STATE OF OREGON

INITIAL PROPOSAL VOLUME II

Broadband Equity, Access, and Deployment (BEAD) Program

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1. Introduction

The Oregon Broadband Office (OBO) hereby submits to the National Telecommunications and Information Administration (NTIA) of the U.S. Department of Commerce this Broadband Equity, Access, and Deployment (BEAD) Program Initial Proposal Volume II, which comprises all of the requirements established by the NTIA in its Notice of Funding Opportunity (NOFO). The state reserves the right to update this Initial Proposal pending revised or additional guidance from NTIA.

2. Objectives (Requirement 1)

Oregon Revised Statutes (ORS) 285A.166 created OBO to "[a]dvocate for the adoption of public policies that close the continuing digital divide by removing barriers to and supporting broadband infrastructure deployment."[1]

The state's primary goals 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);

2. Serving 100 percent of underserved locations (i.e., between 25/3 and 100/20 Mbps); and

3. Ensuring community anchor institutions (CAI) have gigabit connections.

In support of these primary objectives, OBO's establishing statute sets forth the following objectives for Oregon:[3]

1. Advocate for the adoption of public policies that close the continuing digital divide by removing barriers to and supporting broadband infrastructure deployment.

2. Develop broadband investment and deployment strategies for unserved and underserved areas.

3. Promote private sector, public sector, and cooperative broadband solutions.

4. Support and promote local and regional broadband planning.

5. Promote technology and service provider neutrality by focusing on desired outcomes rather than specific technological solutions.

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[1] "ORS 285A.166: Oregon Broadband Office," OregonLaws, https://oregon.public.law/statutes/ors_285A.166. See also "Broadband Program Development," OBO, https://www.oregon.gov/biz/programs/Oregon_Broadband_Office/Pages/BroadbandProgramDevelopment.aspx.

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

[3] These objectives are also listed in HB 2173, pending before the Legislature as of the writing of this Plan. See: House Bill 2173, https://olis.oregonlegislature.gov/liz/2019R1/Downloads/MeasureDocument/HB2173.

6. Pursue and leverage federal sources of broadband funding to achieve state goals related to broadband.

7. Manage and award funds allocated to the Oregon Business Development Department for use by the office for broadband projects.

8. Engage with diverse groups of stakeholders representing a wide variety of interests, including but not limited to elected officials, government officials, healthcare providers, educators, business leaders, agricultural leaders, community leaders, and broadband service providers, to facilitate communications and collect information necessary to help make a business case for broadband investments.

9. Promote digital literacy, equity, and inclusion.

10. Generate public awareness of the value of broadband technologies and applications.

11. Promote adoption and utilization of broadband technologies and applications.

12. Develop, maintain and provide public access to:

    a. A statewide broadband map as a platform for data collection to track the availability of broadband services and to measure progress; and

    b. Other information relating to broadband.

13. Convene relevant state and federal agencies and advise the Governor, state agency leadership and the Oregon Congressional Delegation on actions to leverage state government activities to pursue state goals related to broadband.

14. Support and coordinate efforts with the Oregon Broadband Advisory Council.

3. Local, tribal, and regional broadband planning processes (Requirement 2)

OBO staff have worked to build trusting relationships with stakeholders and the public through longstanding collaboration and advocacy to ensure broadband needs are heard. As part of Business Oregon, OBO works with the Regional Development Officers in each of the Business Oregon regional offices to reach local stakeholders across the state.

In preparation of this Plan, OBO reached out to its partners to begin an intensive engagement process that included:

- Twelve in-person regional meetings throughout Oregon.

- Seven sector-specific meetings with expert stakeholders.

- Five focus group discussions.

- Intergovernmental meetings with all tribal governments in the state.

- Email, press release, social media, phone, radio, and in-person outreach.

Additional engagement work includes a range of six stakeholder surveys, an online public needs questionnaire, and one statewide phone survey of the people of Oregon.

As part of its outreach efforts, OBO redesigned and publicized its website to highlight information important to the development of the BEAD Five-Year Action Plan and the Digital Equity Plan, such as detailed information on the location of in-person engagements, links to the surveys and questionnaire, and calls to action for individuals experiencing inadequate broadband service.

The stakeholder engagement effort, comprised of statewide meetings and surveys with a comprehensive range of stakeholders and members representing public interests, demonstrated collaboration with local, regional, state, tribal, and federal entities (governmental and non-governmental). The stakeholder engagement

process also included the covered populations [4] identified as core stakeholder groups.

OBO took great steps to create accessible and inclusive conversations related to BEAD and Digital Equity concerns throughout Oregon. These measures included strategic decisions to ensure several in-person engagements were conducted throughout the state and virtual engagement options were provided to enable participation from stakeholders spread throughout the state. The process reflects OBO's effort to facilitate an inclusive and effective engagement model.

OBO provided information about BEAD in its engagement sessions. [5] This information was designed to involve all interested parties in the historic broadband deployment undertaking outlined in this Plan, which will be described in greater detail in the forthcoming Final Proposal.

OBO intends to continue its stakeholder engagement and outreach efforts around broadband deployment and digital equity in the state—particularly to engage with covered populations, tribal governments, organizations, and stakeholders that historically have not been included in public planning processes.

OBO will use the external engagement process implemented during the development of this Plan as the model for further stakeholder collaboration throughout the BEAD program. OBO's engagement efforts are ongoing and will be used to inform subsequent BEAD and digital equity activities and deliverables.

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[4] Per NOFO Section I.C.g, referencing Infrastructure Investment and Jobs Act (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.

[5] See, for example, the slides in English and Spanish for its regional meetings. "Oregon Broadband Equity Access and Deployment and Digital Equity Regional Meeting," OBO, May-June 2023, https://www.oregon.gov/biz/Publications/Broadband/Regional_Session_Presentation.pdf.

4. Local coordination (Requirement 4)

This section describes how OBO has coordinated and will continue to coordinate with local and tribal governments, communities, and stakeholders.

The Local Coordination Tracker Tool is attached as Appendix A.

4.1   Full geographic coverage

OBO engaged the full geographic range of Oregon through both stakeholder outreach and public engagement. To ensure outreach to stakeholders covered the entire state, OBO conducted seven virtual statewide meetings with invitations sent to over a thousand identified contacts throughout Oregon.

