and certifications will be focused on materials that address financial, managerial, and technical qualifications, as well as experience and capacity.

All entities whose prequalification materials are determined to be sufficient will be qualified by DTI to proceed to the Scoring Phase of the program and submit proposals.

4.1.4.2 Scoring phase

Following completion of the Challenge Process (see Initial Proposal Volume 1), and NTIA's approval of Initial Proposal Volume II, DTI will accept, review, and score grant applications for specific projects—and will conduct a series of related necessary activities, prior to and following acceptance of the grant applications. As mentioned above, these include the following three critical elements:

1. **Grant Area Determination Process**, to specify the geographic boundaries of the grant areas for which prospective subgrantees can apply
2. **Receipt of fiber applications**, during which Applicants will submit their proposed projects
3. **Negotiations,** in which DTI will engage with Applicants to reach final project boundaries and costs

Each of the three elements of the Scoring Phase is described in detail below.

4.1.4.2.1   Grant Area Determination Process

This part of the BEAD grant process is designed to specify the geographic boundaries of the grant areas for which prospective subgrantees can apply. DTI anticipates undertaking the Grant Area Determination Process upon conclusion of the Challenge Process.

The Grant Area Determination Process will be designed to establish the geographic boundaries of Grant Areas for perspective subgrantees to submit applications. DTI will, based on the results of its cost modeling and other data, as well as the map of unserved and underserved Broadband Serviceable Locations (BSLs) that results from the Challenge Process, establish geographic boundaries that consider a range of factors. Among these factors will be the following:

- **Potential for competition** among Applicants to submit competitive and attractive applications to serve those areas. Ideally, Grant Area design will encourage competition among Applicants and result in multiple applications.
- **Locations and proximity of unserved and underserved units.**
- **Economic and technical viability and efficiency**. Grant Areas will reflect DTI's internal data, modeling, and engineering expertise regarding the most economically viable grouping of unserved locations into a single geographic unit for applications.
- **Community needs**. DTI will endeavor, where possible, to ensure that boundaries reflect unique local circumstances.

4.1.4.2.2   Fiber application process

Once the Grant Areas have been defined and DTI has received full authorization from NTIA based on approval of the outcome of the Challenge Process and of the Initial Proposal Volume II, DTI will open the grant window, distribute grant materials, and accept applications for proposed projects.

At that time, DTI will undertake the following:

- DTI will make application materials available on its website using a dedicated webpage. These materials will consist of an Application and Guide, Program Guide, and FAQ documents. DTI will provide an additional resources page on its website to direct potential Applicants to third party resources that may be of use, including those provided by NTIA, NIST, FCC, and others.
- DTI will conduct an online application workshop during the first week following the release of the BEAD grant materials. This workshop will provide general instructions, discuss the program's goals and objectives, map out major program milestones, answer questions, and provide other technical assistance. This workshop will be recorded and available on the DTI website and the FAQ document will be updated frequently to reflect questions and answers from the workshop and questions received by email.

- During the time the grant application window is open, DTI will have a dedicated email address available for participants to use to ask questions and request technical assistance and reasonable curing. To provide transparency, fairness, and additional technical assistance, DTI will update its FAQ document on a regular basis with the questions and answers generated by the email inquiries and in-person meetings.

4.1.4.2.3 Negotiation process

If the result of the grant application scoring leads to incomplete coverage of unserved and underserved locations in Delaware; if the amount bid exceeds the total BEAD deployment budget; or, for other good cause, DTI may engage in negotiations with Applicants to achieve Internet for All in Delaware. During the Negotiation Process, DTI will engage with Applicants in negotiations designed to reach final agreement on two topics: project area boundaries and costs.

Once the applications are received, DTI will evaluate the full range of applications that are received and will consider how to follow up in a process that is designed to enable DTI to reach the best possible comprehensive and statewide outcome from the grant process. NTIA's rules for the program explicitly allow for negotiation for a range of purposes, including to reduce or change pricing and to expand or reduce grant areas. DTI intends to use the negotiation phase of the program for both purposes, first, to negotiate pricing with Applicants to secure for the consumers of Delaware the best value for the BEAD funds, and second, to negotiate coverage across Grant Areas where necessary.

First, DTI will negotiate proposal area boundaries. If a Grant Area does not receive any applications at all, DTI will negotiate with one or more Applicants to determine whether and under what circumstances they would be willing to serve all or part of that Grant Area. DTI may negotiate with one or more entities at a time to maximize the compressed timeline and secure the best possible deal for taxpayer funds, enabling the BEAD funds to serve as many unserved and underserved locations as possible.

Second, DTI will negotiate pricing, both with respect to Grant Areas that received no applications into which DTI would like to attract other Applicants and with respect to Grant Areas that received applications but where it may be possible to secure lower pricing. These negotiations will be targeted at ensuring that the BEAD funding can reach all unserved and underserved Delawareans. The outcomes of those negotiations will inform whether Delaware adopts an Extremely High-Cost Per Location threshold, and at what amount. Among the range of circumstances in which DTI may wish to negotiate pricing are the following:

- A Grant Area does not receive any applications and DTI negotiates for pricing to serve it

- More than one Applicant provides a proposal for a given Grant Area and DTI negotiates with all to secure best and final offers that deliver the best pricing prior to establishing final scoring
- A grant Applicant proposes to serve a few different Grant Areas and DTI negotiates lower pricing with the Applicant based on the potential award of multiple aggregated Grant Areas

In sum, DTI believes that flexibility to take the necessary steps during the negotiation phase is an essential element of securing the best, fairest, most competitive outcome for the BEAD process, particularly given the need for DTI's efforts to develop a broadband solution for 100 percent of unserved locations in Delaware.

4.1.4.2.4   Provisional Award

Once DTI and the Applicants have concluded successful negotiations, it will issue provisional awards under the agreed upon terms. These pending awards will be included in DTI's Final Proposal for NTIA approval. Upon NTIA approval, DTI will finalize the provisional awards.

4.2   BEAD grant process overall timeline

The following is a tentative overall timeline for the BEAD Phase Grant Process, using NTIA's approval of Initial Proposal Volume II as Day Zero. These dates are given by way of illustration, not commitment. All dates are subject to change.

Day 1: Prequalification materials released

Day 5: Prequalification workshop

Days 5-35: Prequalification responses accepted by DTI

Days 35-65: Prequalification responses reviewed by DTI

Days 65-80: Curing of prequalification responses (if necessary, curing may also occur on a rolling basis during the DTI review)

Day 80: DTI announces pre-qualification determinations

Days 0-80: DTI develops Grant Areas through Grant Area Determination Process

Day 80: BEAD grant application materials, including Grant Areas, released

Day 85: BEAD grant application workshop/webinar

Days 85-115: BEAD grant applications accepted by DTI

Days 115-145: Review of BEAD grant application materials, including curing as necessary

Days 145-175: Negotiation process (if necessary)

Day 175: Announcement of provisional BEAD determinations, subject to NTIA approval of the Final Proposal

Dat 180: Submission to NTIA of the Final Proposal

4.3   Scoring methodology

4.3.1   Prequalification Phase

Delaware's BEAD application materials will specify the materials and certifications that are required for prequalification, together with the format and date for submission. The materials and certifications will be focused on materials that address financial, managerial, and technical qualifications as well as experience and capacity.

Other than materials regarding Fair Labor Standards, the materials submitted during the Prequalification Phase will not be scored but will be evaluated to determine whether the submitting entity is qualified to participate in the process. Materials regarding Fair Labor Standards will be evaluated for prequalification purposes and will be included in scoring consideration, per the scoring rubric described below.

In the event reviewers find the data submitted to be insufficient or unclear, DTI may choose to cure submissions by providing Applicants with opportunity to clarify or submit additional materials. All requests for clarification or additional submissions will be made in writing and all responses will be required to be in writing, with full documentation.

All entities whose prequalification materials are determined to be sufficient will be qualified by DTI to proceed to the Scoring Phase of the program and submit proposals.

In the Prequalification Phase, DTI will require the following materials for purposes of determining whether prospective subgrantees are qualified to receive awards in the event their applications score accordingly:

Financial capability
- Unqualified audited financial statements from the last three years
- Statement signed by an executive with the authority to bind the company that certifies the financial qualifications
- An understanding and written acknowledgment by Applicants that BEAD funds will be issued as reimbursements and not advance funding
- An understanding that minimal BEAD outlay includes a 25 percent match from Applicants. This includes acknowledgement that a subgrantee will be required to obtain, as relevant, an irrevocable standby letter of credit in a value of no less than 25 percent of the subaward amount.

Managerial capability
- Resumes of relevant management staff that cumulatively demonstrate a minimum of five years of experience with broadband network design, construction, maintenance, and operations. Resumes should include a dedicated BEAD project team who will be the main

points of contact for DTI during implementation, including a project manager who is not an executive of the ISP. If the ISP is going to use contractors for any part of managing the BEAD project, that contractor should be identified and listed.

- Organizational chart and a narrative detailing the Applicant's processes and structure to manage large projects

Technical capability

- If not submitted as part of the managerial capability requirements, Applicants must provide the resumes of an employed CTO and contractor oversight team with the relevant certifications (both management and non-management) for deployment projects
- Certification that if the Applicant chooses to contract resources, all contracted resources will have the relevant and necessary skills

Operational capability

- Certification that Applicants have provided a broadband distribution service for at least two consecutive years or that they are a wholly owned subsidiary of such an entity and attest to and specify the number of years the Applicant or its parent company has been operating
- If the Applicant has provided a broadband service, certification that the application has filed FCC Form 477s and Broadband DATA Act submissions, if applicable, as required during this period, and otherwise has complied with FCC requirements

Legal compliance

- A legal opinion from the Applicant's legal counsel attesting to compliance and detailing any violations or pending court proceedings
- Certification that the Applicant will permit workers on BEAD deployment projects to create worker-led health and safety committees that management will meet with upon reasonable request
- Ownership information consistent with the requirements set forth in 47 C.F.R 1.2112(a)(1)-(7)

Cybersecurity compliance

- Certification that the Applicant has a cybersecurity risk management plan in place that is either: (a) operational, if the Applicant is providing service prior to the award of the grant; or (b) ready to be operationalized upon providing service, if the Applicant is not yet providing service prior to the grant award
- Certification that the Applicant's cybersecurity plan reflects the latest version of NIST Framework for Improving Critical Infrastructure Cybersecurity (currently Version 1.1) and

the standards and controls set forth in Executive Order 14028 and specifies the security and privacy controls being implemented

- Certification that the Applicant's cybersecurity plan will be reevaluated and updated on a periodic basis and as events warrant and a timeline for how frequently the plan is reevaluated and updated
- Certification that the Applicant's cybersecurity plan will be submitted to DTI following execution of grant agreements, and if the Applicant makes any substantive changes to the plan, a new version will be submitted to DTI within 30 days

Supply chain compliance

- Certification that the Applicant has a supply chain risk management plan in place that is either: (a) operational, if the Applicant is already providing service at the time of the grant; or (b) ready to be operationalized, if the Applicant is not yet providing service at the time of grant award
- Certification that the Applicant's supply chain risk management plan is based upon the key practices discussed in the NIST publication NISTIR 8276, Key Practices in Cyber Supply Chain Risk Management: Observations from Industry and related SCRM guidance from NIST, including NIST 800-161, Cybersecurity Supply Chain Risk Management Practices for Systems and Organizations and specifies the supply chain risk management controls being implemented
- Certification that the Applicant's supply chain risk management plan will be reevaluated and updated on a periodic basis and as events warrant and a timeline for how frequently the plan is reevaluated and updated
- Certification that the Applicant's supply chain risk management plan will be submitted to DTI prior to the allocation of funds, and if the Applicant makes any substantive changes to the plan, a new version will be submitted within 30 days

Other public funding

A list of applications the Applicant has submitted or plans to submit related to federal or State broadband funding, and every broadband deployment project that the Applicant or its affiliates are undertaking or have committed to undertake at the time of the application using public funds.

Fair Labor Practices

In addition, as part of the prequalification process, DTI will require the following materials, which will be part of both prequalification and later grant application scoring:

1. Certification from an Officer employee, or an equivalent, of consistent past compliance with federal labor and employment laws on broadband deployment projects in the last three years, including:

o Certification that the prospective subgrantee, as well as its contractors and subcontractors, have not been found to have violated laws such as the Occupational Safety and Health Act, the Fair Labor Standards Act, or any other applicable labor and employment laws for the preceding three years, or

o Disclosure of any findings of such violations

2. Certification that the potential subgrantee, and its proposed contractors and subcontractors, have existing labor and employment practices in place and that the subgrantee will recertify this annually for the duration of the BEAD implementation period, including:

o Applicable wage scales and wage and overtime payment practices for each class of employees expected to be involved directly in the physical construction of the network

o Certification that the potential subgrantee will ensure the implementation of workplace safety committees that are authorized to raise health and safety concerns in connection with the delivery of deployment projects and that the Applicant will recertify this annually for the duration of the BEAD implementation period

3. A detailed workforce development plan, which must include at a minimum:

o Information on workforce safety and training, including a description of how the Applicant will ensure that the workforce is properly trained to conduct the work safely and effectively, including a description of training, certification and/or licensure requirements for each job title, a description of any in-house training program and whether training is tied to certifications, titles, and uniform wage scales. Applicants should note if they participate in a labor-management apprenticeship program. If so, they should describe the program requirements. Applicants should state if there is a labor-management health and safety committee on the worksite? If so, describe how the committee operates and its composition.

o Discussion of current and planned future practices regarding using a directly employed workforce, robust in-house training, wages and benefits, and a locally based workforce. Applicants should state what percentage of their existing workforce reside in Delaware and what, if any, commitments they are willing to make to grow their Delaware-based workforce.

o Discussion of the workforce for ongoing network operations. Applicants should discuss their existing workforce for customer service and operations work,

whether those workers will be directly hired or contracted, and what the wage scales are for these jobs.

- o Current and planned future practice regarding public disclosure of workforce plans and labor commitments on a website or online portal.

- o Discussion of job quality considerations as part of the Applicant's workforce development strategies, including a description of wage scales and minimum wage rates, overtime rates, and benefits for each job title that will carry out the proposed work. For each job title, an estimate of the number of workers or work hours required and the entity that will employ the workforce. If the Applicant plans to use subcontractors, a description of the job quality standards, including the above, they will hold their subcontractors to.

- o Discussion of all efforts to increase the diversity of the Applicant's workforce, including directly employed workforce and subcontractors, as well as policies or programs that encourage career pathways and hiring for marginalized communities or the local community, including any programs for women and people of color, as well as veterans.

4. Certification of compliance with relevant workplace protections including the Occupational Safety and Health Act, the Fair Labor Standards Act, Title VII of the Civil Rights Act of 1964, and Delaware labor and employment laws.

5. Discussion of whether the construction workforce will be directly employed or subcontracted, the anticipated size of the workforce required to carry out the proposed work, a description of plans to maximize use of local or regional workforce, and a description of the expected workplace safety standards and training to ensure the project is completed at a high standard.

Commitment to Internet for All

During any internet deployment, a small number of homes and business are discovered during infrastructure construction/deployment that do not have access high-speed internet service. These "newly discovered homes" cannot, under current rules, be a part of the BEAD program, as they are not on existing FCC fabric. DTI prefers to work with subgrantees who will commit to deploying internet to these "newly discovered homes" in order to truly achieve internet for all Delawareans.

In past DTI-funded broadband expansion programs, most ISPs have chosen to deploy to these "newly discovered homes" using their own, private funding. However, some chose to only deploy depending on the length of the driveway to the home. DTI desires to set as a requirement of BEAD that any subgrantee will agree to deploy to "newly discovered homes" without additional BEAD funding (in other words, using the subgrantee's own, private funding). DTI awaits guidance

from NTIA on an appropriate way to enforce such a requirement. DTI will update this document, and the grant program rules, when final guidance is received from NTIA. This change may impact the Prequalification requirements above and the scoring criteria below.

DTI welcomes public comment on possible approaches to ensure the BEAD delivers internet to all Delawareans, including those "discovered" post-award and during deployment.

4.3.2 Scoring Phase

DTI's scoring rubric is consistent with NTIA's rules, which specify three primary criteria that together must account for 75 percent of scoring, as well as secondary criteria that are based on Delaware's own public policy priorities.

DTI will begin its evaluation of proposals by ensuring that the Applicant provided all required materials. Incomplete proposals will not be considered.

Following a determination of completeness, DTI will review and evaluate the proposals based on the following criteria, which can add up to a total score of 100.

4.3.2.1 *Primary criteria*

Minimal BEAD program funds outlay: Up to 35 points
Applications will be scored based on cost-effectiveness, relative to the number of unserved and underserved locations in the proposed Grant Area. DTI will also consider and award points for Applicants who are willing to commit to above the 25% minimum matching funds required by BEAD.

Applicants should be mindful that the cost is for fiber *to the premises*. In other words, there will be no additional funding for a long driveway. If given an award, Applicants will be required to build the network all the way to the customer's door. All costs, including the drop to the door of the house, should be built into the binding cost proposal.

Applicants will need to certify that they understand their cost commitment is binding, and that after pre-award negotiations occur, DTI will not be able to award any additional funds for long-driveway drops or other unexpected costs. Applicants will be encouraged to build in a contingency line item into their budget planning. Applicants will be encouraged to account for future cost increases in supply and workforce, as no additional funding will be given to any Applicant once the award is made and default due to poor cost planning may have serious legal and financial repercussions on the defaulting Applicant.

Workforce Plan: Up to 25 points

For the following section, unless otherwise noted, the "workforce" described refers to the workforce constructing/deploying the high-speed internet infrastructure funded under BEAD. Applicants will be scored on:

- A demonstrated history of strong practices and policies as to:

  - Safety and Training – An application that describes a more comprehensive in-house training program, for example, a program tied to certifications, titles, and uniform wage scales and/or participation in a labor-management apprenticeship program, will receive a higher score.
  - Job Quality – An application that describes higher wages and more robust benefits will receive greater credit. If Applicant uses a contracted workforce, how will they ensure their contractors provide high job quality. If an Applicant gives additional workforce protections such as union protections that will result in a higher score.
  - Accountability and Subcontracting – An application that commits that a greater proportion of the broadband deployment workforce will be directly employed by the Applicant will receive greater credit.
  - Local Hire and Targeted Hire – An application that describes more robust local hire and targeted hire practices, for example, committing to a high percentage of workforce that will reside in Delaware and/or describing policies or practices that promote career pathways for local residents and hiring for marginalized communities or the local community, will receive a higher score.
  - Ongoing Network Operations (Post-Deployment Workforce) – An application that describes more robust practices for the workforce that will perform ongoing customer service, installation, and maintenance work, for example, good jobs, a locally based workforce, and/or a directly hired workforce, will receive a higher score.

- Demonstrated commitments to future compliance with federal fair labor practices as described by NTIA, including:

  - Describe the Applicant's historical use of contracting and subcontracting arrangements including staffing plans. Applicants should describe the contractors and/or subcontractors the Applicant will use on this project, if any.
    For the Applicant and all contractors and subcontractors that it will engage in the project, provide a description of instances—if any—in which the entity has been found to have violated federal and state labor and employment laws for the preceding three years and a description of active litigation under federal and state labor and employment laws. "Federal and state labor and employment laws"

includes the Fair Labor Standards Act, the Occupational Safety and Health Act, Title VII of the Civil Rights Act of 1964, and [state labor laws].

If additional contractors are added after the application period, grantees should be required to submit the same information for each additional contractor.

- o For the Applicant and any contractors or subcontractors, provide certification from an Officer/Director-level employee (or equivalent) evidencing the above.

- **Affordability: Up to 15 points**
  Applications will be scored based on Applicants' commitments to offer a symmetrical 1 Gbps service to BEAD-funded locations that will never exceed the cost of the same service in metropolitan areas of Delaware. Full points will be awarded to applications that make this commitment in clear and unambiguous terms, without caveats that compromise the commitment.

  Applicants should submit their pricing level for 100/20 MBPS service and will be scored on lower pricing levels relative to other Applicants.

  Applicants will be able to earn points in this section by showing a commitment in their pricing practices to serving all Delawareans, regardless of income level.

4.3.2.2   Secondary criteria

Speed to deployment: Up to 15 points

Based on the BEAD rules, all funded projects must be complete within four years following execution of grant awards. Applicants will be awarded up to 15 points if they can demonstrate that they will deploy the network in a shorter period, with more points given based on how quickly an Applicant can commit to deployment. Applicants score will also be impacted on the thoroughness of their description of the factors impacting their proposed timeline. Timelines should include a full range of necessary activities, including design, permitting, construction, and activation.

Milestone timelines should include 25 percent, 50 percent, 75 percent, and 100 percent complete. Applicants should take these timeline commitments very seriously, as grant agreements will include these timelines as binding obligations, with DTI reserving the right to apply penalties up to and including default, recission of the grant, and all other penalties as permitted by law.

Local support: Up to 5 points

DTI will award up to 5 points to Applicants for demonstrations of support from community institutions and stakeholders, including elected officials, as well as showings of other types of

local commitments. Points will be awarded based on both the volume of documents of support and on the clarity and extent of support demonstrated in the documentation.

Documents may include:
- Letters of support from potential customers, elected officials, community leaders (including leaders that serve Covered Populations), and local philanthropies,
- Board or council resolutions,
- Commitments of funding,
- Commitments to purchase services if the project is funded,
- Evidence of quality and capacity for local customer service.

Past performance: Up to 5 points
DTI will award up to 5 points to Applicants for demonstrations of exceptional past performance on State and federal broadband funding awards. This past performance does not necessarily need to be based in Delaware.

Points will be awarded based on the clarity and extent of information provided, a senior manager or higher-level reference from such project, as well as the accuracy of the information relative to DTI's own research and observations.

Documentation should address the full range of performance parameters, including timeliness, budgetary overruns (comparison of application cost per household vs. actual cost per household of deployment), and network performance. ISPs' full commitment to delivering internet for all, including households not on the FCC fabric, as evidenced in past grant performance, will be considered.

4.3.3   Scoring rubric

Table 1: Proposed scoring rubric

Primary scoring criterion (all are mandatory under NTIA rules)	Points available
Minimum BEAD program funds outlay	35
Workforce plan	25
Affordability	15
Primary criteria subtotal	75
Secondary criteria	
Speed to deployment (mandatory under NTIA rules)	15
Local support	5

Primary scoring criterion (all are mandatory under NTIA rules)	Points available
Past performance on State and federal broadband funding programs	5
Secondary criteria subtotal	25
Total	100

4.4   Prioritization of unserved BSLs, underserved BSLs, and eligible CAIs

DTI recognizes the prioritization in the Bipartisan Infrastructure Law that created BEAD for unserved locations as the first priority, underserved locations as the second priority, community anchor institutions as the third priority, and affordable housing and other priorities following the first three. This prioritization is mandated by the statute and aligns with the State of Delaware's plans for how to utilize the BEAD funds. Delaware's internal modeling suggests that the funds available may provide for fiber-to-the-premises to the vast majority of unserved locations in Delaware, as well as underserved locations and community anchor institutions.

Given this analysis and the data that has been analyzed, DTI proposes to focus the BEAD funding on unserved, underserved, and Community Anchor locations. If the funds prove insufficient to meet all needs, DTI reserves the right and opportunity to undertake either negotiations with Applicants or an additional application round to ensure service to all unserved locations.

Furthermore, DTI plans that, if the funds are insufficient to deliver fiber to all unserved and underserved locations, applications to serve high-poverty areas will be prioritized.

4.5   Prioritization of non-deployment projects

Not applicable.

4.6   Environmental and historic preservation and Build America, Buy America Act (BABA) compliance

The State of Delaware is deeply committed to the public policy purposes of environmental and historic preservation as well as BABA. DTI plans to highlight the criticality of these requirements for potential Applicants during the application workshops and in the various application materials—and will require that all Applicants certify their intention to comply with all related requirements in the prequalification phase of the BEAD grant program.

DTI will also require Applicants to certify that they have no history of failure to comply with environmental and historic preservation requirements or BABA, to the extent applicable.

Any Applicant that cannot certify a track record of full compliance will be required to provide detailed narrative and documentation regarding its histories of challenges or noncompliance. In

addition, DTI intends that it will actively use its subgrantee monitoring program post-award to verify that Applicants are indeed compliant with these requirements.

4.7   Project area definition

As is described above, DTI plans to define project areas through a Grant Area Determination Process in which it specifies the geographic boundaries of the grant areas (hereinafter, Grant Areas) for which prospective subgrantees can apply.

DTI anticipates undertaking the Grant Area Determination Process once it understands the final contours of the grantmaking map that results from the Challenge Process that will be run in late 2023/early 2024, following NTIA's approval of Delaware's proposed Initial Proposal Volume 1. The Grant Area Determination Process will be conducted by DTI during the period that NTIA is doing its Challenge Process Validation and immediately in advance of release of the BEAD grant materials.

The Grant Area Determination Process will be designed to establish the geographic boundaries of Grant Areas for perspective subgrantees to submit applications. DTI will, based on the results of its cost modeling and other data, as well as the map of unserved locations that results from the Challenge Process, establish geographic boundaries that take into account a range of factors. Among these factors will be the following:

- **Potential for competition** among Applicants to submit competitive and attractive applications to serve those areas. Ideally, Grant Area design will encourage competition among Applicants and result in multiple applications.

- **Locations and proximity of unserved and underserved units**

- **Economic and technical viability and efficiency**. Grant Areas will reflect DTI's internal data, modeling, and engineering expertise regarding the most economically viable grouping of unserved locations into a single geographic unit for applications.

- **Community needs**. DTI will endeavor where possible to ensure that boundaries reflect unique local circumstances, including topography and jurisdictional boundaries that may impact the cost of deployment.

DTI anticipates that many of the Grant Areas will comprise a larger geographic area that represents an aggregation of census tracts. The census tract has been selected as the minimum geographic area because it allows for established geographic boundaries and efficient design. There may be some areas in which census tract boundaries do not align with efficient fiber design parameters or the locations of unserved locations. In that case, DTI will design the Grant Areas based on alternative geographic parameters. Alternative parameters might include, for example,

boundaries like highways, rivers, and railway lines that naturally define broadband infrastructure architecture because traversing them is complex and costly.

4.8   Approach to subsequent funding rounds if no proposals are received

As is described above, in the event no proposal (or no viable proposal) is received for any given Grant Area, DTI plans to undertake one or both of the following processes, depending on the circumstances.

1. First, DTI anticipates undertaking negotiations with one or more Applicants that have applied for adjacent areas to determine whether other Applicants would be willing to take on commitments to fund those locations, based on costs that will be negotiated between the Applicant and DTI. DTI may choose to negotiate with one or more Applicants to maximize the chances of determining a solution for those locations.

2. Second, DTI anticipates that, depending on circumstances, it may choose to undertake a second (and possibly third) competitive process to formally attract Applicants for those locations.

DTI reserves for itself the flexibility to undertake one or both processes following receipt of the applications. DTI believes that the flexibility to undertake these processes based on circumstances will increase the competitive pressure on Applicants and for that reason declines to limit its options in this regard.

Possibility of Default on a Rural Digital Opportunity Fund (RDOF) Award

A sizeable number of unserved and underserved addresses in Delaware are set to receive service from an ISP operating under an RDOF award from the FCC.[4] Under current program rules, BEAD funds cannot be utilized to deploy to RDOF-covered addresses. However, with significant national concern about the economic viability of some RDOF awards,[5] DTI is working with NTIA to determine how to ensure that by the conclusion of BEAD, all Delawareans have access to high-speed internet, even if these is a default by the RDOF awardee serving Delaware. Possible approaches being considered are requesting a waiver to allow BEAD funding to be used to serve RDOF addresses and "holding back" a significant portion of BEAD funding. This latter option would require an additional funding award round late in the BEAD process if the RDOF addresses are released from that program.

---

[4] FCC Rural Digital opportunity Phase I Action, Attachment A (December 7, 2020) (https://www.fcc.gov/auction/904).

[5] *See, e.g.,* Karl Bode, "Worries Mount Rural Digital Opportunity Fund Default Money Will be Wasted," Community Networks (June 21, 2023) (https://communitynets.org/content/worries-mount-rural-digital-opportunity-fund-default-money-will-be-

DTI welcomes public comment on the above information and possible approaches to ensure the BEAD delivers internet to all Delawareans, regardless of future circumstances in the RDOF award process.

4.9   Projects on Tribal lands
As there are no Tribal lands in the state of Delaware, this section is not applicable.

4.10 Identifying the Extremely High Cost Per Location Threshold (EHCPLT)
The EHCPLT will be set in a way which allows as many end-to-end fiber projects to be deployed as possible, which is a goal of the BEAD program. Indeed, DTI believes it is possible Delaware will not need to set an EHCPLT and will be able to serve all unserved and underserved locations with fiber to the premises. Any decision on the threshold will be purely cost based, and a decision will be made after the first (and hopefully only) round of funding applications, at which point DTI will be able to determine if the BEAD allocation is sufficient to rely solely on fiber deployment.

If a threshold is set, it will accommodate well designed applications for state funding in former years that were not funded because of higher costs to build the networks, rendering them uncompetitive for available funding. This approach also accommodates the necessity for construction of line extensions, which has been identified as a significant barrier to connectivity. This threshold may enable the use of alternative technology types, where fiber is cost prohibitive.

4.11 Utilizing the EHCPLT
Should Delaware set an EHCPLT, DTI will then request non-priority applications for the BSLs over the threshold, using the same selection criteria as priority applications.

4.12 Requiring prospective subgrantees to certify their qualifications.
DTI will require potential subgrantees to demonstrate financial capability through a series of application questions and document requests. Applicant responses and documentation will be collected through an on-line portal and analyzed to support an informed assessment of the potential subgrantee's financial capability to meet the obligations of the project, maintain available funds to support the project, and demonstrate financial viability of the project.

DTI's Prequalification Phase and its Scoring Phase application will require potential subgrantees to provide narrative responses, certifications, and documentation to demonstrate financial expertise and available resources to meet program requirements and successfully complete a funded project.

---

wasted#:~:text=Concerns%20are%20mounting%20that%20over,broadband%20access%20across%20rural%20America.); Jon Brodkin, "Internet providers that won FCC grants try to escape broadband commitments," ARS Technica (August 2, 2023) (https://arstechnica.com/tech-policy/2023/08/internet-providers-that-won-fcc-grants-try-to-escape-broadband-commitments/).

When ready and as needed, DTI may release templates to standardize the submission process for the below criteria.

4.12.1 Officer certifications

As part of the Prequalification Phase, DTI will require a certification from an officer of a prospective subgrantee that the organization has the necessary financial qualifications, capabilities, and resources to comply with all program requirements and successfully participate in the program.

Only prequalified Applicants will be allowed to submit applications for project funding during the Scoring Phase. During the Scoring Phase, Applicants will be required to submit project-specific certifications by an officer of the company. The organization will certify that it will have sufficient financial resources to successfully complete its proposed project and will further certify that it understands the program will use a reimbursement model, requiring subgrantees to commit resources to construct the network and begin service prior to receiving grant award funding as reimbursement for eligible expenses.

Additionally, during the Scoring Phase, DTI will require certifications from the Applicant that it will have sufficient financial resources to provide the pledged matching funding of at least 25 percent as required by the program rules. Applicants will also be required to certify that they will have the financial resources to support all project costs necessary to complete the project, even if those costs exceed the amount of grant award and pledged matching funds. Applicants will certify they understand there will be no additional funding from the State of Delaware beyond the BEAD award, and any cost-overruns will solely be the responsibility of the Applicant.

These certifications, along with the financial documentation discussed below, will provide DTI with necessary assurances of the Applicant's financial qualifications and capabilities.

4.12.2 Letter of credit

BEAD program rules require subgrantees to obtain an irrevocable standby letter of credit from a qualified financial institution as part of its demonstration of financial capability to participate in the program and successfully complete a project. Pursuant to BEAD program rules and the BEAD Notice of Funding Opportunity (Section (IV.D.2.a.ii), DTI will implement a letter of credit process using the framework adopted by the FCC for its Rural Digital Opportunities Fund program (47 C.F.R. §54.804(c).

DTI will discuss the requirements for a letter of credit during its Prequalification and Scoring Phase application workshop and additional technical assistance outreach.

DTI's letter of credit process will require program participants to satisfy three steps.

As part of the Prequalification Phase, DTI will require participants to certify that they are aware of and understand the letter of credit obligations and processes for the BEAD program. Participants in the Prequalification Phase must further certify that they have the qualifications and resources to obtain the required letter of commitment and letter of credit from an eligible financial institution in an amount no less than 25 percent subaward amount, per NTIA's requirements.

During the Scoring Phase, Applicants will be required to present a letter of commitment from a qualified financial institution. DTI will define a "qualified financial institution" as one that meets the program rules for the FCC's RDOF program (47 C.F.R. §54.804(c)(2)). This definition presents the Applicants with a choice of different types of financial institutions to request a letter of commitment and ultimately fund the required letter of credit.

This letter of commitment must describe the type of financial institution that is making the commitment using the categories in 47 C.F.R. §54.804(c)(2). The letter of commitment must also state that the financial institution stands ready to issue an irrevocable standby letter of credit for the proposed project in the required amount and must specify the expected amount. The financial institution must also state that it has reviewed the model letter of credit and is prepared to comply with all terms and conditions for the letter of credit under this program.

Upon completion of the Scoring Phase, successful subgrantees with awarded projects will be required to obtain an irrevocable standby letter of credit from the previously committed financial institution.

Submission of this letter of credit will be a condition of a final award agreement. A copy of the letter of credit for each funded project must be submitted directly from the issuing financial institution within 30 days of the notification of award and prior to the finalization of the final award agreement. DTI will ensure that funding will only be committed or distributed upon submission of a proper letter of credit.

As an additional condition of the final award agreement, subgrantees will be required to submit a bankruptcy opinion letter from legal counsel that states the letter of credit is drafted in such a way that under a Title 11 bankruptcy proceeding the bankruptcy court will not treat the letter of credit or proceeds from the letter of credit as "property" of the subgrantee's bankruptcy estate under Section 541 of the United States Bankruptcy Code.

4.12.3 Financial statements

In addition to the certifications discussed above, DTI will require potential subgrantees to submit documentation of their financial capabilities. During the Prequalification Phase, participants will be required to submit three years of audited financial statements. These financials must be audited by an independent certified public accountant and conform to industry standards.

These financial statements should be "unqualified" and the subject of a clean financial audit. If the submitted statements contain "qualifications" by the auditor for any of the three years, the potential Applicant must describe and explain the qualification, the reason for the qualification, and measures taken by the company to address the qualification if applicable.

If an Applicant does not have three years of audited financial statements in the ordinary course of business, it must describe the circumstances and reasons for the lack of audited financials and provide three years of financial statements that contain substantially the same level of detail and information. An Applicant without audited financial statements must also commit to providing three years of audited financials within 120 days of submitting the Prequalification Phase application.

Other entities that may have alternative financial reporting requirements, such as public entities, will be allowed to submit relevant and applicable financial documentation that provide substantially similar information and that will allow DTI to substantiate the public entity's financial qualifications and capabilities to participate in the program. A certification by an officer of the entity and a narrative explanation by the public entity must accompany the submitted financial documentation.

During the Scoring Phase, DTI will review these financial statements together with the Applicant's submission of project-specific financial documentation discussed below, such as budgets, capital expenditures, and pro forma business case analyses as part of the Applicant's overall showing of financial qualifications and capability.

4.12.4 Financial sustainability

During the Scoring Phase, DTI will request specific and detailed documentation and narrative descriptions of the Applicant's business plans, budgets, and timelines for the proposed project.

To assess the financial sustainability of a proposed project, DTI will require Applicants to complete and submit a budget narrative, proposed budget, and pro forma business case analysis. Applicants will be required to use provided templates for these submissions.

The budget narrative requires Applicants to provide a detailed breakdown of the expected budget for 11 standardized categories. Additionally, the narrative will require a description of each charge, the entity or team responsible for that budget expense (if applicable and if known), and how each category expenditure relates to the project objectives. If the Applicant will be providing a cash or in-kind match in this cost category, this must be noted and explained in the justification to include a break-down of the grant and match share of each proposed cost.

DTI will require Applicants to demonstrate that costs proposed for this grant program will be reasonable, allowable, allocable, and necessary to the supported activity. The Scoring Phase

Application and Guide, as well as the Program Guide, will reference 2 CFR Part 200 for applicable administrative requirements and cost principles. These program materials will also discuss program objectives and describe the specific allowable and unallowable costs and activities. DTI will provide additional technical assistance and Frequently Asked Questions materials to support this element of an Applicant's showing.

Applicants will also present a pro forma business case analysis to present their financial projections to demonstrate sustainability. These submissions will show assumptions regarding take rates, churn, revenue-per-user, operating expenses, cash flow, and capital expenditures over the course of the construction and start-up operations for a 10-year period. Applicants should also submit a proposed project budget with standard categories that correspond with the cost categories in the budget narrative.