OBO held 12 open-to-the-public community meetings around the state to ensure regional diversity was core to the engagement efforts (Figure 1). In addition, Business Oregon's Regional Development Officers in each of its 12 regions invited diverse groups of local stakeholders to join these meetings.[6] Engagement with partners and tribal governments continues through ongoing virtual and in-person meetings.

Figure 1: Advertisements of in-person meetings

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[6] See "Regional Service Areas," Business Oregon,
https://www.oregon.gov/biz/aboutus/regions/Pages/default.aspx.

GRESHAM
May/mayo 30 5:30–7 p.m.
Gresham Amory
544 NE Division Street, Gresham, OR

MCMINNVILLE
May/mayo 31 11:30 a.m.–1 p.m.
McMinnville Community Center Room 203
600 NE Evans St, McMinnville, OR

THE DALLES
June/junio 5
5:30–7 p.m.

Columbia Gorge
Community
College

400 East Scenic Dr,
The Dalles, OR

BAKER CITY
June/junio 6
5:30–7 p.m.

Crossroads Carnegie
Arts Center

2020 Auburn Ave
Baker City, OR

ONTARIO
June/junio 7
5:30–7 p.m.

Treasure Valley
Community College
Weese Rm 110

650 College Blvd.,
Ontario, OR

BURNS
June/junio 8
5:30–7 p.m.

Harney County
Community Center

484 North Broadway,
Burns, OR

REDMOND
June/junio 9
11:30 a.m.–1 p.m.

COCC's Redmond
Technology
Education Center

2324 SE College Loop,
Redmond, OR

Figure 2: OBO in-person meetings
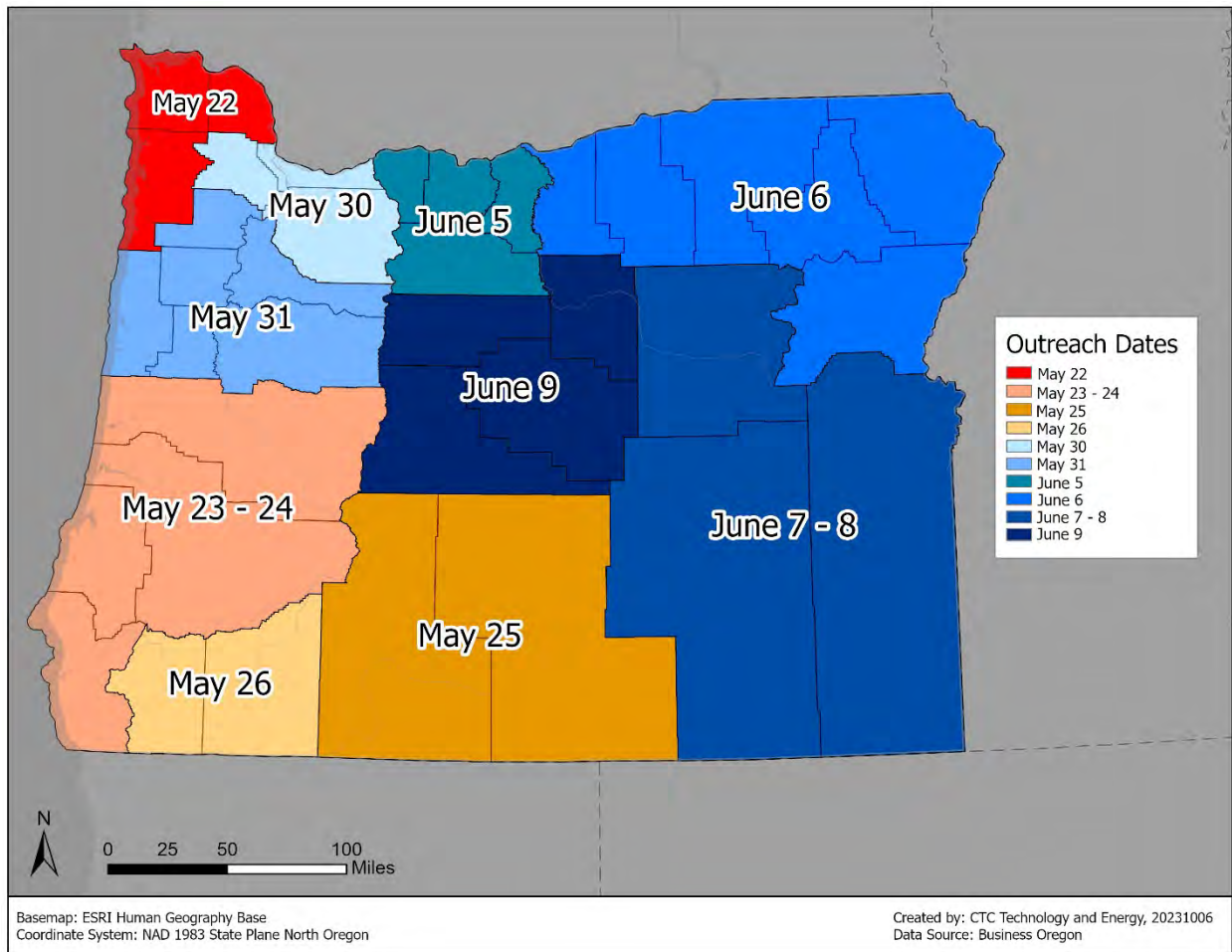
These meetings provided a general overview of broadband technology, an overview of the timeline and components of BEAD and Digital Equity, resources available to the public, and how they can meaningfully engage to support the development of the Five-Year Action Plan and Digital Equity Plan. Small-group and large-group discussions spurred comments and questions from the public about their internet experience. At each session, tablets, OBO staff and OBO's broadband public involvement consultants were available to assist participants to complete the online questionnaire during the session.