DTI will further review these materials, in combination with the audited financial statements submitted during the Applicant's Prequalification Phase, to validate the showing of financial sustainability. DTI will additionally consider the expected growth of the project and ongoing benefits to the community beyond completion of the build and disbursement of grant funding.

However, recognizing that Applicants may have different internal record keeping and business planning processes, in addition to the required template information, DTI will also accept additional documentation that gives Applicants additional opportunity to present supplementary demonstration of financial sustainability tailored to the proposed project.

DTI will ensure that requests for the pro forma and business plan information in this section of the Scoring Phase application will be complementary to, not duplicative of, documentation provided by the Applicant in response to other sections of the application or the Applicant's Prequalification Phase submissions. To avoid inefficient and duplicative submissions, Applicants will be allowed to reference submissions from other parts of its application to satisfy these requirements.

4.12.5 Managerial capability

DTI will require potential subgrantees to demonstrate managerial capability to successfully complete and support a BEAD funded broadband network. DTI will request documentation during both the Prequalification Phase and the Scoring Phase application. The potential subgrantee's showing of its managerial capability is expected to be comprehensive and robust and demonstrate a commitment to long-term success of the project well beyond the period of construction. Applicants will be required to show as part of their demonstration of capable management that they have one or more qualified project managers who can serve as dedicated points of contact and will manage their BEAD award. To ensure this project manager will have

sufficient bandwidth to be responsive to BEAD requirements, DTI will ask Applicants to have a separate project manager from the company executives.

DTI expects to put a detailed reporting framework in place that will require successful subgrantees to demonstrate ongoing commitment of resources, stable leadership, and continued improvement of processes and services to the funded area.

4.12.5.1 Key management personnel resumes

During the Prequalification Phase, participants will be required to provide current resumes of all key management personnel, as well as a narrative discussion of each individual's expected role in a BEAD-funded project. Each of the identified individuals shall be an employee of the organization, have at least five years of experience in the same or similar role within the communications industry, and have the demonstrated experience, skills, and authority to successfully fulfill the obligations of the role.

DTI will expect participants to identify personnel in current roles such as officers and directors of the organization, executive level management, financial planning and strategy, technical design, risk management, human resources, equipment procurement, operations, and planning.

4.12.5.2 Organizational charts

In addition to resumes for key individuals within the organization, Applicants will be required to submit detailed organizational charts of the organization's structure, key management personnel, and relevant operational teams. These charts will also provide information regarding the organization's parent company and affiliates, if any. The organizational chart is expected to correspond to the other elements of the entity's showing of managerial capability, including mapping back to each identified key management personnel and functional teams. The Applicant should describe any recent or expected changes to the organization's structure, processes, and planning that may impact its BEAD project efforts.

4.12.5.3 Organizational experience and qualifications

As an additional part of the Prequalification Phase, Applicants will be required to provide a narrative description of the organization's background and experience managing broadband infrastructure projects of similar size and scope and under similar circumstances, such as the timeframes, reimbursement models, and geographic characteristics.

The Applicant's narrative will also be required to describe the organization's experience, resources, and readiness to provide the required service offerings, level of service, and maintenance over the completed network. The organization will be required to describe plans to maintain a sufficient level of management resources through training, retention, and recruitment activities to support its service delivery efforts throughout the federal interest period.

The entity will be expected to also describe and provide documentation regarding any independent contractors, consultants, and subcontractors that it plans to retain to supplement its managerial capabilities. This description should include the scope of the third-party contractor's role and the expected term of the engagement.

An Applicant to the Prequalification Phase that is a new entrant, or a newly formed consortium will be required to demonstrate how it will develop its organization's managerial expertise and resources through the recruitment of directly employed key management personnel with the requisite leadership experience of at least five years in prior roles and positions in the communication industry.

4.12.5.4 Project-specific managerial requirements

While potential subgrantees will be expected to make their managerial capability showing during the Prequalification Phase, Applicants will also be required to provide additional data and descriptions of its management capabilities to specifically address any unique needs of the proposed project that is the subject of the Scoring Phase application. This project-specific management showing should reflect and correspond to other elements of the Scoring Phase application including financial capability, network design, budgeting, and planning.

For example, if a proposed project will primarily serve a rural area, Applicants should include specific references to key management personnel, organizational teams, and the entity's general experience with projects in similarly rural areas. Similarly, if an Applicant proposes a project that will serve significant numbers of multi-unit buildings or utilize a unique construction technique, Applicants should highlight the experience of the entity or its management personnel in those areas. DTI will require information that demonstrates that the Applicant has sufficient managerial capabilities to support a successful BEAD funded project, with specific reference to the uniqueness of the project.

4.12.6 Technical capabilities

During the Prequalification Phase, participants will be expected to demonstrate their technical capability to participate in the program and successfully complete a funded project. This showing will complement the Applicant's management capabilities and will provide DTI additional detail to substantiate overall technical expertise, knowledge, and capabilities as well as information about the Applicant's federal and State technical certifications, licenses, and standards.

4.12.6.1 Officer and director certifications

Applicants will be required to provide certifications from an officer of the company that they are fully and properly licensed in Delaware to conduct funded activities and comply with all post award obligations.

Participants will further certify that they have the processes and resources in place to employ an appropriately skilled and credentialed workforce and that key technical personnel and technical team members are current on all required training, licensing, and license renewals.

DTI will provide a list of required licenses and certifications as part of its Application Guide and Program Guide posted on its website and discussed during the Prequalification Phase workshop.

4.12.6.2 Certifications and licenses

In addition to the certifications from an officer or director, Applicants will be required to provide a list of the business and technical certifications and licenses that will be relevant to their participation in the BEAD program that it holds nationally and in Delaware. This list will include certifications and licenses held by key technical personnel as well as those held by the organization. The list will be required to include unique identifiers and license numbers to allow DTI to validate the reported data.

Applicants will also submit descriptions of workforce training and certification programs that they rely on, or expect to rely on, to support a continued commitment to a highly skilled and trained workforce. These programs should include certified apprenticeship programs, community college curricula, and for-profit certification programs, programs offered by trade and labor unions, as well as industry sponsored programs. Delaware provided a list of these programs available to workers in the State as part of its Five-Year Action Plan and further discusses these programs in Section 8, Labor standards and protection (Requirement 11).

Information regarding certifications, training, and licensing of key technical personnel submitted as part of this element of the Prequalification Phase will be considered complementary to and not duplicative of the information and data submitted in other elements of the application. Applicants will be encouraged to cross-reference materials to avoid duplicative submissions.

4.12.6.3 Narrative description

Applicants will also be expected to provide a narrative description of the entity's experience designing and constructing broadband infrastructure projects of similar size and scope and experience operating the network to offer last mile services. This description should reference the key management personnel referenced in the prior application section as well as the experience and expertise of the technical teams the organizations will use to design, construct, and operate the proposed project.

4.12.6.4 Scoring Phase – project-specific certifications

As part of the Scoring Phase application process, DTI will require Applicants to list the employment categories, job titles, and job descriptions that will be necessary to successfully complete the proposed project. Applicants will also be required to provide any additional

certifications, licenses, or other qualifications that are unique and specific to the proposed project and are supplemental to the information provided as part of the Prequalification Phase.

Applicants must provide supporting documentation to demonstrate that they have completed, or are in the process of completing, these additional requirements to become fully and properly qualified to successfully complete the proposed project. Each Applicant will also be required to describe the processes it will have in place to track and maintain required certifications, licenses, and training programs for construction and post-construction activities to ensure that the organization will maintain a highly skilled workforce throughout the federal interest period of the project.

4.12.6.5 *Scoring Phase – description of the proposed project*

As part of the Scoring Phase process, Applicants will be required to provide a detailed description of the proposed project. Applicants will be encouraged to review the Prioritization and Scoring Phase section of the application (discussed in Section 4.3 of this Initial Proposal Volume 2) to ensure that the project description submitted in this section of the application will satisfy program requirements and related scoring rubric elements.

This submission will consist of the following required elements:

- Network design and diagrams using shapefiles that display preliminary fiber routes, interconnect points, and, as known, required right-of-way usage. Applicants are not expected to complete "walk outs" prior to the application.
- Narrative descriptions of the geographic location, characteristics of the local community, anticipated labor requirements, and other related information that will provide DTI with a complete picture of the community to be served.
- Descriptions of the proposed project's technical specifications and design, including project elements such as the proposed miles of fiber, number of interconnection points, technology types to be deployed, number of passings, and anticipated speeds and latency of the services to be offered over the completed network.
- Deployment timelines and milestones that reflect a construction and installation process of no longer than four years, including planning, design, procurement, construction, installation, network turn-up and testing, and service initiation.
- In addition to the budget narrative and pro forma analysis provided as part of the showing of financial sustainability (including anticipated take rates over time, average revenue per user, churn, and other related elements), this section of the application will require Applicants to provide documentation of project costs, operational costs, and budgets and to connect these showings to other sections of the application to create a comprehensive description of the proposed project and showing of technical and financial feasibility.

DTI will review the timelines and milestones for the proposed project to ensure that they correspond and map directly with the capital expenditures and schedules provided as part of the Applicant's showing of financial sustainability for the project.

DTI will also preview the description of the proposed project's technical specifications, network design, and diagrams to ensure that the related project budgets, financial analysis, and business case pro forma analysis support the Applicants' project-specific financial sustainability showing.

As each of these application elements must correspond and connect with each other to present a comprehensive picture of the proposal project, DTI intends these showings to be complementary and not duplicative. Applicants can reference attachments and information provided in other parts of the application.

4.12.6.6 Certification of a Professional Engineer

To support DTI's own analysis of an Applicant's technical capabilities, as well as the reasonableness and benefits of the proposed project, Applicants will be required to produce a certification by an independent professional engineer during the Scoring Phase. DTI will require that the certifying engineer holds all required professional licenses from the State of Delaware.

DTI will provide a sample certification as part of the application materials. This certification must state that the engineer has reviewed all necessary elements of the proposed project, including descriptions and documentation of the network design, build-out timelines, business case, and budgets. The engineer must certify that the proposed project meets all applicable program requirements and is designed to be successfully completed and capable of meeting all performance commitments and requirements within the program timelines.

The Applicant will be required to upload documentation of the professional engineer's licenses as well as any written reports, letters, or analysis provided by the engineer regarding the proposed project.

4.12.7 Compliance with applicable laws

DTI's Prequalification Phase will require participants to provide a legal opinion by an attorney licensed in Delaware that the organization is aware of the federal and State laws applicable to BEAD funded broadband deployment projects and that the organization possesses the qualifications and resources to perform BEAD-related commitments in compliance with all applicable federal and State laws.

The legal opinion will be required to further attest to the organization's current compliance with all relevant federal and State laws and describe any violations of applicable laws and regulations, current or pending investigations, and current or pending legal actions.

The legal opinion must be accompanied by a description of the expertise and qualifications of the attorney and demonstration of the attorney's familiarity with relevant areas of the law including preemption and issues of jurisdiction. The attorney must also describe their familiarity with the operations of the organization and the documents, policies, and procedures that they reviewed to render the opinion.

In the BEAD application materials, DTI will reference the types of laws that Applicants must consider, including federal procurement laws such as applicable Buy American requirements, state-specific procurement regulations, federal Uniform Guidance regulations, Department of Commerce Standard Terms and Conditions for grant funding, federal and State environmental and historic preservation regulations, and any specific award conditions that DTI or NTIA may develop. DTI will also consult with other State and federal agencies to incorporate additional laws and regulations applicable to BEAD program projects. In the event of a conflict between federal, state, or local regulations, DTI will require compliance with the most stringent obligations and requirements to the extent those obligations are not preempted by applicable federal law.

DTI will also require Applicants to provide a narrative description of the processes they have in place to conduct funding activities in compliance with federal and State laws, including descriptions and documentation of procurement practices. Additionally, Applicants shall be required to provide an explanation of any special circumstances or considerations that may prevent compliance with specific applicable laws. The narrative must address specific requirements and discuss the participant's plans to mitigate the impact of any noncompliance on its participation in the program.

DTI will further require Applicants to certify that it has, or will have, processes in place to monitor and support compliance with specific State and federal safety regulations applicable to work on BEAD program projects, including federal Occupational Health and Safety Act and related State and federal regulations.

As part of this showing, DTI will require Applicants to provide documentation of the organization's policies and practices regarding compliance with health and safety laws and regulations. Participants will also be required to provide documentation of communications with workers and worker representative organizations regarding the applicable labor laws and fair labor standards, as well as the formation of worker-led health and safety committees. Documentation of a participant's outreach to workers on these topics may include sample emails, copies of posters, worker surveys, worker meetings, phone call and social media scripts, as well as organizing activities by worker-led organizations.

4.12.8 Organizational capability

4.12.8.1 Experience offering voice and broadband services

During the Prequalification Phase, DTI will require Applicants to provide a certification by an officer of the organization that it possesses the operational expertise, capabilities, and resources to successfully complete and operate a BEAD funded project. The certification must specify that the organization has at least two years of experience providing broadband transmission or distribution services to end users or is a wholly owned subsidiary of a parent entity that has two years of operational experience in the communications industry.

If Applicants referenced operations in other states as part of its demonstration of managerial, technical, or operational capabilities, the organization will be required to provide a list or chart describing operations providing broadband services in other states. The list must include licensing and certification identifiers, years of operating experience, and descriptions of the services provided in each state either by the organization directly or by its affiliates and parent organization.

4.12.8.2 Compliance with FCC regulations

During the Prequalification phase, Applicants will be required to provide a separate certification that they are in compliance with any applicable federal laws and regulations implemented by the FCC, including submission of required reporting under the FCC's Form 477 regulations for reporting deployment and subscription data. This certification should also include compliance with the Broadband DATA Act (Pub. L. No 116-130 (2020)) and implementing regulations including the FCC's Broadband Data Collection process.

If the Applicant cannot provide the required certification regarding these FCC regulations, it will be required to provide a narrative explanation of any pending or completed enforcement action, litigation, or other action regarding violations or non-compliance with applicable FCC regulations, and a description of any efforts by the organization to cure the noncompliance or violations of the applicable regulations.

4.12.9 Ownership information

During the Prequalification Phase, DTI will require Applicants to document their ownership structure and shareholder interests pursuant to federal regulations developed for specific funding and auction programs implemented by the FCC that can be found at 47 C.F.R. §1.2112(a)(1)-(7). DTI will specifically request Applicants to provide a narrative description of their ownership structure and corporate entity type (e.g., publicly held corporation, limited partnership, limited liability company, general partnership, cooperative). The showing should reference and correspond to the organizational charts, identification of executive leadership, and financial statements provided in other elements of the Prequalification Phase.

Applicants will be required to submit a list of the required ownership information specific to the type of corporate entity, including the name, address, and citizenship and proportion of ownership interest of those owning and controlling the organization, including partners and shareholders with more than a 10 percent ownership interest.

For participants that report to the FCC, DTI will review the submitted information to determine that it matches the information submitted by organizations to the FCC in compliance with 47 C.F.R. §1.2112 and other FCC reporting requirements including reporting for Eligible Telecommunications Carrier requirements, licensure, and other purposes. Applicants will be expected to identify and explain any discrepancies or inconsistencies in the reported ownership and corporate structure information between the information reported to the FCC and the information submitted as part of the Prequalification Phase.

If the Applicant is not already a franchisee in Delaware, DTI will also check the submitted information against relevant business licensing requirements for the State of Delaware and will require Applicants to explain any discrepancies or inconsistencies between the two sets of reported data.

This requirement is critical for DTI, and NTIA, to uphold their commitments to fairness and transparency under the BEAD program. Ownership information for each Applicant will allow DTI to have a full and complete picture of the participants in the program and who is being entrusted with BEAD funding to ensure an efficient and effective use of funds that benefits the largest number of end users.

4.12.10   Information on other public funding

As part of DTI's efforts to substantiate an Applicant's overall expertise and competence to successfully complete a BEAD funded project, during the Prequalification Phase DTI will require Applicants to submit information about their participation in other State or federal publicly funded grant programs.

DTI will assess this information to better understand the Applicant's experience and knowledge regarding publicly grant funded programs, the technical capabilities demonstrated by the sophistication of each project, and the resources that the participant has committed over the term of these projects.

Applicants will be required to submit information about their participation and commitments for publicly funded programs including but not limited to the Families First Coronavirus Response Act (Public Law 116-127; 134 Stat. 178), the CARES Act (Public Law 116-136; 134 Stat. 281), the Consolidated Appropriations Act, 2021 (Public Law 116-260; 134 Stat. 1182), the American Rescue Plan of 2021 (Public Law 117-2; 135 Stat. 4), any federal Universal Service Fund high-cost

program (*e.g.*, RDOF, CAF), and DTI's own broadband grant programs, as well as any State or local universal service or broadband deployment funding program.

For each current publicly funded broadband project, DTI will require Applicants to provide:

- Speed and latency of the service to be provided as measured and reported under the applicable rules of the program
- Geographic area covered
- Number of unserved and underserved locations committed to serve or a percentage of the number of locations in the area as measured and reported under the applicable rules of the program
- Amount of public funding to be used
- Cost of service to the consumer
- Matching commitment, if any, provided by the participant or its affiliates
- Whether the Applicant has ever defaulted on a public funding commitment to deploy broadband, and the circumstances of the default

5   Non-deployment subgrantee selection (Requirement 9)

This section outlines non-deployment eligible activities DTI may support using BEAD Program funds.

There is a small chance DTI may have additional funds after provisionally issuing the broadband grants. It will plan to fund non-deployment activities with its remaining funding. Consistent with the BEAD Notice of Funding Opportunity, DTI will consider supporting additional non-deployment activities, which may include priorities identified during the State Digital Equity Planning and Capacity Grant programs.

DTI has a limited window to run the State challenge process and select deployment grants to prepare its Final Proposal for public comment and review before submitting it to NTIA. NTIA has provided 365 days to complete all this work. Given these time constraints, the State anticipates that it may need to use a faster process to support any non-deployment activities any remaining funds. This means that the State may need to engage in any non-deployment activities directly through DTI, its contractors, or other State offices.

As DTI runs its subgrant selection process, it will monitor the remaining funds closely. If DTI determines that it may have funds remaining, it will begin planning and preparing a fulsome non-deployment activity plan to submit as part of its Final Proposal.

6   Eligible Entity implementation activities (Requirement 10)

This section describes initiatives that DTI, as the Eligible Entity, proposes to implement as the recipient without making a subgrant.

As noted above in Section 6, Non-deployment subgrantee selection (Requirement 9), DTI may have additional funds after provisionally issuing the broadband grants. DTI may consider implementing non-deployment priorities itself through existing State programs. DTI may work with other agencies to support the following priorities listed above in Section 6 and in the Five-Year Action Plan.

Additionally, the State plans to implement key grant activities without issuing a subgrant. These activities include those directly related to the BEAD program:

- General administration of the BEAD award

- Oversight of BEAD subgrant applications and issuance

- Other BEAD management processes:

    o   Implementing the BEAD challenge process

    o   Managing the process for subgrantee applications and issuance

    o   Obtaining software to manage both processes.

    o   Overseeing subgrantee compliance

Although not directly related to the BEAD program, Delaware's broadband and digital equity plans are informed by its mapping and data collection, and DTI may use funds to continue its mapping and data collection efforts. DTI may also use BEAD funds to produce data analyses that are relevant to the BEAD program.

7 Labor standards and protection (Requirement 11)

This section explains how DTI will account for and oversee subgrantee adherence to federal labor and employment laws that mandate minimum safety, wage, anti-discrimination, and other workplace standards for all businesses in the United States.

7.1 Specific information that prospective subgrantees will be required to provide in their applications and how the Eligible Entity will weigh that information in its competitive subgrantee selection processes

In the application, and as part of the prequalification process, DTI will require the following from all Applicants:

1. Certification from an Officer employee, or an equivalent, of consistent past compliance with federal labor and employment laws on broadband deployment projects in the last three years, including:

   o Certification that the prospective subgrantee, as well as its contractors and subcontractors, have not been found to have violated laws such as the Occupational Safety and Health Act, the Fair Labor Standards Act, or any other applicable labor and employment laws for the preceding three years, or

   o Disclosure of any findings of such violations

2. Certification that the potential subgrantee, and its proposed contractors and subcontractors, have existing labor and employment practices in place and that the subgrantee will recertify this annually for the duration of the BEAD implementation period, including:

   o Applicable wage scales and wage and overtime payment practices for each class of employees expected to be involved directly in the physical construction of the network

   o Certification that the potential subgrantee will ensure the implementation of workplace safety committees that are authorized to raise health and safety concerns in connection with the delivery of deployment projects and that the applicant will recertify this annually for the duration of the BEAD implementation period

3. A detailed workforce development plan, as described on pages 20-21 above.

4. Certification of compliance with relevant workplace protections including the Occupational Safety and Health Act, the Fair Labor Standards Act, Title VII of the Civil Rights Act of 1964, and Delaware labor and employment laws.

5. Discussion of whether the construction workforce will be directly employed or subcontracted, the anticipated size of the workforce required to carry out the proposed work, a description of plans to maximize use of local or regional workforce, and a description of the expected workplace safety standards and training to ensure the project is completed at a high standard

With respect to all materials and information provided, DTI will review and evaluate the Applicant based on the following:

1. Completeness. Are the materials complete and fully responsive to the request?

2. Sufficiency. Do the materials demonstrate the appropriate level of compliance and adherence to the standards and statutes?

3. Concerns. Are there any omissions or other indications that should raise concerns about the potential subgrantees', or its contractors' and subcontractors', track record and commitment to the standards or statutes?

Based on DTI's evaluation of these considerations, the applications will be placed into two categories: (1) for those categories that are deemed complete and sufficient and do not raise any concerns, points will be awarded pursuant to the scoring rubric; (2) for those applications that raise concerns based on omissions or other indications, DTI will provide clarifying questions to the Applicant in writing while affording seven calendar days for the Applicant to respond and, upon receipt of the responses, then award points pursuant to the scoring rubric.

7.2 Binding legal commitments in subgrants related to labor standards and protection

Following an award, successful Applicants will be required to submit ongoing workforce reports which shall be incorporated as material conditions of their subgrant from DTI. The Applicants' representations in the Workforce Plan section of their application will become binding commitments upon award of a subgrant, and the subgrantees will be subject to regular reviews to ensure compliance.

If subgrantees fail to meet the Program Requirements or Workforce Plan Data requirements, or otherwise falsify information regarding such requirements, DTI shall investigate the failure and issue an appropriate action allowable by law.

To encourage public confidence in the program, Applicants' disclosures responding to the workforce criteria will be publicly available on DTI's website.

Subgrantees shall be required to provide in regular reports the below information. This information may be anonymized and aggregated to protect individual privacy:

- Whether the workforce will be directly employed by the grantee/ISP or whether work will be performed by a subcontracted workforce;
- The entities that the contractor plans to subcontract with in carrying out the proposed work, if any;
- The job titles and size of the workforce (FTE positions) required to carry out the proposed work over the course of the project;
- For each job title required to carry out the proposed work, a description of wages, benefits, applicable wage scales including overtime rates and a description of how wages are calculated;
- Any in-house training program, including whether the training program is tied to titles, uniform wage scales, and skill codes recognized in the industry; Safety training, certification, and/or licensure requirements, including whether employees are required to have completed OSHA safety training or any training required by law.

8   Workforce readiness (Requirement 12)

This section explains how DTI will ensure an available, diverse, and highly skilled workforce. Delaware's success in executing broadband deployments under the Broadband Equity, Access, and Deployment (BEAD) program will require collaboration across the public, private, and non-profit sector, especially when it comes to fosterer well-trained, and diverse Delaware workforce.

This section outlines the workforce needs that will be created by the spending on broadband construction under the BEAD program, outlines the State's approach to helping foster a robust, diverse workforce, documents how DTI intends to meet the labor and workforce requirements in the BEAD NOFO, and describes how BEAD deployments will benefit and work in concert with the State's long-term economic development goals.

8.1   Establishing a baseline for the broadband construction sector in Delaware

According to a 2021 Brookings report, "How federal infrastructure investment can put America to work," the workforce clusters involved in broadband deployment are represented by the following North American Industry Classification System (NAICS) categories:

- Power and Communication Line and Related Structures Construction
- Fiber Optic Cable Manufacturing
- All Other Electrical Equipment and Component Manufacturing
- Cable and Other Subscription Programming
- Wired Telecommunications Carriers
- Wireless Telecommunications Carriers[6]

The following table generated using data from the economic and labor market modeling tool Lightcast, [7] outlines the performance of these subsectors that are directly employed in telecommunications in Delaware from 2018 to 2022. (Note: the data nomenclature used by the NAICs changed between the publication of the 2021 Brookings report and now; the category formerly called Cable and Other Subscription Programming is now called Media Streaming Distribution Services, Social Networks, and Other Media Networks and Content Providers.)

---

[6] The Broadband Deployment Sector is defined by the March 2021 Brookings Report, "How Federal Infrastructure Investment Can Put America to Work" (https://www.brookings.edu/research/how-federal-infrastructure-investment-can-put-america-to-work/). These industries were originally identified by Pollin, et. al. in the October 2020 report, "Impacts of the Reimagine Appalachia & Clean Energy Transition Programs for Ohio" from the Political Economy Research Institute at the University of Massachusetts, Amherst (https://reimagineappalachia.org/wp-content/uploads/2020/10/Pollin-et-al-OHIO-Reimagine-Appalachia-and-Clean-Energy-Programs-10-19-20.pdf).

[7] Lightcast, https://www.economicmodeling.com/.

Table 2: Performance of Delaware's broadband deployment sector (2018 – 2022)

NAICS	Industry	2018 Jobs	2022 Jobs	2018 – 2022 Change	2018 – 2022 % Change	Average Earnings per Job – Delaware	Average Earnings per Job – National
237130	Power and Communication Line and Related Structures Construction	312	340	28	9%	$79,941	$108,440
335921	Fiber Optic Cable Manufacturing	0	0	0	0%	$0	$109,335
335999	All Other Electrical Equipment and Component Manufacturing	191	265	74	39%	$115,478	$122,081
516210	Media Streaming Distribution Services, Social Networks, and Other Media Networks and Content Providers	143	78	-65	-45%	$151,784	$239,987
517111	Wired Telecommunications Carriers	1,707	1,344	-363	-21%	$112,875	$126,979
517112	Wireless Telecommunications Carriers (except Satellite)	20	64	44	220%	$48,851	$126,584
	Total	**2,372**	**2,092**	**-280**	**-12%**	**$107,361**	**$147,794**
Source: Lightcast Datarun 2023.3							

There has been significant dynamism within Delaware's broadband deployment sector in the past five years, and the data suggest a few notable trends:

- The growth in *Power and Communication Line and Related Structures Construction* roles suggests ongoing active construction or utility repair in the State, and functioning mechanisms for training and hiring new workers in the field.
- The decline in *Wired Telecommunications Carriers* is likely the result of factors including an increased use of technology in ISP operations resulting in less reliance on people, or simply an increase in retirements in the industry, among other factors.
- The increase in *Wireless Telecommunications Carriers* may indicate increased deployment of mobile broadband infrastructure (e.g., 5G) and a push by certain carriers like T-Mobile to deploy and market FWA technology for home internet service.

Overall, however, the State saw a reduction of almost 300 jobs (or 12 percent) in industries related to broadband deployment during this timeframe; this was significantly greater than the 4 percent reduction in that sector nationally. The State lags the nation with earnings as well;

Delawareans in the broadband deployment sector tend to make less than national averages for the same categories.[8]

8.2   Estimating the impact of BEAD on broadband construction jobs

This analysis assumes that the construction spending due to the BEAD program will be approximately $102 million, including both BEAD funding and the subgrantee match. This number is a best guess at this moment and is not binding on future budget decisions DTI will make with respect to BEAD.

Based on the Brookings research cited above, broadband construction activities are expected to be allocated in the following proportions across the following relevant industry sectors.[9, 10]

Table 3: Anticipated distribution of broadband investment across sectors

NAICS	Industry	Weight
237130	Power and Communication Line and Related Structures Construction	25%
335921	Fiber Optic Cable Manufacturing	10%
335999	All Other Electrical Equipment and Component Manufacturing	15%
516210	Media Streaming Distribution Services, Social Networks, and Other Media Networks and Content Providers	10%
517111	Wired Telecommunications Carriers	20%
517112	Wireless Telecommunications Carriers (Except Satellite)	20%

Using the anticipated impact across sectors, an input-output methodology with the modeling tool Lightcast was used to understand and analyze the workforce needs based on anticipated broadband spending.

8.2.1   Broadband construction spending will require Delaware to grow the broadband construction workforce by over 100 jobs

Though many occupational categories may be involved in broadband deployment in some form, this analysis focuses on 12 occupational categories required to deploy broadband, identified by the Brookings article cited above. The following table estimates the numbers of workers needed

---

[8] Lightcast Datarun 2023.3.

[9] The distribution of how this investment across broadband industries was based on the work of the Brookings Report _How Federal Infrastructure Investment Can Put America to Work_, by Escobari, Gandhi, and Strauss, from June 2021, which is based on the work of Pollin et al. (2020).

[10] Robert Pollin, Jeannette Wicks-Lim, Shouvik Chakraborty, and Gregor Semieniuk. "Impacts of the Reimagine Appalachia & Clean Energy Transition Programs for Ohio: Job Creation, Economic Recovery, and Long-Term Sustainability," _PERI at University of Massachusetts Amherst_, October 2020, https://reimagineappalachia.org/wp-content/uploads/2020/10/Pollin-et-al-OHIO-Reimagine-Appalachia-and-Clean-Energy-Programs-10-19-20.pdf, p. 107.

in those categories to execute on a $102 million investment in broadband construction, and the proportional increase in workforce needed for each occupation.

Table 4: Estimated workforce requirements for broadband deployment occupations

Occupation	Currently Employed in Delaware	$102M Investment	
		New Workers Needed	% Increase
Project Management Specialists	1,508	5	0.33%
Business Operations Specialists, All Other	1,460	2	0.14%
Software Developers	5,280	5	0.09%
Software Quality Assurance Analysts and Testers	497	0	0.00%
Electronics Engineers, Except Computer	101	1	0.99%
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	3,288	8	0.24%
Customer Service Representatives	7,191	8	0.11%
Construction Laborers	2,633	35	1.33%
First-Line Supervisors of Mechanics, Installers, and Repairers	1,693	10	0.59%
Telecommunications Equipment Installers and Repairers, Except Line Installers	565	14	2.48%
Electrical Power-Line Installers and Repairers	241	8	3.32%
Telecommunications Line Installers and Repairers	524	41	7.82%

Source: Lightcast Datarun 2023.3

Because this chart is based on job classifications regardless of industry (it is inclusive of more industries than just those in the broadband deployment sector), there are significantly more employees noted for each job category than in the previous chart, which only included workers employed at broadband deployment-related businesses. For example, a significant number of line workers may be working for electric utilities rather than telecommunications companies. As the New Workers Needed numbers are, overall, de minimis, DTI concludes that BEAD investments in growing the workforce is not necessary and private industry will be able to make the minimal adjustments to the workforce on their own initiative.

Another factor used to analyze available workforce is how concentrated that workforce is relative to a national baseline in a particular area. When there are notable existing higher-density clusters, not only is filling roles easier with the existing workforce, but there is more possibility

for specialization, mentorship, and even recruitment due to an increased visibility in the community.

To demonstrate this, a Location Quotient (LQ) analysis is used to show the relative concentration of an occupation compared to national averages, and as such, which roles may be especially hard to fill. An LQ of 1.00 means an occupation is exactly as concentrated in a region as it is in the whole country. An LQ higher than 1.00 means there is a higher concentration of that occupation in the region (and thus more opportunity for specialization, and more resilience when an influx of these occupations are needed, and more of an existing network in the community), while an LQ less than 1.00 represents a lower concentration (and therefore could be considered a greater scarcity issue in times of occupational need).

Table 5: Occupations needed for broadband deployment (by percentage increase required)

Occupation	% Occupational Increase Required	Location Quotient
Telecommunications Line Installers and Repairers	7.82%	1.57
Electrical Power-Line Installers and Repairers	3.32%	0.65
Telecommunications Equipment Installers and Repairers, Except Line Installers	2.48%	1.1
Construction Laborers	1.33%	0.85
Electronics Engineers, Except Computer	0.99%	0.3
First-Line Supervisors of Mechanics, Installers, and Repairers	0.59%	0.99
Project Management Specialists	0.33%	0.58
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	0.24%	0.99
Business Operations Specialists, All Other	0.14%	0.43
Customer Service Representatives	0.11%	0.82
Software Developers	0.09%	1.11
Software Quality Assurance Analysts and Testers	0.00%	0.81

Many impacted occupations are at or above national levels of concentration, while a few are below, indicating a possible need for growth. However, there may also be opportunities for programs that cross-train the workforce in skill sets, such as software developers having the ability to perform software quality assurance roles as needed within the broadband industry—

thereby allowing the market to be more flexible in fulfilling potential labor needs. As previously mentioned, these numbers are not specific to the broadband industry, but rather market-wide in the categories.

8.2.2   Characteristics of key workforce categories

Understanding how to evaluate a robust workforce across key categories requires understanding important characteristics of those job categories such as the average earnings, change in number of employees over the past few years, and importantly, the turnover rate. High turnover rates, which could be represented by people switching jobs or retirements impact the efficiency of organizations by requiring more frequent hiring and training and losing employees with context and experience. The chart below outlines important characteristics of the occupations identified as in need of critical workforce attention.

Table 6: Characteristics of key occupations impacted by broadband investment

Occupation	Currently Employed in Delaware	2018 – 2022 % Change	Median Annual Earnings	Annual Turnover Rate
Project Management Specialists	1,508	90%	$104,894	49%
Business Operations Specialists, All Other	1,460	59%	$69,742	57%
Software Developers	5,280	23%	$118,456	34%
Software Quality Assurance Analysts and Testers	497	65%	$105,560	41%
Electronics Engineers, Except Computer	101	-32%	$124,363	37%
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	3,288	0%	$60,965	70%
Customer Service Representatives	7,191	-10%	$39,021	82%
Construction Laborers	2,633	29%	$41,954	76%
First-Line Supervisors of Mechanics, Installers, and Repairers	1,693	7%	$79,290	54%
Telecommunications Equipment Installers and Repairers, Except Line Installers	565	71%	$51,355	66%
Electrical Power-Line Installers and Repairers	241	-24%	$92,685	26%
Telecommunications Line Installers and Repairers	524	-34%	$73,289	65%

Source: Lightcast Datarun 2023.3

While most of these occupations have seen growth from 2018 to 2022, several occupations have contracted in numbers, particularly *Telecommunications Line Installers and Repairers*, *Electrical Power-Line Installers and Repairers,* and *Electronics Engineers*. This could be due to retirements, technology changes rendering some jobs obsolete, reclassification of occupations, contractions in the industry, or wages that are lower than national averages causing outward migration.

Turnover rates also give context for how often employees in each occupation are moving to different employers. High rates of turnover in certain categories should not be a cause for alarm, but instead generally indicate occupations where contract work is most common, such as

seasonal work in construction and other occupations related to broadband deployment. To some extent, turnover also illustrates there are opportunities for employment elsewhere with a similar skill set and is a sign of a strong job market.

8.2.3 Workforce qualification requirements

The following chart outlines qualification requirements for the 12 key broadband deployment occupations, along with typical education and work experience requirements, and typical amount of on-the-job training required to be proficient.

Table 7: Work experience of occupations impacted by broadband investment

Occupation	Typical Entry-Level Education	Work Experience Required	On-The-Job Training Required
Project Management Specialists	Bachelor's degree	None	None
Business Operations Specialists, All Other	Bachelor's degree	None	None
Software Developers	Bachelor's degree	None	None
Software Quality Assurance Analysts and Testers	Bachelor's degree	None	None
Electronics Engineers, Except Computer	Bachelor's degree	None	None
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	High school diploma or equivalent	None	Moderate-term
Customer Service Representatives	High school diploma or equivalent	None	Short-term
Construction Laborers	No formal educational credential	None	Short-term
First-Line Supervisors of Mechanics, Installers, and Repairers	High school diploma or equivalent	Less than 5 years	None
Telecommunications Equipment Installers and Repairers, Except Line Installers	Postsecondary nondegree award	None	Moderate-term
Electrical Power-Line Installers and Repairers	High school diploma or equivalent	None	Long-term
Telecommunications Line Installers and Repairers	High school diploma or equivalent	None	Long-term

Source: Lightcast Datarun 2023.3

8.2.4 Current unemployment metrics

Though unemployment numbers are only aggregated at more general occupation classification levels, some inferences can be made as to how current unemployment numbers may impact ability to fill open positions in broadband construction.

The chart below outlines the total number of unemployed workers in Delaware by major occupation category, the share of all unemployed people in Delaware represented by that category, and the comparable percentage of all unemployed people in that category for the nation.