OBO met with the following tribes and attended the following tribal gatherings:

- March 23, 2023 – 1st NTIA Tribal Broadband Leaders Network Summit

- March 27, 2023 – Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians

- March 30, 2023 – Coquille Indian Tribe

- March 31, 2023 – Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians

- April 5, 2023 – Native American Advisory Council, Chiloquin, OR

- April 7, 2023 – Burns Paiute Tribe

- April 19, 2023 – Confederated Tribes of Umatilla Reservation

OBO supplemented the activities above by attending the following general engagements:

- January 24, 2023 – Winter 2023 ATNI (Affiliated Tribes of the NW Indians)

- January 25, 2023 – Joint Ways and Means Transportation and Economic Development Subcommittee

- February 21, 2023 – House Committee on Economic Development and Small Business

- March 1, 2023 – Malheur County Board of County Commissioners

- March 8, 2023 – ITA Showcase NW Telecommunications Tradeshow

- March 9, 2023 – Business Oregon Commission

- March 22 to 24, 2023 – NTIA Tribal Broadband Summit

- March 30, 2023 – Oregon Broadband Advisory Council

- April 28, 2023 – Economic Development & Community Services State-Tribal Cluster meeting

- May 4, 2023 – Public Health Modernization

- May 8, 2023 – Affiliated Tribes of the Northwest Indians

- May 17, 2023 – Legislative Committee on Indian Services

- May 31, 2023 – Oregon Broadband Advisory Committee

- June 5, 2023 – Marion County

- June 7, 2023 – Polk County

- June 9, 2023 – Business Oregon Commission

- June 13, 2023 – Oregon Department of Education, Office of Teaching Learning, & Assessment, Digital Learning and Education

OBO collected notes regarding key themes that arose in all listening sessions and also noted issues specific to each community. OBO documented the needs and gaps as well as aspirations for each group and published this data online, where they remain available.[7]

During the month of July, OBO held five Lived Experience Expert Focus Group discussions to understand the lived experiences of specific population groups in the

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[7] "Community Listening Sessions Summary," OBO, https://www.oregon.gov/biz/Publications/Broadband/OBO%20Broadband%20Listening%20Sessions%20Summary.pdf.

state. OBO identified and engaged representatives from stakeholder organizations that serve covered populations to attend the sessions, which included:[8]

- Urban Lived Experience Expert Focus Group: Hybrid, Portland, July 11, 2023

- Rural Lived Experience Expert Focus Group: Hybrid, Lakeview, July 13, 2023

- Tribal Lived Experience Expert Focus Group: Virtual, July 19, 2023

- Seniors (Older Adults) Lived Experience Expert Focus Group: Virtual, July 21, 2023

- Persons with Disabilities Lived Experience Expert Focus Group: Virtual, July 23, 2023

OBO ensured that each Lived Experience Expert Focus Group was not only designed to obtain information about specific lived experiences but also included representatives who serve multiple covered populations (e.g., aging individuals, veterans, persons with disabilities) and could speak to that intersection. OBO recognizes that these groups not only have unique barriers to full digital equity, but they also have intersecting barriers that the state will look to address in its Digital Equity Plan. OBO also worked to ensure that each Lived Experience Expert Focus Group was fully accessible for attendees by offering native language translations and accommodations such as sign language interpreters. Previously, during 2022, OBO held a series of listening sessions designed to elicit relevant information at an early stage of the planning process. In April 2022, OBO held five community listening sessions[9] with the intended purpose of gaining insight into how to provide broadband access and services to specific groups:

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[8] As defined in NTIA's Digital Equity Notice of Funding Opportunities (last accessed July 28, 2023), covered populations includes the following groups: aging individuals (60 and above); incarcerated individuals, other than individuals who are incarcerated in a Federal correctional facility; veterans; individuals with disabilities; individuals with a language barrier, including individuals who are English learners; and have low levels of literacy; individuals who are members of a racial or ethnic minority groups; and individuals who primarily reside in a rural area.

[9] "Oregon Broadband Community Listening Sessions," OBO, https://www.oregon.gov/biz/programs/oregon_broadband_office/pages/oregon_broadband_community_listening_sessions.aspx.

- Intellectual and Developmental Disabilities service provider group: Virtual, hosted by the Rural Capacity Stakeholders Group, April 15, 2022

- Maritime and Ports Partners: Virtual, April 18, 2022

- Rural Communities: In Person, hosted at the League of Oregon Cities Convention in Hermiston, April 20, 2022

- Oregon's Federally Recognized 9 Tribes: Virtual, April 27, 2022

- Portland Metro Area Partners and Communities: Virtual, April 27, 2022

4.2 Meaningful engagement and outreach to diverse stakeholder groups

OBO reached out to a wide range of diverse stakeholder groups that included all covered populations in the State Digital Equity Planning Grant NOFO and all underrepresented populations and stakeholder groups identified in the BEAD NOFO. OBO utilized in-person public listening sessions, in-person stakeholder meetings, virtual expert stakeholder sessions, email campaigns, collaboration with the governor's office, social media notifications, and flyers as outreach methods for the development of the BEAD and Digital Equity Plans. Flyers and social media posts were in both Spanish and English. Given the limits of social media and email advertising to reach audiences with limited connectivity, OBO also sponsored local radio spots to advertise regional listening sessions.

At each engagement OBO facilitated, several strategies were implemented to ensure the attendees had a comprehensive understanding of Oregon's broadband goals. These included a substantive overview of the BEAD and Digital Equity programs as well as opportunities throughout the stakeholder engagements for all participants to provide meaningful feedback.

OBO leveraged its existing collaborative relationships with its partners to create an inclusive, diverse list of stakeholders. Entities on the list included organizations representing CAIs, tribal and regional governments, internet service providers (ISP), broadband industry entities, and many more representing the diverse communities in Oregon. A total of 879 organizations with multiple contacts each were invited to attend OBO's engagements.

The virtual stakeholder meetings that preceded the in-person meetings were targeted to specific stakeholder groups that highlighted the broad range of stakeholder interests and constituents:

- State Broadband Planning Discussions with Governments: Virtual, May 16, 2023

- State Broadband Planning Discussions with ISPs: Virtual, May 17, 2023

- State Broadband Planning Discussions with Workforce Development Agencies: Virtual, May 17, 2023

- State Broadband Planning Discussions with Digital Equity and Covered Population Serving Organizations: Virtual, May 18, 2023

- State Broadband Planning Discussions with General Sectors: Virtual, May 18, 2023

- State Broadband Planning Discussions with General Sectors Part 2: Virtual, June 22, 2023

- State Broadband Planning Discussions with Governments Part 2: Virtual, June 29, 2023

Stakeholders had the opportunity to ask questions and provide feedback on broadband challenges, needs, existing partnerships and programs, and potential opportunities specific to their constituents and community. Participants in the stakeholder meetings were asked to complete follow-up surveys to aid in the development of the BEAD and Digital Equity Plans as well as help share information about upcoming engagements with groups they serve.

As of the drafting of this report, additional statewide stakeholder engagement opportunities are being planned by OBO. These will include at least three in-person open house opportunities in different parts of the state as well as individual, virtual public meetings to present the contents of the Digital Equity Plan and Initial Proposal drafts.