Table 8: Unemployment for occupations impacted by broadband investment

Occupation	Unemployed in Delaware (April 2023)	% of State Unemployment	% of National Unemployment
Business and Financial Operations Occupations Project Management Specialists Business Operations Specialists, All Other	1,531	8%	6%
Computer and Mathematical Occupations Software Developers Software Quality Assurance Analysts and Testers	883	5%	3%
Architecture and Engineering Occupations Electronics Engineers, Except Computer	93	0%	1%
Sales and Related Occupations Sales Representatives of Services	1,039	5%	8%
Office and Administrative Support Occupations Customer Service Representatives	4,202	21%	13%
Construction and Extraction Occupations Construction Laborers	1,155	6%	13%
Installation, Maintenance, and Repair Occupations First-Line Supervisors of Mechanics, Installers, and Repairers Telecommunications Equipment Installers and Repairers Electrical Power-Line Installers and Repairers Telecommunications Line Installers and Repairers	564	3%	4%

Source: Lightcast Datarun 2023.3

This analysis suggests that in Delaware, some of the business and support roles have higher proportional unemployment, and therefore open roles in that category may be easier to fill.

Staffing shortages can also be examined via job postings. The chart below outlines average monthly postings versus average monthly hires. Hiring data are calculated using a combination of Lightcast jobs data, information on separation rates from the Bureau of Labor Statistics (BLS), and industry-based hiring data from the Census Bureau.

Table 9: Occupations impacted by broadband investment, job postings vs. hires (2022)

Occupation	Avg Monthly Postings (Jan – Dec 2022)	Avg Monthly Hires (Jan – Dec 2022)
Project Management Specialists	82	82
Business Operations Specialists, All Other	16	97
Software Developers	439	204
Software Quality Assurance Analysts and Testers	41	25
Electronics Engineers, Except Computer	4	5
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	24	221
Customer Service Representatives	163	524

Construction Laborers	18	212
First-Line Supervisors of Mechanics, Installers, and Repairers	35	91
Telecommunications Equipment Installers and Repairers, Except Line Installers	7	29
Electrical Power-Line Installers and Repairers	2	6
Telecommunications Line Installers and Repairers	3	23

Source: Lightcast Datarun 2023.3

Postings and hiring are a useful way to understand almost in real time what specific roles are the most sought after and needed across the State. The above data indicates that, by and large, job postings lead to significantly higher number of hires and there is an adequate workforce available to complete BEAD.

8.2.5   Current training programs at public institutions in Delaware

The following is a list of institutions and relevant graduates generated by accessing the Integrated Postsecondary Education Data System (IPEDS).[11]

Table 10: Broadband workforce training programs at public higher education institutions

Institution	Degrees	Associated occupations	County	Number of degrees granted in 2022
Delaware Technical Community College-Terry	Electrical and Electronics Engineering	Electronics Engineers, Except Computer	Kent County	9
Polytech Adult Education	Career Training and some apprenticeships: Information Technology, Technical Trades, OSHA certification, GED. Some courses for English Language Learners (ELL). New Cybersecurity Technician registered apprenticeship for 2023	Information Technology, Construction, Maintenance	Kent County	N/A
Sussex Tech Adult Education	GED, English for Speakers of Other Languages (ESOL), Heavy Equipment Operator, Apprenticeships	Construction, Electrical Trades	Sussex County	N/A
University of Delaware	Electrical and Electronics Engineering	Electronics Engineers, Except Computer	New Castle County	32

---

[11] Because the IPEDs data is collected using Classification of Instructional Programs (CIP) codes rather than the NAICs classification, a CIPs to NAICs crosswalk was used to identify programs training workers relevant to broadband deployment occupations.

Institution	Degrees	Associated occupations	County	Number of degrees granted in 2022
University of Delaware	Electrical, Electronics, and Communications Engineering, Other	Electronics Engineers, Except Computer	New Castle County	0
University of Delaware	Operations Management and Supervision	First-Line Supervisors of Mechanics, Installers, and Repairers	New Castle County	52

Though this data does not capture graduates from private training programs, technical high schools without adult education programs, or public post-secondary programs that are currently being planned or have been implemented after the last year of available data, it does give an indication of the long-standing programs in the State that are producing trainees able to fit into certain roles.

Figure 1: 30-minute drive time around Delaware institutions offering training for roles relevant to field work during broadband construction
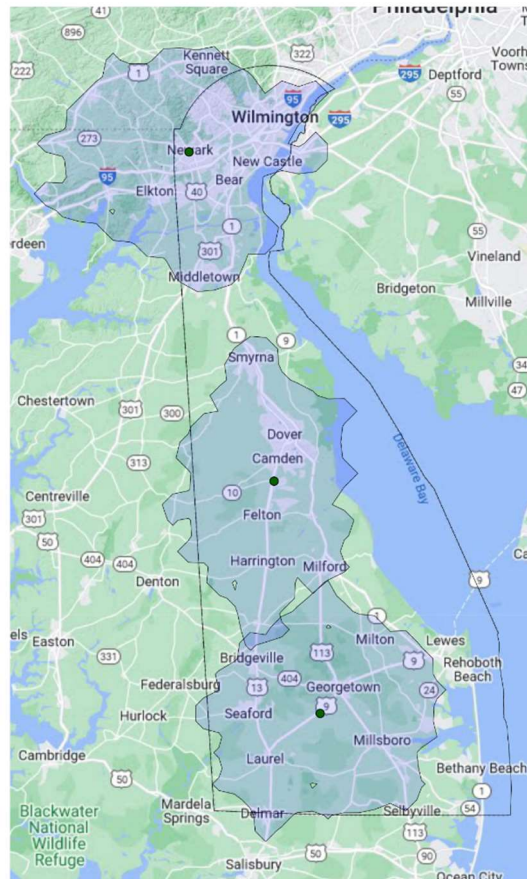
8.3   Continuing to support workforce development in Delaware

Delaware's relatively small BEAD allocation (compared to other states) means that the amount the workforce needs to grow is relatively modest and that DTI will not have much funding (if any) to grow workforce training programs using BEAD funding. In fact, as indicated in the Five-Year Action Plan, stakeholder interviews led to a decisive conclusion that ISPs are not experiencing a workforce shortage in the State. No ISP has reported observing a workforce shortage nor expressed any concern about finding adequate workers to satisfy the needs of the BEAD investment. Though all ISPs expressed an openness to working closely with DTI on hiring if DTI chose to make investments in growing the workforce. DTI endeavors to play an active role in ensuring that the State's workforce is ready to meet the needs of the BEAD deployment by actively working to increase the scale of the qualified, diverse workforce in the State.

DTI recognizes strategies within organized labor and industry to promote a qualified workforce meeting the needs of investments like BEAD. These practices are critical to combatting worker shortages, retention challenges, and increasing retirement due to an aging workforce, all of which are present in much of the broadband construction sector.

- **Apprenticeships and on-the-job training programs:** Apprenticeship models for industries where apprenticeships exist (i.e., for electricians and for line workers, such as those offered by the Communications Workers of America), as well as on-the-job training programs for all industries, provide benefits to both employees and employers. Employers can train people in their systems correctly from the beginning of their career and evaluate employees during introductory periods for the qualities that will set them up for long-term success. Furthermore, employees do not have to pay for separate training before getting a paycheck and can experience the rigors and learning curve of the work in a measured way as they come up to speed in the sector.
- **Marketing to diverse prospective workers:** DTI recognizes that our ability to build great networks will be improved with the inclusion of people from all parts of society—including people without significant past representation in the telecom sector. Trade schools, technical colleges, and community colleges have significant experience with outreach to nontraditional students, women, and minorities—and their participation in growing a diverse, qualified telecom sector workforce is essential.
- **Local hiring and contracting:** Hiring local workers (either directly or through contractors that employ full-time employees) benefits telecom construction in several ways: It saves money by reducing the travel time and travel expenses (e.g., accommodations) required of laborers; it allows for better recruitment as employees often prefer to stay near their home; and it ensures the benefits of hiring in labor surplus areas stay in that community. DTI encourages local hiring to be prioritized.

- **Explicit pathways to advancement:** Once a new hire takes the first step into a telecommunications career, their ability to stick with that career and grow in the sector requires well-established pathways to advancement. Establishing great growth pathways can both incentivize people to start in the sector, and ensure they stay to build on their skills and knowledge.

- **Coordination between training providers and employers:** Ongoing close coordination between training providers and employers is essential to ensure that training providers understand what credentials are meaningful, adapt programs to stay current with the sector's needs, and collectively evaluate programs' success and iterate as needed.

- **Recruitment strategies tailored to the realities and challenges of the industry:** Successful recruitment strategies involve screening for aptitude and ability to learn, marketing opportunities based on the tangible and intangible benefits of the career, and making sure there are diverse demographics represented in marketing materials. However, due to the challenges of the job that can only be understood fully by experience, there will always be significant numbers of people who quit within a few months of employment as a line worker or installer. Because of this, it is recommended that programs and employers set recruitment targets at more than the number of people forecasted to be needed.

DTI will encourage subgrantees to adopt such strategies, using our grant primary scoring to reward ISPs who are ready to make investments in a local, qualified, diverse workforce. Additionally, DTI has received significant interest from stakeholders from Polytech Adult Education in Woodside, Delaware Technical and Community College, Sussex Tech, and others. The State will continue to work with and encourage public institutions to develop relevant programs to train the broadband workforce. If it appears a workforce shortage will imperil the success of the BEAD program, DTI will consider using BEAD funding to make investments in growing the workforce.

Lastly, DTI is committing to tying workforce development to support for *high-quality* jobs: Prioritizing high-quality jobs is itself a workforce development strategy and supports multiple goals around sustainable workforce development. Labor practices described above and in DTI's primary scoring criteria like direct employment, locally based workforce, targeted hire of marginalized communities, and quality wages and benefits combat wage stagnation and support worker retention in the industry. DTI will consider all the criteria one-by-one, but also holistically to ensure that Delawareans doing the labor of bringing internet to all have quality jobs that they want to retain into the future.

9 Minority Business Enterprises (MBE) / Women's Business Enterprises (WBE) / labor surplus area firms inclusion (Requirement 13)

This section documents how DTI will promote recruiting, utilizing, and retaining minority business enterprises (MBE), women's business enterprises (WBE), and labor surplus area firms (LSAF), when possible.

The State of Delaware prides itself on advocating for economic empowerment and contracting opportunities for minority- and women -owned business enterprises (MWBE). The State shared in 2021 that it has an increase of 44.3 percent in total spending for MWBEs with a total amount of $679.3 million.[12] More than 791 certified MBEs and WBEs are registered in Delaware.[13]

The Division of Small Business's Office of Supplier Diversity (OSD) champions initiatives to expand economic opportunities for businesses owned by minorities, women, veterans, and individuals with disabilities along with businesses of a unique size by supporting their efforts to compete for contracts with State agencies. This is done through advocacy efforts, connecting business owners with resources, and OSD certification. The certification provides more visibility for businesses, particularly with under-threshold spend opportunities. OSD has delivered certification and business development services to the MWBE community to ensure they have the tools needed to grow, succeed, and thrive in Delaware; and OSD has guided and supported Delaware State agencies and authorities in their efforts to ensure greater inclusion of MWBEs in State contracting opportunities.

The U.S. Secretary of Labor is required to annually designate Labor Surplus Areas (LSAs) and disseminate this information for the use of all federal agencies in directing procurement activities and in locating new plants or facilities. States may direct federal funding to designated LSAs where there is high unemployment. Employers located in those areas can be given preference in bidding on federal procurement contracts.[14] An area must have an unemployment rate at least 20 percent above the national rate (including Puerto Rico) during the previous two calendar years to qualify as a Labor Surplus Area (LSA). The U.S. Department of Labor includes Dover and Wilmington as qualified cities for LSA in its 2024 update.[15]

---

[12] "2021 Annual Report," DSB, https://business.delaware.gov/2021-annual-report/.

[13.] "2020 Annual Report," OSD, https://business.delaware.gov/wp-content/uploads/sites/118/2021/09/OSD-FY-2020-Annual-Report.pdf. https://business.delaware.gov/wp-content/uploads/sites/118/2021/09/OSD-FY-2020-Annual-Report.pdf

[14] See Executive Order 12073 and Executive Order 10582.

[15] See Labor Surplus Area | U.S. Department of Labor (dol.gov) includes Dover City, Wilmington City available at 2024-FINAL-LSA.xlsx (live.com).

The State will work with subgrantees during the award period to maximize their use of MBEs/WBEs and LSAFs. DTI will work closely with OSD to ensure all prospective and future subgrantees are aware of qualified MBEs/WBEs and LSAFs certified by the State.

9.1 Process, strategy and data tracking methods to ensure that minority businesses, women-owned business enterprises (WBEs), and labor surplus area firms are recruited, used, and retained when possible

9.1.1 Place qualified small and minority businesses and women's business enterprises on solicitations lists

DTI will support OSD as it provides regional MWBE business development events and outreach, including training sessions, webinars, mentorship opportunities, and programs aimed at connecting MWBEs with Delaware State agencies, authorities, and local contracting opportunities.

9.1.2 Assure that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources

DTI will support OSD to ensure information about grant and contracting opportunities is made available.

OSD's primary functions are: (1) to encourage and assist State agencies that are engaged in contracting activities to award a fair share of State contracts to MWBEs; (2) to review applications by businesses seeking certification as a MWBE and to maintain a directory of certified MWBEs; and (3) to promote the business development of MWBEs through education and outreach to agencies and MWBEs.

9.1.3 Divide total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises

If and when feasible, DTI will break tasks and requests into smaller, more manageable subcontracts to maximize participation by small and State certified minority owned as well as women's business enterprises.

9.1.4 Establish delivery schedules, where the requirements permit, which encourage participation by small and minority businesses, and women's business enterprises

Where requirements permit, DTI will establish delivery schedules to encourage participation by small and minority businesses, and women's business enterprises. DTI will also seek to be flexible with its requirements to enable greater MWBE participation.

9.1.5 Use the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce

DTI will work with and make available information about the services and assistance, as appropriate, of organizations such as the Small Business Administration (SBA) and the Minority Business Development Agency (MBDA), the Eligible Entity may describe its plans to consult with SBA's Small Business Development Centers and MBDA's State-Based Business Centers for more information on multiple SMA contracting assistance programs, including:

- Small Disadvantaged Business

- Women-Owned Small Business Federal Contract program

Small businesses make up 98 percent of Delaware State businesses and employ 47 percent of Delaware's private sector workforce. [16] Delaware's Small Business Division supports the development and expansion of businesses with under 100 employees, directing an array of programs and initiatives supporting small business growth and helping entrepreneurs maximize opportunities for success.

9.1.6 Require each subgrantee to take these affirmative steps as they relate to its subcontractors

Through the Workforce Plan scoring criteria above, DTI will encourage subgrantees to ensure that they take steps to include qualified MBE/WBEs and LSAFs whenever possible. DTI may take steps that include, but are not limited to:

- Providing subgrantees with opportunities to connect with qualified MBEs, WBEs and LSAFs
- Demonstrating diversity in in suppliers and equitable procurement practices
- Formal commitment from subgrantee confirming organizational commitment to supplier diversity and equity inclusion.
- Reporting requirements regarding supplier diversity

9.2 Certification

The State certifies that it will:

☒ Place qualified small and minority businesses and women's business enterprises on solicitation lists

---

[16] "2022 Small Business Profile: Delaware," U.S. Small Business Administration, Office of Advocacy, https://advocacy.sba.gov/wp-content/uploads/2022/08/Small-Business-Economic-Profile-DE.pdf.

☒   Assure that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources

☒   Divide total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises

☒   Establish delivery schedules, where the requirements permit, which encourages participation by small and minority businesses, and women's business enterprises

☒   Use the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce

☒   Require each subgrantee to take these affirmative steps as they relate to its subcontractors

10 Cost and barrier reduction (Requirement 14)

Through an extensive review of sources of increased deployment costs and barriers for deployment, DTI has identified the following strategies for mitigating cost and barrier risks.

10.1 Promote the use of existing infrastructure

DTI is in continuous discussion with the Delaware Department of Transportation (DelDOT) to further streamline access to conduits, poles, and rights-of-way on State roads. In Delaware, 90 percent of rights-of-way are owned by the State. DTI's experience from previous broadband deployment programs lessens any concern about delays due to permitting, though DTI will continue to work with grant recipients and DelDOT to speed permit review as appropriate.

According to a 2023 study of the compensation structures used by state departments of transportation for accommodating utility and communication installations in public right-of-way conducted by the National Cooperative Highway Research Program,[17] DelDOT takes a non-revenue generating approach to ROW accommodations and does not charge a fee for broadband/fiber optic utilities.[18]

The Advanced Wireless Infrastructure Act (House Bill 189), signed by Governor Carney in August 2017,[19] established a mechanism for wireless providers to place qualifying small cell facilities and support structures in State right-of-way, including colocation on Department poles.[20]

10.2 Promote dig-once policies by providing best practice guide for localities

DTI will encourage sharing of open trenches and available conduit to promote "dig once" efficiencies. DTI will ensure all grant recipients have the DelDOT permitting handbook, which outlines permitting processes that promote efficient use of utility conduits.

10.3 Streamline permitting processes

10.3.1 Support "Ready in Six" permitting process improvements

Delaware's Ready In 6 Coalition is actively working within the State's regulatory and permitting framework to "enable economic development investors to achieve permit approvals in six months or less."[21] The Ready In 6 Coalition is comprised of: the Delaware Business Roundtable,

---

[17] "Valuation and Compensation Approaches in Utility Accommodation: A Guide," National Academies of Sciences, Engineering, and Medicine, The National Academies Press, 2023, https://nap.nationalacademies.org/catalog/27163/valuation-and-compensation-approaches-in-utility-accommodation-a-guide.

[18] Matrix of state approaches available for download at https://www.dropbox.com/s/ei6o8rwiup9l8to/NCHRP%20RR%201053%20Decision_Support_Tool.xlsx?dl=0.

[19] House Bill 189; https://legis.delaware.gov/BillDetail?LegislationId=25823; the bill amended Title 17 of the Delaware Code (Highways) to add a new Chapter 16. See, https://delcode.delaware.gov/title17/c016/index.html.

[20] "Wireless Small Cell Permits," DelDOT, https://deldot.gov/Business/WirelessPermits/index.shtml.

[21] "Analysis of Delaware Permit Competitiveness," Ready in 6 Coalition, https://www.dbrt.org/_files/ugd/5cde7e_eff6b929af5e4d6cacc77ddd7b7f040f.pdf.