As it has done at each stage of planning and engagement, OBO will continue to use multiple outreach techniques and a transparent process to ensure its broadband goals have been inclusive and feedback-driven.

4.3 Multiple awareness and participation mechanisms

OBO sent email invitations to all contacts on the stakeholder list in advance of the stakeholder meetings. OBO offered all stakeholders a date specific to group interests along with another date that provided the opportunity for stakeholders to participate again to go over general questions and concerns not brought up in the targeted sessions.

The public meetings were advertised on the OBO website; on the radio; through paper flyers (for the whole state and region-specific locations) located in libraries, post offices, and at the meeting venues throughout the state; and through additional outreach from stakeholder partners to groups they serve.

In addition to the meetings, stakeholders and the public were able to provide feedback through targeted stakeholder surveys. Links and QR codes to these surveys were provided during meetings and in a post-meeting follow-up email. An online needs assessment, the Oregon Internet Accessibility Needs Assessment Survey, was also made available on OBO's website to enable stakeholder feedback from both expert representatives and the public.[10] OBO also requested that the stakeholders share this information further.[11]

4.4 Clear procedures to ensure transparency

OBO took significant steps to ensure compliance with all applicable laws and public involvement best practices to maintain standardized and transparent procedures. The surveys allowed respondents to select which questions to answer, which allowed individuals to control the level of personal detail provided.

A take-home fact sheet was provided at public meetings to participants with calls to action, an overview of how OBO values the stories of participants, and a QR code and link to the online surveys.

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[10] See "Oregon Internet Accessibility Needs Assessment Survey," https://www.surveymonkey.com/r/OR_InternetNeedsAssessment01. The survey link was disabled after the original data-gathering exercise but was live as of June 2023.
[11] See, e.g., "State Broadband Plan Surveys and Local Government Broadband Planning Session: Help Oregon Plan to Spend Federal Broadband Funding," League of Oregon Cities, June 16, 2023, https://www.orcities.org/resources/communications/bulletin/state-broadband-plan-surveys-and-planning-session.

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. After meetings, the PowerPoint slide deck was sent to all participants that provided their contact information.

4.5 Outreach and engagement of unserved and underserved communities

In advance of all forums, OBO engaged organizations and organizational representatives serving defined covered populations by ensuring the contact list used for outreach was both comprehensive and inclusive. Contact information was given in the outreach material for interpretation and other accommodation needs for each event.

OBO additionally engaged with unserved and underserved communities by ensuring accessibility to materials, meetings, and information. All advertisements for the public meetings were published in multiple languages (English and Spanish). Several in-person engagements were supported by Spanish and ASL translators, especially in locations whose regions contained more than a 5 percent share of the population that are Spanish speakers. A take-home sheet on the federal Affordable Connectivity Program (ACP) was distributed in the public meetings to provide additional information to help people in low-income households to access the ACP.

The public meetings were hosted at local libraries, community colleges, community centers, and other available venues to facilitate participation at a location that was both accessible and provided vital community support. All locations were accessible and compliant with the Americans with Disabilities Act (ADA) in accordance with federal law. This work with the public libraries and colleges is another example of the strong partnerships that OBO and the state have fostered as part of the engagement process and in striving for universal service more broadly.

5. Deployment subgrantee selection (Requirement 8)

This section of Volume II describes in detail how OBO proposes to structure, design, and implement its grant program to award BEAD funds to subgrantees to deploy broadband infrastructure in Oregon. This section includes extensive discussion of the structure of the program, the timeline, the scoring, and steps OBO will take to try to maximize the reach and impact of the BEAD funds throughout Oregon. See Appendix C for a detailed chart summarizing the subgrantee selection process described in this section, including the documentation, milestones, and phases required in the process.

OBO developed this subgrantee selection process to meet both NTIA's requirements and the state's goals. While every effort has been made to propose scoring criteria and requirements that will enable OBO to make awards to subgrantees for projects that will maximize the impact of the BEAD funding and other resources the state may commit to the BEAD program, OBO also recognizes that this grant program, like any such program, will not have guaranteed outcomes. For example, some areas may not attract any applicants, or may attract only one applicant. Further, the BEAD program breaks new ground and is experimental in that no entity, state or federal, has ever been required to design a program that would address the needs of 100 percent of eligible locations. OBO therefore reserves the opportunity to revise this subgrantee selection process and to negotiate with applicants as needed, so long as the state meets the BEAD requirements.

5.1 Deployment subgrantee selection process

The subgrantee selection process described below is designed to be fair and to avoid arbitrary decisions. It does this through detailed description of selection rules and procedures, discussion of application of fair and consistent rules to all applicants, and to the extent possible, definition of quantitative scoring methods that minimizes subjective judgement in grant decisions. The process and rules proposed below include such protections as requirements that selection officers will certify that they do not have conflicts of interest and that they will apply grant rules fairly and without bias.

5.1.1 Principles

OBO intends that the BEAD grant program will reflect a fair, open, and competitive process to deploy broadband to unserved and underserved households throughout

Oregon. All elements of the BEAD program have been designed with these goals at the forefront, as well as OBO's related BEAD design principles:

- Impact

  o Grant strategy should seek to make limited funds reach as far as possible.

  o Fiber-to-the-premises should be prioritized and funded to every possible unserved and underserved location.

  o At the same time, recognizing that the BEAD funds available will likely be insufficient to deliver the same type of broadband to all locations, the grant process should be designed to elicit applications for a wide range of technological solutions that meet NTIA's requirements for broadband.

- Simplicity and widespread participation

  o The process should be designed to encourage maximum participation by eligible applicants and opportunity for smaller and local applicants, including tribal nations.

  o The program, from design to final execution of grant agreements, should limit burdens on applicants and enable efficient applicant participation.

  o The program design should also enable efficient grant program administration while accounting for BEAD's timelines and complexity.

- Openness, fairness, and competition

  o The process should reflect the key goals of enabling participation through openness, sharing of information, fairness, and commitment to competition.

  o All elements of grant strategy, including geographic units for proposals, should be designed to increase the potential for competition among applicants statewide and in specific areas, as well as for public entities and tribal ISPs.

o The preferences of Oregon's tribal nations should be the determining factor with regard to which entities are awarded funds to deploy broadband on sovereign tribal lands.

Openness represents a core value and guiding principle for OBO 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 a wide range of entity types.

2. Community and tribal input at all stages of the BEAD process, including through engagement and feedback to the planning process and the plans themselves.

3. Openness and transparency in the evaluation process, with feedback to unsuccessful applicants to build trust and encourage future participation.

4. To ensure against risks of bias, collusion, conflict of interest, and self-dealing, OBO will ensure that all reviewers are entirely financially independent of all applicants. Reviewers will be required to certify in writing that they have no employment, contract, or other business relationship with any applicant or any affiliate or subsidiary of any applicant.

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 unserved and underserved locations receive the connectivity they need. To ensure fairness in its BEAD grant process, OBO anticipates adopting the following:

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

2. Ongoing and frequent communications through public means such as grant workshops, office hours, and frequently updated FAQs to enable maximum information sharing with potential applicants.

3. Eligibility criteria that is clear, inclusive, and not overly restrictive, within the parameters of the BEAD program, to ensure that entities of all sizes can participate, including community-owned and tribal ISPs.

4. Competitive process that encourages applicants to submit innovative proposals and cost-effective solutions.

5. Fair review process that is impartial and free from conflicts of interest, with independent evaluators engaged to assess proposals.

Competition is at the heart of OBO'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 of a wide range of entities, including commercial ISPs, nonprofits, municipalities and counties, and tribal entities.

2. A grant program that is designed to make it feasible for all sizes of entities to compete without facing unreasonable costs or level of effort, taking into account the complexity of federal BEAD requirements.

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

OBO has an extensive email list of stakeholders, including service providers, tribal governments, local governments, community anchor institutions, state agencies, and nonprofit organizations. OBO also has robust web, newsletter, and social media presence.

OBO will use these tools to inform potential applicants of each milestone during the process outlined below as well as provide information on technical assistance opportunities or updated information about program requirements. OBO will also

use its website as a repository for potential applicants to access detailed application materials and technical assistance resources.

5.1.2   Overview of planned Subgrantee Selection Process

As required by NTIA, the following is OBO's planned Subgrantee Selection Process (grant program), which is part of OBO's larger plan for ensuring service to all Oregon locations currently unserved and underserved.

OBO anticipates a multi-step process for selecting subgrantees for its BEAD funds that will (1) begin with prequalification of applicants (hereinafter referred to as the Prequalification Phase), (2) then proceed to receipt and scoring of grant applications (hereinafter referred to as the Scoring Phase), and (3) then proceed to negotiations with applicants (hereinafter referred to as the Negotiation Phase).

OBO anticipates offering applicants the opportunity to propose projects at the school district (District) level, such that all applications will be required to propose to build to unserved and underserved locations across a full District. (Each District and its eligible locations will hereinafter be referred to as District Grant Area.) Each school district will constitute a District Grant Area, except that given the size of Klamath County, and the small number of school districts there, OBO anticipates dividing the county into District Grant Areas by Klamath County Public School Attendance Areas, as created by Klamath County IT/GIS, in order to provide more manageably-sized areas. (See Section 5.7 for more details on project area definition.)

This approach is designed to enable efficient application review with minimal application overlap or need for deconfliction.

OBO recognizes the preference in federal BEAD policy for projects that involve deployment of fiber-to-the-premises, which are considered by NTIA to be "Priority Broadband Projects." OBO plans to prioritize fiber-to-the-premises proposals, consistent with the BEAD NOFO, and to make awards for alternative technologies—such as fixed wireless and coaxial cable—only if and where the costs of fiber exceed the Extremely High Cost Per Location Threshold, per NTIA's requirements. (See Section 5.10.)

OBO's analysis is that BEAD funds may be sufficient to fund fiber-to-the-premises to the majority of unserved and underserved locations, based on the economics of fiber deployment and operations and the financial contributions that applicants are

projected to commit through match and other funds. Specifically, OBO's data suggests there exists a business case, with respect to between 75 and 90 percent of combined unserved and underserved locations, for applicants to request funding for fiber at a level that, when totaled and added to the cost of serving the remaining locations with alternative technologies, will be equal to the BEAD funds available. This analysis reflects OBO's calculation of how much applicants may commit of their own funds, given likely financial returns, for each unserved and underserved location.

Given the unpredictability of fiber construction costs during the BEAD timeline and considering the challenges reaching many extremely remote locations in some parts of Oregon, alternative technologies may be necessary to address the needs of some unserved and underserved locations. OBO will welcome grant applications for alternative technologies such as fixed wireless and coaxial cable that are considered "non-Priority" under the federal rules, and will make awards for those technologies as necessary, pursuant to NTIA's rules, for locations that do not receive viable fiber applications and are thus above the Extremely High Cost Per Location Threshold.

5.1.3 Phases
The BEAD funding effort will be comprised of the following three key phases:

1. Prequalification Phase, to establish the qualifications of prospective applicants.

2. Scoring Phase, during which OBO will receive, review, and score grant applications.

3. Negotiation Phase, in which OBO will engage with applicants to reach final project boundaries and costs.

In addition, OBO reserves the opportunity to undertake a second-round grant process to seek additional or alternative applications in the event OBO determines it necessary.

The following sections contain additional detail on the three key phases OBO 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.

5.1.3.1 Prequalification Phase

During the Prequalification Phase, OBO will accept materials from all prospective applicants, enabling applicants to establish their qualifications and OBO 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 OBO to maximize the limited time available for the Scoring Phase, extending the available time to allow both prospective applicants and OBO'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 OBO'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 Oregon'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 OBO, as necessary, and responses from applicants. With an earlier process for qualification, this curing need not take place at the same time as curing of proposed project applications, which will be an enormous undertaking in and of itself.

OBO'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 documentation that addresses 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 OBO to proceed to the Scoring Phase of the program and allowed to submit proposals.

The Prequalification Phase will launch in early 2024, during the time that NTIA is reviewing Oregon's Initial Proposal, thus enabling OBO and prospective applicants to benefit from the additional time before NTIA formally approves the Initial Proposal and the grant process begins. The Prequalification Phase will give potential applicants at least 30 days to prepare and submit their prequalification materials.

OBO expects to implement the following communications process for the Prequalification Phase:

- OBO will announce the dates of its Prequalification Phase at least 15 calendar days prior to the opening of the window for acceptance of Prequalification Phase applications. Potential subgrantees must participate, and be approved, in the Prequalification Phase to submit a project-specific funding proposal during the Scoring Phase.

- At approximately the same time as the announcement of the application dates, OBO will make prequalification materials available on its website using a dedicated webpage.