Delaware State Chamber, Kent Economic Partnership, Greater Kent Committee, Sussex County Economic Development Action Team, ACEC Delaware, the Committee of 100, the Central Delaware Chamber, the New Castle County Chamber, Delaware Contractors Association, the Delaware Chapter of Associated Builders and Contractors, and the Home Builders Association of Delaware.[22] Delaware's Government Efficiency and Accountability Review (GEAR) Board has recommended adoption of the state's "the Ready in Six" permitting improvement initiative by investing in recommendations for specific process improvements being gathered through a survey distributed to over 1,500 industry focused partners."[23] DTI will continue to monitor progress on the "Ready in 6" campaign and communicate with grantees efficiencies created to streamline permitting.

10.3.2 Optimize local permitting processes

10.3.2.1 Continue to collaborate closely with Delaware Department of Transportation (DelDOT)

DTI has long had a close and strong relationship with partners at DelDOT, with regular formal meetings and numerous informal conversations about how to streamline permitting procedures for broadband projects. DelDOT has always been responsive and open to improving procedures, while safeguarding infrastructure and environmental integrity protected by the permitting process. When appropriate, DTI has had joint meetings with ISPs and DelDOT to ensure regulatory requirements[24] are clearly understood and questions are being answered. As Delaware is a small state with relatively few ISPs, DTI anticipates being able to continue facilitating these conversations during BEAD implementation.

DTI does not anticipate any significant delays for permitting. As a small state, DelDOT maintains approximately 90% of roadways in the state.[25] Though one ISP has complained of burdensome permitting requirements, based on DTI's experience administering other federally funded broadband expansion programs, the overall impression of permitting in Delaware is that it is efficient and effective.

10.3.2.2 Establish best practices for county and local permitting

DTI will leverage its convening power to encourage streamline permitting processes for the many anticipated awardees that will deploy network infrastructure on or in assets owned by counties and localities. The 2019 study commissioned by the Ready in 6 Coalition found "a collective focus and effort" at the state and local level to enhance permitting processes and is working towards

---

[22] Delaware Business Roundtable, "Ready In 6," https://www.dbrt.org/ready-in-6.
[23] "Governor Carney Releases Government Efficiency and Accountability Review (GEAR) Board Report," December 9, 2022, https://news.delaware.gov/2022/12/09/governor-carney-releases-government-efficiency-and-accountability-review-gear-board-report/.
[24] https://regulations.delaware.gov/AdminCode/title2/2000/2400/2401.shtml#TopOfPage
[25] DelDOT Transportation Facts, at 5,
https://deldot.gov/Publications/reports/fact_book/pdfs/2018/DelDOTFactBook.pdf?cache=1696347738190

promoting a linear approvals process by multiple agencies.[26] DTI will continue to monitor this effort and communicate permitting changes to grantees.

10.3.2.3 *Facilitate collaboration with key Department of Transportation and environmental and historic preservation agencies*

DTI will also amplify information from NTIA about efforts to streamline environmental and historic preservation approvals to counties and localities and reflect to NTIA feedback from these groups. If appropriate, DTI can discuss creating standardized templates to simplify the materials required for environmental assessments and allow the same materials to be provided to different agencies where feasible. Based on DTI's experience with other broadband deployment project, environmental and historic preservation approvals have not been a barrier to timely deployment.

10.4 Reduce construction costs

Smaller ISPs may struggle with the high cost and access to specialized equipment needed to drill into hard rock when installing underground fiber. DTI will encourage providers to enter into resource sharing agreements to reduce costs and risks.

10.5 Reduce materials costs

Additionally, the State will encourage awardees to create a joint purchasing coalitions and form joint purchasing agreements to get with additional leverage through which they may negotiate lower materials costs.

---

[26] "Analysis of Delaware Permit Competitiveness," Ready in 6 Coalition, https://www.dbrt.org/_files/ugd/5cde7e_eff6b929af5e4d6cacc77ddd7b7f040f.pdf.

11 Climate assessment (Requirement 15)

This section accounts for and provides an assessment of current and future weather and climate-related risks to new broadband infrastructure in Delaware.

The impacts of climate change are being felt across Delaware. As a result, the State began taking steps decades ago to enhance community resilience to sea level rise, storm surge, flooding, and other risk and hazards associated with a changing climate and have enacted regulations that ensure new infrastructure built across the State is constructed according to standards that mitigate likely hazards, as projected in the latest State and Federal climate models.

In accordance with the Disaster Mitigation Act of 2000, the State of Delaware has routinely published a statewide Hazard Mitigation Plan[27] (SHMP). Since 2003, the State has used the work conducted by FEMA's National Risk Index (NRI) team to identify the hazards likely to impact Delawareans and has aggregated data from numerous sources to identify areas of the State that are most at risk of impact from each hazard identified. The most recent iteration of the SHMP was authored in 2023, however, as of this writing, the most recently publicly available version was formed in late 2018.

The State also issued Delaware's Climate Action Plan[28] in November 2021, prepared by the Delaware Department of Natural Resources and Environmental Control. The Plan, which was created with input from technical experts, residents, and businesses, sets out actions the State will take to minimize greenhouse gas emissions and maximize resilience to the impacts of climate change.
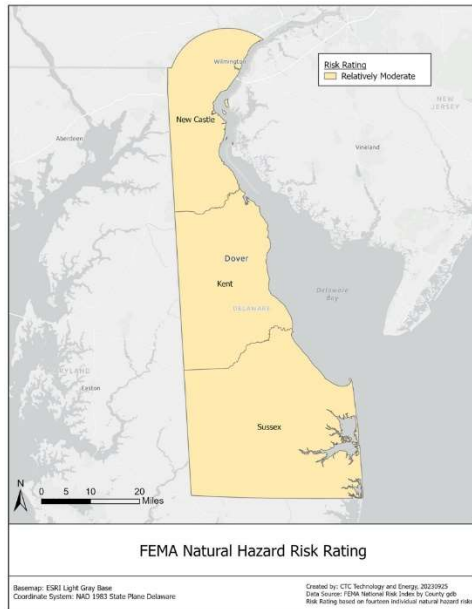
11.1 Identifying geographic areas subject to initial hazard screening

The SHMP and the NRI will serve as the two main sources of interests for evaluating and locating high risk areas. Specifically, this analysis will employ the FEMA classification scheme, assessing each county's risks relative to other counties around the nation, and ranking county's risks from Very Low (0-20th percentile), Relatively Low (20th-40th percentile), Relatively Moderate (40th-60th percentile), Relatively High (60th-80th percentile), and Very High (60th-80th percentile). According to FEMA's overall risk index, all three counties are instead classified as having relatively moderate risks.

---

[27] State of Delaware, "All-Hazard Mitigation Plan," August 2018. Accessed September 25th, 2023. https://dema.delaware.gov/contentFolder/pdfs/HazardMitigationPlan.pdf.

[28] de Mooy, Jennifer; Pletta, Margaret; and Yue, Ian; "Delaware's Climate Action Plan," Delaware Department of Natural Resources and Environmental Control, November 2021, https://documents.dnrec.delaware.gov/energy/Documents/Climate/Plan/Delaware-Climate-Action-Plan-2021.pdf.

Figure 2: Composite hazard risk scores in Delaware

FEMA Natural Hazard Risk Rating

11.2 Characterizing which weather and climate hazards may be most important to account for and respond to

The weather and climate hazards that are most important to account for and respond to in the State of Delaware are those associated with extreme rain and winds (e.g., flooding, strong winds, tornadoes, hail, and lightning), those associated with extreme winter storms (e.g., winter storms and cold waves), and those risks specific to coastal areas (e.g., hurricanes and coastal flooding). Other threats include avalanches, droughts, tsunamis, heat waves, landslides, and wildfires, but these threats either rarely impact Delaware communities, or are considerably unlikely to cause serious damage over the useful life of BEAD funded infrastructure.

To identify where hazards were responsible for driving the composite riskiness of the areas identified above, the State analyzed the estimated annual losses to buildings[29] for individual hazards across the State to understand the risk to BEAD assets associated with individual hazards. The contextualizing narratives are adapted from the SHMP.

11.2.1 Inland flooding

Flooding is the most frequent and costly natural hazard in the United States. Floods are generally the result of excessive precipitation and can be classified under two categories: general floods, precipitation over a given river basin for a long period of time; and flash floods, the product of heavy localized precipitation in a short time over a given location

---

[29] Federal Emergency Management Agency, "Expected Annual Loss." https://hazards.fema.gov/nri/expected-annual-loss.

General floods are usually long-term events that may last for several days. The primary types of general flooding include riverine, coastal, and urban flooding. Riverine flooding is a function of excessive precipitation levels and water runoff volumes within the watershed of a stream or river. Coastal flooding (discussed further in later sections) is typically a result of storm surge, wind-driven waves, and heavy rainfall produced by hurricanes, tropical storms, nor'easters, and other large coastal storms. Flash flooding events commonly occur from a dam or levee failure within minutes or hours of heavy amounts of rainfall, or from a sudden release of water held by an ice jam. Most flash flooding is caused by slow moving thunderstorms in a local area or by heavy rains associated with hurricanes and tropical storms.

Impacts of inland flooding include road closures and evacuations due to high water, infrastructure damage to roads and buildings, impacts to water supplies due to contamination, and emergency response.

New Castle County is at very high risks to inland flooding, while Sussex County carries a relatively high-risk level. In both counties, project planners would be advised to consider, and design mitigations for, the risks from inland flooding.

Figure 3: Risk of inland flooding in Delaware
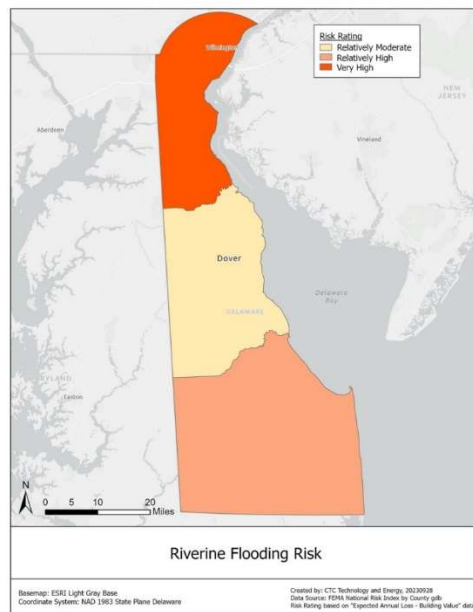
Given the increase in intense rainfall that accompanies climate change, the risk from inland flooding is expected to increase in magnitude and area over time. Due to its geographic ubiquity and severity, this hazard is likely to pose a threat to BEAD assets.

11.2.2 Strong (straight-line) winds

Straight-line winds can reach speeds well above 100 mph, and can cause significant damage, injury, and loss of life. Across Delaware, 447 straight-line wind reports have been recorded during the period 1996 through 2016.[30] These resulted in reported property damages of nearly $5 million, crop damage of over $200,000, and two injuries.

Strong winds, and any accompanying destruction of trees or vertical assets, may pose a threat to aerial assets, such as aerial fiber or satellite and antenna systems.

In Delaware, New Castle County faces very high risks and Kent County faces relatively high risks from strong winds. While this is not the most urgently mitigated weather hazard, strong winds may be cause for risk mitigation strategies by the construction team.

Figure 4: Risks from strong winds in Delaware
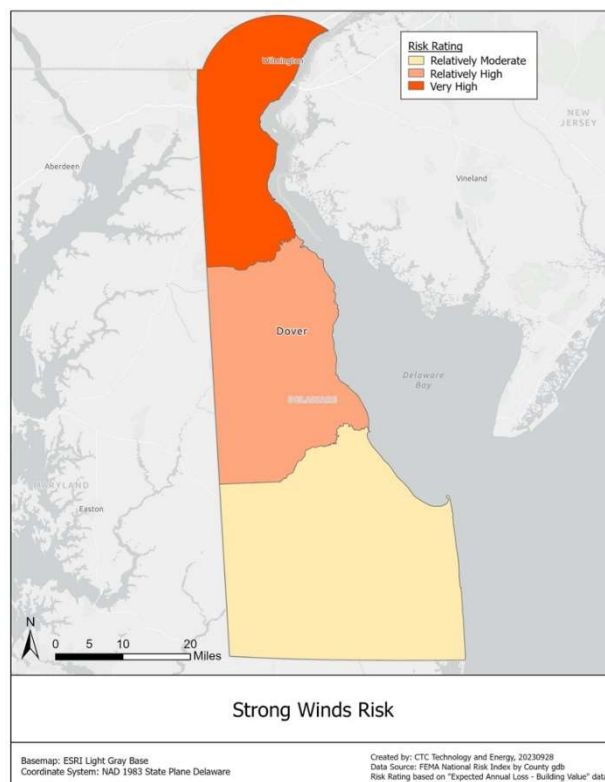

11.2.3 Tornadoes

Tornadoes are rare across Delaware, with only 54 events since 1950. The strongest of these events had winds estimated at 130 mph that hit New Castle County on September 28, 2004.

---

[30] State of Delaware, "All-Hazard Mitigation Plan," August 2018. Accessed September 25th, 2023. https://dema.delaware.gov/contentFolder/pdfs/HazardMitigationPlan.pdf.

Impacts of tornadoes are expected to be severe or have extensive localized damage, including infrastructure damage to roads and buildings, slowed emergency response, road closures, localized disruption of communications and utilities.

In Delaware, New Castle County faces very high risks, and Kent and Sussex counties both face relatively high risks from tornadoes. While this is not the most urgently mitigated weather hazard, strong winds may be cause for risk mitigation strategies by the construction team.

Figure 5: Risks from tornadoes in Delaware
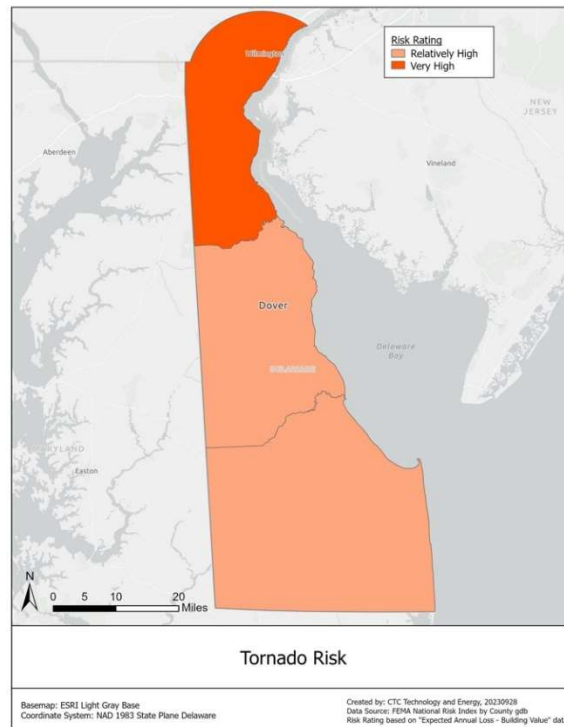
11.2.4 Hail

Large hail causes more than $1 billion in damage across the United States each year, much of which is done to crops but can additionally cause extensive damage to vehicles and buildings, including roofs, windows, and outside walls. Large hail is rare across Delaware. However, in the period from 1950 through 2017, 84 reports of large hail were documented with the largest being 2.5 inches in diameter (tennis ball sized) on May 22, 2014, in the Ballymeade development of the Brandywine Hundred area. Over $300,000 in crop damage was reported in Greenwood in Sussex County in June of 2009 from nickel sized hail. No injuries of fatalities have been recorded from hail in Delaware during the 67-year period of record.

In Delaware, New Castle County is the only county with a relatively high risk from hail. While BEAD deployment construction in the County should take hail into account, it is not the highest priority hazard to mitigate.

Figure 6: Risks from hail in Delaware

11.2.5 Lightning

During the period 1996 through 2016 there were 125 reports of damage or injuries associated with lightning strikes across Delaware, according to the Storm Events Database. These events resulted in a reported loss of over $6 million in property damage and eight injuries during the two one-year period. Lightning is especially dangerous for communications equipment (e.g., radio or cell towers, antennae, satellite dishes, etc.) and can hamper communication and emergency response. Throughout the State, all counties face risks from lightning, and this hazard will need to be considered when placing fiber or fixed wireless equipment on poles or vertical assets. These risks are mitigated by standard procedures, as lightning has been a known threat to communications equipment for many years.

Figure 7: Risks from lightning in Delaware

### 11.2.6 Winter (specifically Ice) Storms

The State of Delaware is particularly susceptible to winter storms (especially ice storms), most frequently observed from late October through mid-April.

The primary and most enduring consequence of these ice storms is the widespread disruption of electrical power. The accumulation of as little as a quarter inch of ice can substantially increase the weight borne by tree branches, up to 30 times their normal load, and add an extra 500 pounds of weight to electrical lines. Consequently, this can lead to tree branches, communication towers, power lines, and utility poles falling. In addition, road surfaces can become dangerous to navigate under these conditions.

The annual averaged snow in Delaware can range from approximately 20 inches in New Castle County to 13 to 15 inches in Kent and Sussex counties. However, annual variability of snowfall in Delaware is large and can range from as little as a trace of snow in 1997-1998 to 72 inches in 2009-2010. According to the National Climatic Data Center, the geographic area of the State of Delaware experienced 183 distinct winter storm events (heavy snow, ice, sleet, and blizzard) from January 1, 1996, through April of 2017. In recent history, the three most powerful and costly storms to affect Delaware were the Blizzard of 1996, a storm over President's Day Weekend 2003 (which deposited nearly two feet of snow in many places), and the three storms during the winter of 2009-2010 – the snowiest winter on record for Delaware. These winter storm events resulted in more than $15.3 million in property damage statewide, five deaths, and 70 reported injuries.

As a result, winter storms will likely be a threat to BEAD deployments throughout the state, and awardees will need to account for associated risks in planning and construction.

Figure 8: Risks from ice storms in Delaware

Ice Storm Risk
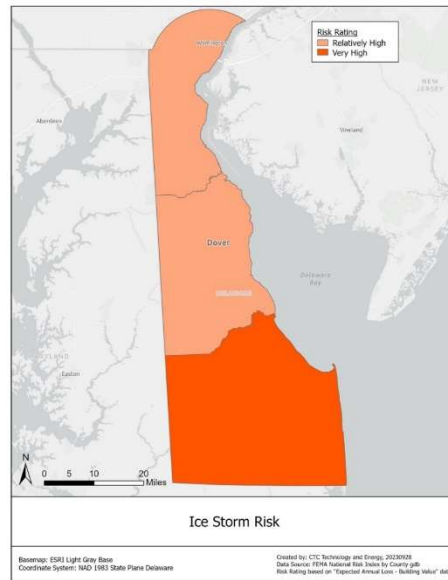
Changing climate conditions have the potential to result in warmer winters, the benefits of which may in time include a lower frequency of winter storm events. It is difficult to predict this system due to the uncertainties in long term models of climate changes.