- OBO will conduct an online application workshop on or around the first day 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 OBO website and the FAQ document will be updated to reflect questions and answers from the workshop.

- During the Prequalification Phase window, OBO will have a dedicated email address available for applicants to use to ask questions and request technical assistance. To provide transparency, fairness, and additional technical assistance, OBO will update its FAQ document on a regular basis with the questions and answers generated by the email inquiries and in-person meetings.

- OBO will notify Prequalification Phase applicants if they are prequalified and eligible to submit a Scoring Phase Application within 65 days of the close of the Prequalification window.

- OBO will allow for reasonable curing to ensure an optimal participation level of qualified ISPs.

5.1.3.2 Scoring Phase

Based on NTIA's rules, OBO cannot launch the Scoring Phase of the BEAD grant program until NTIA has approved the outcome of the Challenge Process and Volume II of the Initial Proposal. Once those approvals are in place, OBO 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.

To prepare for the Scoring Phase, OBO will undertake the following tasks:

- Alternative Percentage Determination

5.1.3.3 Application

5.1.3.4 Alternative Percentage Determination

This part of the BEAD grant process is designed to specify the parameters for applications for District Grant Areas.

The Alternative Percentage Determination process will involve development of the percentage of unserved and underserved locations within a District Grant Area to which applicants must commit to deploy fiber. In every District Grant Area, there will be locations that OBO's engineering and economic modeling suggests will be so costly to build that including those locations as required deployment targets may serve to make the entire District Grant Area non-viable at a cost that fits into the finite BEAD budget (i.e., the costs would exceed the Extremely High Cost Per Location Threshold) or may serve to reduce or eliminate the chance of any applications being received for that District Grant Area.

Given these challenges, OBO has undertaken a modeling process to understand technical, financial, and economic parameters of building to all unserved and underserved locations in Oregon. The projections from that process will be utilized to identify locations that may create the risks described above. For each District Grant Area, OBO will assess the relative percentage of locations that fit into this category and allow for additional bids based on alternative parameters:

- First, for each District Grant Area, applicants will be required to submit a bid to serve 100 percent of locations and to propose an associated cost.

- Second, applicants will have the option of submitting a bid for the percentage of locations calculated through the modeling process that represents some amount less than 100 percent of unserved and underserved locations, removing that percentage of eligible locations that the modeling suggests would create risk either of excessive total grant outlay or of reducing the chances of receiving any bids at all for that District Grant Area.

- Third, in some cases, an additional category with another, lower percentage will also be included, if OBO concludes that including the third category would increase the likelihood of receipt of attractive and/or competitive bids.

These alternative percentage numbers will be customized by District Grant Area and will be referred to as "Alternative Percentages."

The exact Alternative Percentages specified will vary based on District Grant Area and OBO's data analysis. For all District Grant Areas, a cost proposal for 100 percent of locations will be required, enabling OBO to understand the difference between the alternatives on both an aggregate and a per-location basis.

Based on the Alternative Percentage Determination, the following is the format in which OBO will provide opportunity in the grant application for applicants to submit Alternative Percentage proposals for a single District Grant Area:

District Grant Area [name]	Percentage of unserved and underserved locations	Average cost per unserved and underserved location	Total requested grant funds for District Grant Area
	100%	$_____	$_____
	[number]%	$_____	$_____
	[number]%	$_____	$_____

OBO understands that pricing among percentages may vary significantly. Indeed, varied pricing is part of OBO's goal for this strategy as it will provide OBO with a greater range of options for awarding funds fairly and equitably across the state. It will also address the compressed BEAD grant timeline by allowing for receipt of

these alternative proposals through a single, efficient grant round, thus enabling OBO to select an application to serve *almost* all unserved and underserved locations in a District Grant Area if no cost-effective application is received for 100 percent of unserved and underserved locations. As a result, this strategy will, in a timely way, provide a range of alternative options for how OBO can use its finite BEAD funds to reach as many unserved and underserved Oregon locations as possible with fiber in the most efficient and impactful way.

OBO anticipates that in some areas it will receive multiple applications from multiple entities and so long as the scoring supports it—and pricing for 100 percent of locations is viable given the statewide need for funding, OBO will make awards to applications that propose to serve 100 percent of locations. Should OBO receive two or more identical proposals for the same District Grant Area, OBO will select the proposal with the highest score. However, OBO understands the economic challenges and high costs associated with some very remote or costly locations and thus seeks Alternative Percentage proposals to reach nearly all unserved and underserved locations in the District Grant Area to increase the chances of funding the vast majority of unserved and underserved locations with fiber.

Furthermore, OBO has designed this strategy with an eye toward creating as robust a competitive environment as possible so that applicants will provide the most competitive and well-priced applications.

OBO anticipates undertaking the Alternative Percentage Determination once it has the results of the Challenge Process that will be run in early 2024. The process will be conducted by OBO during the time that NTIA is conducting its Challenge Process Validation and in advance of OBO's release of the BEAD grant materials.

5.1.3.4.1   Fiber application process

Once the Alternative Percentage Determination analysis is complete and OBO has received full authorization from NTIA based on approval of the Challenge Process outcome and of Initial Proposal Volume II, OBO will open the grant window, distribute grant materials, and accept applications for proposed projects.

5.1.3.4.2   Cost as a factor in scoring

To enable effective scoring of the applications, OBO has, over the course of 2023, undertaken a modeling process to understand technical, financial, and economic

parameters of building fiber to all unserved and underserved locations in Oregon. OBO intends to use its modeling capabilities to develop cost benchmarks that will facilitate OBO's scoring of the costs proposed in each grant application. The benchmarks will be derived from OBO's models once the grant applications are received and OBO understands the complexities of each application: what technology and what percentage(s) of eligible locations the applicant proposes to build. The benchmark cost derived from the modeling based on the application parameters will then serve as a means by which OBO can evaluate proposed pricing.

OBO's cost model is a customized engineering and financial modeling tool whose inputs have been developed over the course of 2023 based on local and regional data regarding capital costs, operating costs, and revenue opportunities. The cost model allows OBO to develop an area-by-area benchmark by which to evaluate funding proposals and proposed match commitments.

Use of localized benchmarks for scoring cost proposals is a means of ensuring fairness of process across the state and for all applicants. This is because the cost scoring will be based on the relationship of proposed costs to the customized, local benchmark, reflecting local deployment conditions in which building broadband in some locations is more costly than in others—and will also reflect the different percentage figures for number of unserved and underserved for which applicants have the option to apply.

OBO has concluded that such scoring is more appropriate and fair than scoring costs based on a fixed formula that does not recognize the higher costs that some parts of Oregon require. Stated otherwise, the benchmark basis for scoring allows applicants to fairly compete on a statewide basis based on the costs they propose relative to the benchmark, rather than competing based on the lowest price proposals.

To effectuate this set of goals, OBO proposes to award up to 40 points (out of a total possible 100) for the grant amount requested relative to the benchmarked pricing developed by OBO for each District Grant Area. More detail about scoring is included in Section 5.3 below.

5.1.3.4.3 Application process

Once OBO has received full authorization from NTIA based on approval of the outcome of the Challenge Process and of the Initial Proposal Volume II, OBO will

open the grant window, distribute grant materials, and accept applications for proposed projects.

OBO expects to implement the following communications plan for the application process:

- OBO will announce the dates of its Scoring Phase at least 15 days prior to the opening of the window for acceptance of applications.

- OBO 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. OBO 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 NTIA, NIST, FCC, and others.

- OBO will conduct a virtual application workshop on or around the day of 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 OBO 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, OBO will have a dedicated email address available for applicants to use to ask questions and request technical assistance and reasonable curing. To provide transparency, fairness, and additional technical assistance, OBO will update its FAQ document on a regular basis with the questions and answers generated by the email inquiries and in-person meetings.

- OBO will allow for reasonable curing to the extent allowed by the compressed BEAD timeline.

- OBO 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 OBO, NTIA, NIST, FCC or other relevant stakeholders.

5.1.3.5   Negotiation Phase

Following receipt and review of the applications, OBO will engage with applicants in negotiations designed to reach final agreement on two topics: District Grant Area commitments and costs.

Once the applications are received, OBO will evaluate them and undertake next steps to reach the best possible statewide outcome. 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 the boundaries of the areas proposed for funding. OBO intends to use the Negotiation Phase of the program for both purposes: first, to negotiate pricing with applicants so as to stretch the BEAD funds as far as possible, and second, to negotiate coverage across District Grant Areas where necessary.

First, OBO will negotiate with applicants to serve District Grant Areas that do not receive any applications., OBO will seek to determine whether, and under what circumstances, program applicants would be willing to serve those District Grant Areas. OBO may negotiate with one or more entities at a time for each District Grant Area in order to maximize the compressed timeline and secure the best possible outcome, enabling the BEAD funds to serve as many unserved locations as possible.

Second, OBO will negotiate pricing, both with respect to District Grant Areas that received no applications into which OBO would like to attract other applicants and with respect to District Grant Areas that received applications but where it may be possible to secure lower pricing. OBO reserves flexibility to negotiate with one or more entities regarding potential pricing, seeking to maximize the reach and value of the BEAD funds to bring fiber to unserved and underserved locations throughout Oregon. Among the range of circumstances in which OBO may wish to negotiate pricing are the following:

- A District Grant Area does not receive any applications and OBO negotiates pricing with an applicant of another District Grant Area to serve it.

- More than one applicant provides a proposal for a given District Grant Area and OBO negotiates with all to secure best and final offers that deliver the best pricing prior to determining final scoring.

- A grant applicant proposes to serve a number of different District Grant Areas and OBO negotiates lower pricing with the applicant based on the potential award of multiple District Grant Areas.

In sum, OBO 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 to develop a broadband solution for 100 percent of unserved locations and the vast majority of underserved locations in Oregon.

OBO's plans for the Negotiation Phase are described in further detail below in the discussion of the Extremely High Cost Per Location Threshold.

5.1.3.5.1 Potential second round of applications

Following review of the applications, OBO may then undertake a subsequent grant round if OBO believes, based on the applications received in the first round, that varying some or all elements of the grant process would result in better outcomes. Without limitation, OBO may choose that, for District Grant Areas for which it received financially unattractive applications in the first round, or no applications at all, it will put those District Grant Areas back out for application, potentially based on these or other alternative parameters:

- To reach unserved locations only.

- To serve alternative percentages of eligible locations within a District Grant Area.

- To combine multiple District Grant Areas to seek better aggregated pricing.

The second round of applications may be conducted during the negotiation process or after it is concluded. As with the first round, OBO may choose to undertake negotiations with applicants following the receipt and review of applications.

If OBO is satisfied with the outcome of the first-round applications, it may elect not to proceed to a second-round process.

In sum, OBO 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.

5.1.3.5.2 Provisional awards and Final Proposal

Once OBO and the applicants have concluded successful negotiations, OBO will announce provisional awards under the agreed upon terms. These pending awards will be included in OBO's Final Proposal to be submitted to NTIA following a 30-day public comment period, as required by federal rules.

Upon NTIA approval of the Final Proposal, OBO will finalize the provisional awards through contract negotiation and execution with the applicants. Included in its formal contract with subgrantees, OBO will implement NTIA's recommended Sub-granting Accountability Procedures, which will include: 1) disbursement of funding on a reimbursable basis, to ensure completion of subsidized activities; 2) claw-back provisions to allow for the recoupment of funds in the case of broken commitments; and 3) timely subgrantee reporting mandates and robust monitoring procedures aligned with OBO's reporting schedule to NTIA.

If an applicant is provisionally awarded one or more projects and the awarded party fails to execute on all commitments—such as when the party is not willing to accept full responsibility of the entire award, or dissolution of the partnership in the case of an application by a consortium (see Section 5.12.5.3) where no party or parties are willing to assume responsibility for the entire project area—OBO reserves the right to declare the award in default and solicit alternate proposals from applicants of nearby project areas.

5.2 Overall timeline

The following is a tentative overall timeline for the full grant process:

Process element	Initiation date	Concluding date
Prequalification Phase		
Prequalification materials released	Day 1	
Prequalification workshop/webinar	Day 5	
Prequalification responses accepted by OBO	Day 5	Day 35
Review of prequalification materials, including curing as necessary	Day 35	Day 95

Process element	Initiation date	Concluding date
Announcement of prequalification determinations	Day 100	
Scoring Phase		
BEAD grant application materials, including District Grant Areas, released	Day 105	
BEAD grant application workshop/webinar	Day 110	
BEAD grant applications accepted by OBO	Day 110	Day 140
Review of BEAD grant application materials, including curing as necessary	Day 140	Day 200
Negotiation Phase		
Negotiation process and/or second phase grant window	Day 200	Day 260
Review of BEAD grant application materials, including curing as necessary	Day 260	Day 320
Final Proposal		
Announcement of provisional BEAD determinations, subject to NTIA approval of the Final Proposal, and release of the Final Proposal draft for public comment	Day 325	
Submission to NTIA of the Final Proposal	No more than 365 days following approval by NTIA of the Initial Proposal Volume II	

5.3   Scoring methodology

5.3.1   Prequalification Phase

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

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

Should reviewers find the data submitted to be insufficient or unclear, OBO 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 and to include full documentation.