11.2.7 Coastal storms (such as hurricanes)

Coastal storms brings impact coastal areas, due to high winds, storm surge, coastal flooding, heavy precipitation, inland flooding, and in the winter, freezing precipitation. Impacts of coastal storms include road closures due to flooding, potential evacuation of homes, disruptions to the power grid due to downed trees and power lines caused by high winds, closed beaches due to rip current risks, and potentially significant emergency response, such as emergency services response, activation of shelters, and sometimes state of emergency declarations.

All counties in the State of Delaware carry a very low risk from hurricanes due to their infrequency at Delaware's latitude. However, changing climate conditions are very likely to increase warming in the Atlantic Ocean, causing an increase in hurricanes across the coast. Therefore, BEAD funded projects deployed above ground may benefit from considerations of hurricanes.

Figure 9: Risks from hurricanes in Delaware
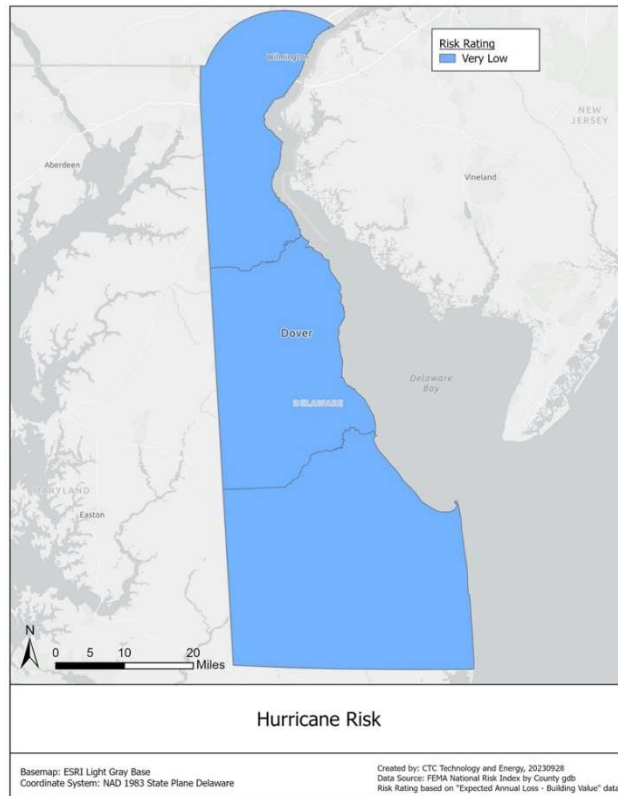
11.2.8 Coastal flooding

Delaware experiences flooding all along its coastline. In Sussex County, coastal flooding is experienced from the ocean side with waves and surge battering the beach dunes as well as high tide and wind-driven flooding from the reverse side in all the communities surrounding the Inland Bays. In Kent County, coastal flooding occurs along the Delaware Bay shoreline from waves originating within the Bay and surge propagating up the tributaries, flooding the surrounding marsh. Southern New Castle County has similar environments as Kent County does, however, northern New Castle County, the urban coastal areas and ports of Wilmington are exposed to coastal flooding as well as flooding from precipitation runoff.

Contributing greatly to coastal flooding are storm surges. Storm surge is technically defined as a dome of water caused by the winds and central low pressure of a storm system. The faster the winds, deeper the low pressure (more intense), and the longer the fetch (e.g., the distance over the ocean which winds travel), the larger the surge will be. The majority of the surge is caused by the wind field.

Impacts of coastal flooding include road closures and evacuations due to high water, infrastructure damage to roads and buildings, impacts to water supplies due to contamination, and emergency response can cause significant disruption in commercial activities and public

services, or causing waterlogged properties near the shoreline, adjacent to a back bay or marsh, or along a tributary. In Delaware, all counties carry a very high risk of coastal flooding. Therefore, all projects awarded via BEAD should deeply consider hazard mitigation techniques that specifically account for the possibility of coastal flooding.

Figure 10: Risks from coastal flooding in Delaware

Changing future conditions are very likely to increase the sea level in the Atlantic Ocean, causing an increase in coastal floods across the coast. Additionally, the anticipated warming of the Atlantic will increase the severity of storms and storm surges. This adds to the import of proactive hazard mitigation strategizing, including providers having disaster recovery programs in place and ready for execution.

11.3 Characterizing weather and climate risks to new infrastructure deployed using BEAD program fund for next 20 years

The top natural hazard risks impact broadband infrastructure in the following ways: through power outages,[31] through equipment damage[32] and through signal degradation.[33]

---

[31] University of Southern California ANT Lab. Evaluation of Hurricane Harvey's Effects on the Internet's Edge. https://ant.isi.edu/outage/ani/harvey/index.html

[32] Clooms. (2021, March 22). Fiber-Optic Cables Cut: What are the Consequences and How to Fix It. https://www.clooms.com/fiber-optic-cables-cut/

[33] WXResearch. (2023, May 10). Does Rain Affect WiFi? https://wxresearch.org/does-rain-affect-wifi/

Table 11: Threats to infrastructure posed by weather and climate risks

Risks	Potential causes
Power outages	Strong winds, hurricanes, ice storms, flooding
Equipment damage	Lightning, tornadoes, ice storms, flooding, hail
Signal degradation	Flooding, hail

Strong winds, hurricanes, ice storms, etc. can cause power lines to go down or power to be turned off for safety resulting in a break in internet accessibility. Additionally, aerial fiber (and coaxial cable) are frequently over lashed on power lines that run along poles. When tree branches or ice cause power lines to break, the applied force may also damage the over lashed asset. This risk is raised when a technician untrained in internet infrastructure or fiber attempts to fix the downed power lines by cutting through otherwise intact fiber.

Risks such as lightning, tornadoes, flooding, etc. can threaten aerial assets of all kinds. Intense winds and debris can damage fiber and even knock down utility poles. Lightning can strike antenna and satellite equipment that is necessary for fixed wireless communications. In either case, the result is severed connectivity.

In addition, risks such as floods and hail can cause the signal between fixed wireless transmitters and receivers to be absorbed or scattered, weakening their performance.

11.4 Strategies for mitigating climate risks

Network infrastructure deployment—especially wireline—generally builds in principles of resilient and reliable networks, which mitigate risks against natural hazards. Since BEAD awardees will be familiar with these practices and incentivized by their profit motive to deploy resilient network technology, the State will focus on providing guidance in areas where additional risk mitigation techniques should be considered. The following subsections discuss both hazard mitigation best practices that the anticipated BEAD funded projects in Delaware are likely to include, and how the State will adopt processes to ensure climate resiliency.

11.4.1 Hazard mitigation for anticipated BEAD-funded projects in Delaware

BEAD is focused mostly on fiber optic deployments and Delaware anticipates that alternative technologies such as fixed wireless will make up a relatively insignificant portion of the BEAD deployments. Fiber optic cable is one of the most resilient media for broadband: it is well encased and protected and does not require power except for a limited amount of network equipment huts and locations with active electronics.

Mitigating current climate events are typically incorporated into the practices of any ISP, who has a vested interest in ensuring business continuity to manage customer satisfaction and

operational costs. Burying fiber is the best mitigation to natural hazards, but they too should be supplemented with standard best practices optimizing network resilience, such as equipment and path diversity.

For current and planned aerial fiber, wireline broadband providers generally depend on utility pole owner actions. Fiber optic cables do not need power and continue to provide signal transport even when the cable is down.

In terms of preventing poles from failing, this is an area where critical infrastructure protection is continuously evolving. Poles that are older and/or experience previous strains are weakened and more likely to fail in future events. Mitigation of such risks involve estimating pole risks based on watershed proximity, previous events, and existing drainage, with adding drainage and replacing old and weak poles as chief mitigation strategies. Such detailed information and analysis, however, is not yet available, but can be incorporated into communications infrastructure risk management as future versions of state hazard mitigation plans, critical infrastructure protection, and power utility plans are updated to incorporate such analysis.

For aerial fiber, the long-term risk mitigation follows the mitigation strategies targeted at power lines. In general, changes in the severity and frequency of natural hazards have a longer time horizon and allows for gradually implement hardening efforts. When risks and outages become too frequent, power utilities will convert aerial to buried in vulnerable segments and wireline broadband providers can simply follow their lead and cadence. For communications providers risk mitigations can therefore include any of the following on a gradual implementation basis:

- Aligning with power utilities burying aerial power lines
- Adding more redundant network paths
- Increasing backup power capabilities at ISP network equipment sites and at customer end

For fixed wireless deployment, tower owners typically make sure the tower is resilient against natural hazards and load studies are conducted frequently on such vertical assets. Owners of such vertical assets therefore typically make reinforcements as needed against different types of hazards.

11.4.2 Adopted risk mitigation processes

The State will ask all subgrantee Applicants to have a business continuity plan which includes their natural hazard risk mitigation to broadband deployment and ask Applicants whose project area includes identified high-risk areas to provide specific responses to how they will incorporate mitigation measures into their deployment planning. Additionally, the State will outline the

following among the possible strategies grant participants can engage in to address natural hazard risks:

1. Favoring buried fiber compared to aerial to largely eliminate the above risks in many cases.
2. Retrofitting and hardening existing network assets that are deemed critical to BEAD expansion projects.
3. Favoring redundancy in network designs to reduce single points of failure.
4. Considering average down time and emergency response time in Applicant selection.
5. Encouraging the use of back up, generator power systems where applicable.

11.5 Processes to ensure that evolving risks are continuously understood, characterized, and addressed

The Delaware Emergency Management Agency updates the State's Hazard Mitigation Plan every five years, with the next refresh having occurred in August of 2023 (although, the results have not yet been made public). This cadence and schedule will represent an opportunity for the above analysis to be updated, such that ongoing trends can be monitored and understood. Additionally, the State will—as part of its grant conditions—reserve the right to ask subgrantees to provide more information regarding natural hazard risk mitigation depending on the outcome of updated assessments.

12 Low-cost broadband service option (Requirement 16)

Affordable broadband service, while not the primary barrier to internet adoption in Delaware, nevertheless presents a meaningful challenge to connectivity for many Delaware residents. In Delaware, low-income individuals are 15.4 percentage points less likely than higher-income individuals to have a home internet subscription [34] —highlighting the connection between affordability and internet adoption.

The American Community Survey reports that 93.4 percent of Delaware residents have a home internet subscription of any kind which—while outperforming the national rate by 3.1 percentage points [35] —still indicates that a sizable number of Delaware households are not connected at home. Accordingly, among Delaware households that do not subscribe to internet service of any kind, an estimated six percent report that a primary reason they do not pay for an internet service at home is an inability to afford service.[36]

12.1 Low-cost broadband service options that must be offered and why the options best serve the needs of Delaware residents

Perhaps the most widely recognized intervention to lower the cost of internet service is the FCC's Affordable Connectivity Program (ACP), which subsidizes up to $30 per month for broadband for qualifying households and may include a one-time subsidy toward buying a laptop or tablet. However, in Delaware, only about 30 percent of eligible households have enrolled in the ACP—compared to the already relatively low national rate of 36 percent.[37]

Seizing upon Delaware's opportunity to improve enrollment, in March of 2023, Delaware Governor John Carney introduced a statewide initiative to spread awareness about and encourage participation in the ACP. The initiative, which is led by the governor and a group of local leaders and community partners, engages in statewide and local outreach. EducationSuperHighway also provides training and materials emphasizing enrollment in the ACP as a part of this greater statewide initiative.[38]

---

[34] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021. Accessed August 29, 2023.

[35] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021. Accessed August 29, 2023.

[36] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021. Accessed August 29, 2023.

[37] Enrollment counts from USAC's ACP Enrollment and Claims Tracker, accurate as of August 28, 2023. https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/. Accessed August 29, 2023. Estimates of eligible households based on proprietary model that uses American Community Survey Public Use Microdata to estimate number of households qualifying for ACP via several of its eligibility criteria.

[38] "Governor Carney Launches Statewide Initiative to Increase Affordable Connectivity Program Adoption – State of Delaware News," News release, March 21, 2023, https://news.delaware.gov/2023/03/21/icymi-governor-carney-launches-statewide-initiative-to-increase-affordable-connectivity-program-adoption/.

Additionally, there are some ISPs operating in Delaware that offer plans at low to nearly no cost for eligible subscribers who enroll in the ACP.[39]

Delaware residents can also apply for Lifeline—a federal program which subsidizes up to $9.25 of eligible consumers' monthly phone or internet service bill. The State of Delaware previously sought to promote Lifeline to residents in September of 2021, when the Delaware Public Service Commission widely publicized the program during its "Lifeline Awareness Week." Presently, the State, via the Delaware Public Service Commission, makes information about this federal program readily available on its website.[40]

The State of Delaware is committed to providing residents with the opportunity to receive low-cost broadband service, while simultaneously recognizing that ISPs have a variety of different plans and may be unable to alter their pricing structure on a large scale. Based on previous experiences, it is highly unlikely that ISPs would implement different pricing structures for BEAD-funded areas only, while maintaining other pricing in areas that are not BEAD-funded. That said, the $30 monthly ACP subsidy figure aligns with many current ISP low-cost offerings (in Delaware and nationwide) and represents a sensible benchmark cost for a low-cost service option to be offered by subgrantees.

DTI's intention is to aid as many Delaware residents as possible while ensuring that the scale of the low-cost obligation – and its resulting impact on the business case for ISP applies to build to unserved Delaware locations – is not too burdensome to grant Applicants. The eligibility requirement for the Lifeline subsidy program is approximately equal to household income at or below 130 percent of the federal poverty line, suggesting a precedent for that benchmark as well as the potential to utilize the Lifeline National Verifier as a useful, low-cost means of verifying eligibility that does not impose additional burden on either the consumer or the ISP.

DTI thus proposes to require all subgrantees to offer a service option that meets, at a minimum, the following criteria:

---

[39] Comcast, application for Internet Essentials plan, https://apply.internetessentials.com/; Comcast, "Internet Essentials," https://www.xfinity.com/learn/internet-service/internet-essentials; Mediacom, "Connect to Compete," https://mediacomc2c.com/. See also: EveryoneOn, https://www.everyoneon.org/about-us; "Internet Assist Program," Breezeline, https://www.breezeline.com/support/internet/internet-assist-program; "Affordable Connectivity Program (ACP) Enrollment," Breezeline, https://www.breezeline.com/acp; "Free Internet with the Verizon Forward Program and ACP," Verizon, https://www.verizon.com/home/free-verizon-internet/.
[40] "Can't Pay Your Phone or Broadband Bill? The Lifeline Program Helps You Stay Connected," The Delaware Public Service Commission, The State of Delaware, https://depsc.delaware.gov/2021/09/17/cant-pay-your-phone-or-broadband-bill-the-lifeline-program-helps-you-stay-connected/.

- Will be available to all households that meet the eligibility requirements of the federal Lifeline program
- Cost of $30 per month or less, exclusive of all government taxes and fees, with application of an annual inflation factor based on the Producer Price Index for the State of Delaware)
- Available to households with income equal to or below 130 percent of the federal poverty line
- Allows the end user to apply the ACP subsidy to the service price and requires ISPs to ensure that prospective customers are aware of their participation in the ACP
- Meets performance requirements as established by the BEAD program, with download speeds of at least 100 Mbps and upload speeds of at least 20 Mbps
- Delivers typical latency of no more than 100 milliseconds
- Is not subject to data caps, surcharges, or usage-based throttling, and is subject only to the same acceptable use policies to which subscribers to all other broadband internet access service plans offered to home subscribers by the participating subgrantee must adhere
- Allows subscribers to upgrade at no cost in the event the provider later offers a low-cost plan with higher speeds (downstream or upstream)

In the event the provider later offers a low-cost plan with higher speeds downstream and/or upstream, permits Eligible Subscribers that are subscribed to a low-cost broadband service option to upgrade to the new low-cost offering at no cost.

12.2 Certification

DTI hereby certifies that:

☒   All subgrantees will be required to participate in the ACP or any successor program

13 Use of 20 percent of funding (Requirement 17)

The purpose of this section is to identify whether the Eligible Entity intends to access Initial Proposal funding and describe how the Eligible Entity intends to use the funding allocation that is made available upon approval of the Initial Proposal, contingent on specific guidelines outlined in the BEAD NOFO.

13.1 Planned use of funds requested

Delaware requests that NTIA obligate 100 percent of its BEAD allocation. Delaware, working closely with its partners from local governments, industry and community organizations, and other stakeholders, will use the funding to begin closing the digital divide as quickly as possible. With 100 percent of the funding obligated, these partners will have the assurance they need to invest appropriate time and resources to participate fully in the State's grant processes. These assurances will allow the State and its partners to move to broadband deployment more efficiently.

NTIA provides that the State may budget its BEAD allocation in four expense categories: Deployment, Non-Deployment, Administrative, and Programmatic. Accordingly, the State requests 100 percent of its remaining BEAD allocation as follows for its initial BEAD deployment budget:

Category	Details	Budget percent
Deployment costs	Subgrantee deployment costs (e.g., purchase of inventory including electronics and customer premises equipment, construction) and planning (e.g., environmental permitting, rights-of-way analysis, network design)	95%
Programmatic expenses	BEAD planning, challenge process, IT systems to run challenge and grant applications, subgrantee selection process development and management	3%
Administrative expenses	Staffing, travel, day-to-day monitoring and oversight of subgrantees, training staff, subgrantees and public, ongoing stakeholder communications	2%
Non-deployment expenses	Workforce program, digital equity program supplementation, training, and capacity building.	0%

The State estimates that universal service can be achieved during the grant period but will look to deploy fiber more quickly over an estimated 18 to 30 months upon selecting subgrant recipients (based on previous experience with State-grant-funded buildouts completed by ISPs). The model excludes areas funded by other federal broadband grants and awards.

The State's primary objectives for broadband deployment are aligned with the principal focus of the BEAD Program:[41]

1. Serving 100 percent of unserved locations (i.e., below 25/3 Mbps) within five years
2. Serving 100 percent of underserved locations (i.e., between 25/3 and 100/20) within five years
3. Delivering gigabit connections to certain community anchor institutions that do not have that level of service within five years

Should BEAD funds remain after the first three objectives are fulfilled, the State will then focus on the next set of priorities:

4. Constructing line extensions to unserved and underserved residences that are determined to be extremely high-cost locations (i.e., replacing fixed wireless or satellite connections to those locations)
5. Upgrading internal wiring in multiple-dwelling-unit buildings to ensure the availability of reliable broadband access in low-income and affordable housing

Other digital equity initiatives, developed through ongoing community engagement and development of the Digital Equity Act Plan, may be prioritized above items 4 and 5 above as needs are assessed and refined.

Delaware plans to amend its initial budget request to NTIA accordingly as it obtains sufficient data to support these requests.

13.2 Amount of Initial Proposal funding request

Delaware requests 100 percent of the remaining funds from its BEAD allocation of $107,748,384.66.

13.3 Certification

DTI hereby certifies that:

☒ DTI will adhere to BEAD Program requirements regarding Initial Proposal funds usage

---

[41] "NOFO: BEAD Program," NTIA, https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf, at p. 7.

14 Eligible Entity regulatory approach (Requirement 18)

Delaware does not restrict public sector providers from providing broadband services and will not limit such providers' participation in the subgrant process or impose specific requirements and limitations on public sector entities. Therefore, a waiver of State law is not applicable.

15 Certification of compliance with BEAD requirements (Requirement 19)

This section certifies the intent of the Eligible Entity to comply with all applicable requirements of the Program, including the reporting requirements, and describes subgrantee accountability procedures.

15.1 Certification of compliance

Delaware certifies that it will:

☒   Comply with all applicable requirements of the BEAD Program, including the reporting requirements

Delaware would like to avail subrecipients of the Part 200 exceptions and adjustments NTIA applies in the BEAD program. Should any revisions to this Initial Proposal be needed to accomplish this, Delaware would like an opportunity to make those revisions.

15.2 Subgrantee accountability procedures

15.2.1 Overview

In creating the BEAD program through the Bipartisan Infrastructure Law (BIL), Congress made a once in a lifetime investment in connectivity and digital equity/opportunity. DTI is committed to ensuring that everyone has access to broadband and the ability to use it meaningfully. DTI, in executing the BEAD program, will work diligently to ensure the success of all its recipients' projects so that all Delaware residents have access to broadband within five years. In achieving that goal, DTI also takes its role as a steward of federal funding seriously. DTI is creating and implementing programmatic monitoring, including effective risk-based assessments and active interventions to make sure its subgrantees meet BEAD and the State's goals. DTI will actively protect this investment, at a minimum, using the following criteria: risk-based oversight and engagement, distribution of funding on a reimbursement basis, appropriate provisions to claw back funds from subrecipients if needed, timely reporting requirements, and robust subrecipient monitoring.

DTI will be proactive in its engagement with subgrantees, requiring them to send permitting and the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA) applications, along with other necessary filings, to DTI so DTI can verify submission and do a non-expert review for compliance flags. This will also allow DTI to work with state and federal agencies directly if any grant-related compliance issues arise because of these filings.

15.2.2 Risk-based monitoring

DTI will establish a manageable approach to its risk-based management that is pragmatic, yet effective. It is in the best interest of the State for subgrantees to successfully complete their projects and offer broadband service to those who need it most. To that end, DTI will review the

organizational, financial, and technical strengths of each subgrantee. Then, it will assign a risk category and appropriate monitoring and technical assistance resources through dedicated project managers that will work directly with the ISPs on an ongoing basis, so DTI can spot issues as implementation progresses. DTI will monitor individual grants, but it will also monitor the portfolio using program-wide data to ensure early intervention when it finds cross-cutting issues.

15.2.3 Fraud, waste, and abuse

DTI will work with the Delaware State Auditor to report any potential fraud, waste, and abuse.[42] The State will also foster awareness of federal reporting mechanisms such as the U.S. Department of Commerce's Inspector General hotline.[43]

15.2.4 Distribution of funds on a reimbursement basis

DTI will indicate clearly in its application and award guidance that its BEAD subgrants will be issued on a reimbursement-only basis. DTI will require the following from subgrantees before dispersing BEAD funds:

- Reaching grant milestones

    o DTI will require the timely reporting of the completion of grant milestones, according to the plan outlined in Section 5 (Requirement 8).

- Providing compliant documentation

    o DTI will require subgrantees to support a request for reimbursement through a certification and a submittal of as-builts and GIS location data, which will be verified according to procedures outlined in the contracting documents. DTI will ensure that it has a right to access documents and physical assets in a manner similar to that employed by the federal government in broadband grant programs.

15.2.5 Clawback provisions

DTI will also work with state legal counsel to ensure its grant awards contain clawback provisions. In other words, if the subgrantee fails to meet its obligations under the award, including those provided in the application, DTI can deny a reimbursement request, require partial or full forfeiture of BEAD funds, or—after legally required process—issue financial penalties for fraud, misconduct, or non-performance. For its purposes, DTI considers performance to include effective, timely broadband deployment, continuing to offer low-cost service options for the

---

[42] "Report Instances of Fraud, Waste, and Abuse in State Government," Delaware State Auditor, https://reportfraud.auditor.delaware.gov/.

[43] "Report Fraud, Waste, Abuse, & Whistleblower Reprisal," Office of the Inspector General, U.S. Department of Commerce, https://www.oig.doc.gov/Pages/Hotline.aspx.

useful life of the assets, meeting reporting deadlines, providing accurate deployment data, and fulfilling all additional BEAD requirements such as broadband speeds.

15.2.6 Timely reporting requirements

Building on its existing broadband funding and grantmaking experience, DTI will require subgrantees to complete timely reports on their awards in order to identify and mitigate risks to ensure both the State's and subgrantees' compliance with statutory and BEAD requirements. These reports include:

- Regular check-ins with DTI to discuss the project progress
- Periodic reporting on project progress and fiscal performance
- Responses to intermittent requests from DTI about the project
- On-site inspections

15.2.7 Robust subgrantee monitoring

DTI will use various monitoring activities that produce data about subgrantee performance and progress to assess individual and portfolio risks and inform decisions about targeting technical assistance, corrective action, or enforcement actions as needed. Such activities include:

- Desk reviews – periodic review of subgrantees' progress and financial reports designed to ensure that DTI's own reports to NTIA contain timely information.
- Field engineering reviews/audits – engineering teams evaluate constructed segments and full projects against as-built reporting and application requirements.
- Site visits – periodic visits using a standardized agenda to capture first-hand observations of recipient performance along various dimensions, including subgrantee capacity, performance validation, safety practices, and employment practices.

In reviewing its portfolio, DTI will establish and update monitoring levels for its projects based on factors including performance reporting, desk reviews, and DTI interactions.

15.3 Certification of nondiscrimination and civil rights

Delaware certifies that it will, in its selection of subgrantees, account for:

☒　　　Parts II and III of Executive Order 11246, Equal Employment Opportunity

☒　　　Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency

☒　　　Executive Order 13798, Promoting Free Speech, and Religious Liberty

Additionally, prior to distributing any BEAD funding to a subgrantee, DTI will require the subgrantee to agree, by contract or other binding commitment (to be determined by counsel),

to abide by the non-discrimination requirements set forth in the following legal authorities, to the extent applicable, and to acknowledge that failure to do so may result in cancellation of any award and/or recoupment of funds already disbursed:

☒ Title VI of the Civil Rights Act

☒ Title IX of the Education Amendments of 1972

☒ The Americans with Disabilities Act of 1990

☒ Section 504 of the Rehabilitation Act of 1973

☒ The Age Discrimination Act of 1975

☒ Any other applicable non-discrimination law(s)

15.4 Certification of cybersecurity and supply chain risk management

The State certifies that it will ensure subgrantee compliance with the cybersecurity requirements of the BEAD NOFO to require prospective subgrantees to attest that:

☒ The prospective subgrantee has a cybersecurity risk management plan (hereafter in this list, "the plan") in place that is either: (a) operational, if the prospective subgrantee is providing service prior to the award of the grant; or (b) ready to be operationalized upon providing service, if the prospective subgrantee is not yet providing service prior to the grant award.

☒ The plan reflects the latest version of the NIST Framework for Improving Critical Infrastructure Cybersecurity (currently Version 1.1) and the standards and controls set forth in Executive Order 14028 and specifies the security and privacy controls being implemented.

☒ The plan will be reevaluated and updated on a periodic basis and as events warrant.

☒ The plan will be submitted to DTI prior to the allocation of funds. If the subgrantee makes any substantive changes to the plan, a new version will be submitted to DTI within 30 days.

The State further certifies that it will ensure subgrantee compliance with the supply chain risk management (SCRM) requirements of the BEAD NOFO to require prospective subgrantees to attest that:

☒ The prospective subgrantee has a SCRM plan (hereafter in this list, "the plan") in place that is either: (a) operational, if the prospective subgrantee is already providing service at

the time of the grant; or (b) ready to be operationalized, if the prospective subgrantee is not yet providing service at the time of grant award.

☒ The plan is based upon the key practices discussed in the NIST publication NISTIR 8276, Key Practices in Cyber Supply Chain Risk Management: Observations from Industry and related SCRM guidance from NIST, including NIST 800-161, Cybersecurity Supply Chain Risk Management Practices for Systems and Organizations and specifies the supply chain risk management controls being implemented.

☒ The plan will be reevaluated and updated on a periodic basis and as events warrant.

☒ The plan will be submitted to DTI prior to the allocation of funds. If the subgrantee makes any substantive changes to the plan, a new version will be submitted to DTI within 30 days. DTI will provide a subgrantee's plan to NTIA upon NTIA's request.

DTI will ensure that, to the extent a BEAD subgrantee relies in whole or in part on network facilities owned or operated by a third party, it will obtain the above attestations from its network provider with respect to cybersecurity practices and supply chain risk management practices.

Delaware's own cybersecurity practices are in the State of Delaware Cybersecurity Plan, published January 2023 by DTI.[44] The mission of the Delaware Cybersecurity Plan is to bring all Delaware government entities to an acceptable cyber risk baseline, using State and Local Cybersecurity Grant Program (SLCGP) funding in accordance with The U.S. Department of Homeland Security guidelines. DTI also strives to continuously assess and address the strengths and weaknesses of the cybersecurity and resiliency programs of those entities, and these skills will be useful as DTI strives to ensure subgrantee compliance with these requirements.

---

[44] "The State of Delaware Cybersecurity Plan," DTI,
https://digiknow.dti.delaware.gov/grants/contentFolder/pdfs/CyberscurityPlan.pdf.

16 Middle-class affordability plans (Requirement 20)

This section describes DTI's middle-class affordability plan designed to ensure that a BEAD-funded network's service area provides high-quality broadband service to all middle-class households at reasonable prices. The State Broadband Office will continue to monitor the affordability of available service options within the State and encourage providers to offer a range of options that support broadband adoption by residents regardless of income level and reduce the burden on lower-income subscribers.

Based on the work of digital equity researchers and advocates over the past decades, an affordable broadband service can be defined as one whose cost does not exceed two percent of household income. [45] Since 2016, the FCC has used the benchmark of two percent of a household's disposable income to measure the affordability of voice and broadband service expenditures in its Universal Service Monitoring Report. [46]

As noted by the National Academy of Public Administration, [47] the United States Conference of Mayors, [48] and the American Water Works Association, [49] however, considering affordability as a simple percentage of income can disregard differential burdens placed on low-income households. In measuring affordability, DTI will work to monitor the impact of broadband costs on communities at the highest risk of disconnection.

Addressing middle-class affordability also requires a definition of middle class. Multiple frameworks exist within established research[50] to accommodate the complexity of the concept, which contains the overlap of factors including income, education, occupation, and geographic location. DTI will continue to engage its robust evaluation of evolving definitions of "middle class" and evaluate the affordability of high-speed internet to the evolving definition.

Delaware classifies low-income households according to the federal poverty guidelines published by the U.S. Department of Health and Human Services, [51] but does not have an official definition of middle class. Median household income can serve as a useful benchmark for the State in line

---

[45] See, for example; "The affordability of ICT services 2022," International Telecommunication Union, https://www.itu.int/en/ITU-D/Statistics/Documents/publications/prices2022/ITU_Price_Brief_2022.pdf.
[46] https://docs.fcc.gov/public/attachments/FCC-16-38A1.pdf
[47] https://napawash.org/uploads/Academy_Studies/NAPA_EPA_FINAL_REPORT_110117.pdf
[48] https://www.awwa.org/Portals/0/AWWA/ETS/Resources/AffordabilityAssessmentTool.pdf
[49] https://www.awwa.org/Portals/0/AWWA/Government/ImprovingtheEvaluationofHouseholdLevelAffordabilityinS DWARulemakingNewApproaches.pdf
[50] See, for example, the Pew Charitable Trust Index; https://www.pewtrusts.org/en/research-and-analysis/articles/2023/08/30/is-broadband-affordable-for-middle-class-families.
[51] These guidelines determine eligibility for a variety of federal and state assistance programs, including Medicaid, the Supplemental Nutrition Assistance Program (SNAP), and the Low Income Home Energy Assistance Program (LIHEAP). See: "HHS Poverty Guidelines for 2023," https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines.

with the approach to affordability discussed above: according to data from the U.S. Census Bureau, the median household income in Delaware was $72,724 in 2021.[52]

A statistically valid survey of residents conducted for the State's Digital Equity Plan shows the range of prices subscribers in Delaware at various income levels currently pay for their internet plan (Figure 11), and the amount they are willing to pay for high-speed, reliable service (Figure 12).

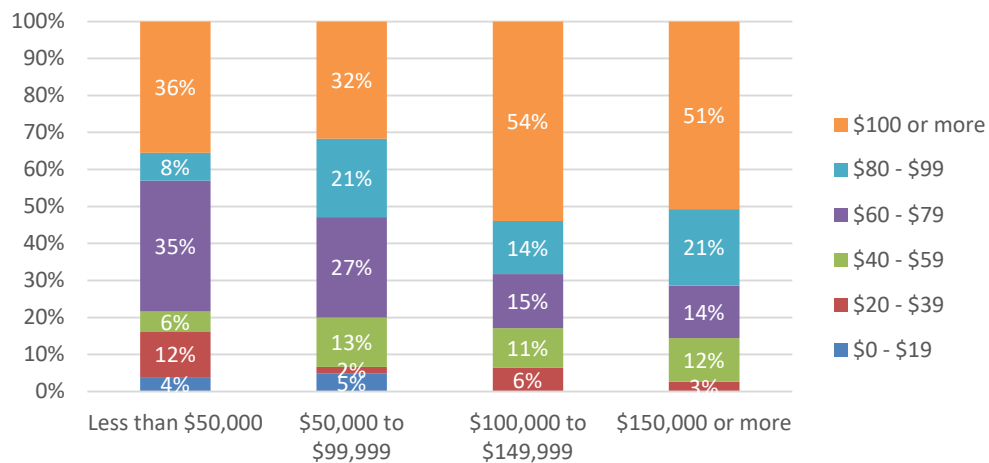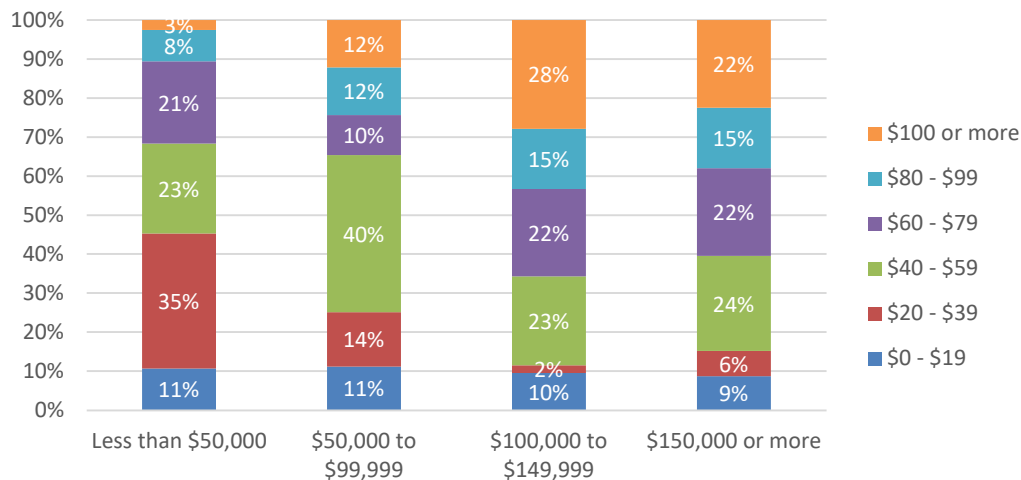**Figure 11: Monthly cost of home internet service by household income**

Figure 12: Amount willing to pay for high-speed, reliable home internet service by household income

DTI will meet regularly with providers and encourage them to offer price points that accommodate subscribers' ability and desire to pay for reliable, high-speed service through a range of solutions, including but not limited to establishing, making publicly available to

---

[52] "QuickFacts: Delaware," U.S. Census Bureau, https://www.census.gov/quickfacts/fact/table/DE#.

consumers, and monitoring benchmarks for affordability; providing subsidies for broadband service; encouraging providers to extend low-cost service options to all subscribers; weighting affordability criteria in the scoring of its BEAD grant program; and promoting structural competition through regulations.

To support increased adoption of broadband, the State must ensure residents have access to reliable service. To that end, DTI seeks to effectively address affordability for middle-class subscribers without restricting providers' participation in BEAD—which could lead to higher-cost awards and fewer residents that are served Priority Broadband (i.e., fiber).

Accordingly, DTI plans to manage middle-class affordability within the context of the BEAD program by addressing the following areas of risk:

- **High-pricing for fast service:** Using the scoring criteria listed above, which rewards providers who provide the lowest costs for 1 GBPS symmetrical service, providers will be encouraged to provide cost-effective, high-speed service to consumers. (ISPs should include current pricing through the prequalification process, and a rigorous financial proficiency test will be built into the letter of credit and prequalification process.)
- **Providers shift drop and installation costs to the consumer to recover capital costs:** Grant participation rules will make clear that drops and network equipment are eligible BEAD costs and should be built into grant proposals to avoid inflated subscriber prices. Subgrantees will not be allowed to shift drop and installation costs to the consumer on a BEAD-funded project. DTI expects this risk to be somewhat mitigated by expanding competition in rural areas from 5G home internet and LEO satellite options.
- **Providers refuse to provide service to expensive locations:** DTI will monitor and ensure that awardees make good on their BEAD service commitments, including not assessing additional fees beyond standard installation fees.
- **Differential pricing between urban and new project areas:** The gigabit best pricing policy mandated in the BEAD program scoring matrix sets requirements around geographic non-discrimination.

Appendix A: Local coordination tracker tool

Email broadband@delaware.gov for a copy of this Appendix.