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

In the Prequalification Phase, OBO 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.

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.

- 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 chief technology officer (CTO) and

contractor oversight team with the relevant certifications (both management and non-management) for deployment projects as mandated by state and federal law.

- 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 voice, broadband, and/or electric transmission or 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 voice and/or broadband service, certification that the applicant has filed FCC Form 477s and Broadband DATA Act submissions, if applicable, as required during the relevant time period, and otherwise has complied with FCC requirements.

- If the applicant has not provided broadband service or has operated only an electric transmission or distribution service, the applicant will be asked to submit qualified operating or financial reports that it has filed with the relevant financial institution for the relevant time period along with a certification that the submission is a true and accurate copy of the reports that were provided to the relevant financial institution.

Legal compliance

- A legal opinion from the applicant's legal counsel attesting to compliance and detailing any violations or pending court proceedings that could interfere with the applicant's ability to satisfy its obligations under a grant agreement.

- 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 the National Institute of Standards and Technology (NIST) Framework for Improving Critical Infrastructure Cybersecurity (currently Version 1.1)[12] and the standards and controls set forth in Executive Order 14028[13] 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 OBO following execution of grant agreements, and if the applicant makes any substantive changes to the plan, a new version will be submitted to OBO 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 NIST IR 8276, Key Practices in Cyber Supply Chain Risk Management: Observations from

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[12] "Framework for Improving Critical Infrastructure Cybersecurity," NIST, Version 1.1, April 16, 2018, https://nvlpubs.nist.gov/nistpubs/CSWP/NIST.CSWP.04162018.pdf.
[13] "Executive Order on Improving the Nation's Cybersecurity," White House briefing room, May 12, 2021, https://www.whitehouse.gov/briefing-room/presidential-actions/2021/05/12/executive-order-on-improving-the-nations-cybersecurity/.

Industry.[14] and related SCRM guidance from NIST, including NIST 800-161, Cybersecurity Supply Chain Risk Management Practices for Systems and Organizations.[15] 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 OBO 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 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.

In addition, as part of the prequalification process, consistent with NTIA's requirements, OBO will require the following materials regarding **Fair Labor Practices**, which will be part of both prequalification and later grant application scoring:

1. Certification from an Officer/Director-level 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

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[14] Boyens, Jon, et al., "Key Practices in Cyber Supply Chain Risk Management: Observations from Industry," NIST, February 2021, https://doi.org/10.6028/NIST.IR.8276.

[15] Boyens, Jon, et al., "Cybersecurity Supply Chain Risk Management Practices for Systems and Organizations," Rev. 1, May 2022, https://doi.org/10.6028/NIST.SP.800-161r1.

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.

5.3.2   Scoring Phase

OBO's proposed scoring rubric is consistent with NTIA's rules, which specify three primary criteria that together must account for 75 percent of scoring (see Section 5.3.2.1 below), as well as secondary criteria that are based on Oregon's own public policy priorities.[16]

OBO will begin its evaluation of proposals by ensuring that the applicants have provided all required materials. Incomplete applications will not be considered.

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

Consistent with NTIA requirements, some scoring criteria are different for "Priority Broadband Projects" (end-to-end fiber) and "Other Last-Mile Broadband Deployment

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[16] "Notice of Funding Opportunity: Broadband Equity, Access, and Deployment Program," NTIA, https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf, pp. 43-46.

Projects" (other technologies).[17] The discussion below notes the differing criteria or factors where relevant; where clear differentiation is not discussed, that scoring criterion will be identical for both Priority Broadband Projects and Other Last-Mile Broadband Deployment Projects.

5.3.2.1   Primary criteria

Minimal BEAD program outlay: up to 40 points

OBO will score applications based on the grant amount requested relative to OBO's benchmark pricing analysis for 100 percent coverage for the service area proposed by the applicant. The benchmark pricing analysis will be based on OBO's own cost model and other data. Points will be awarded based on the following formula:

a. Proposals that are equal to the benchmark will receive 20 out of a possible 40 points.

b. Proposals that are equal to or less than 20 percent of the benchmark will receive the full 40 points.

c. Proposals that are between 20 percent and 100 percent of the benchmark will receive 20 points **plus** the total of 20 multiplied by the percentage discount off the benchmark proposed for grant funding.

- Illustration: proposals for 50 percent of the benchmark (50 percent discount) will receive 30 points: 20 plus 10 (50 percent of 20).

- Illustration: proposals for 90 percent of the benchmark (10 percent discount) will receive 22 points: 20 plus 2 (10 percent of 20).

d. Proposals that are more than the benchmark will receive 20 points **minus** the total of 20 times the percentage above the benchmark proposed for grant funding.

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[17] NTIA's guidance documents provide detail regarding NTIA's scoring requirements for these two types of projects. "BEAD Program Initial Proposal Guidance," NTIA, October 2023, https://broadbandusa.ntia.doc.gov/sites/default/files/2023-10/BEAD_Initial_Proposal_Guidance_Volumes_I_II_10-2023.pdf.

- Illustration: proposals for 50 percent more than the benchmark will receive 10 points: 20 minus 10 (50 percent of 20).

- Illustration: proposals for 10 percent more than the benchmark will receive 18 points: 20 minus 2 (10 percent of 20).

- Proposals that exceed the benchmark by 100 percent or more will receive zero points.

Affordability: up to 20 points

For Priority Broadband Projects: Applications will be scored based on applicants' commitments to offer, for the lifetime of the asset, a symmetrical 1 Gbps service to BEAD-funded locations that will not exceed the cost of the same service in any other location in Oregon or surrounding states in which the applicant offers service. Full points will be awarded to applications that make this commitment in clear and unambiguous terms, without caveats that compromise the commitment. Applications that do not make a clear commitment will receive zero points.

For Other Last-Mile Broadband Deployment Projects: Applications will be scored based on applicants' commitments to offer, for the lifetime of the asset, 100/20 Mbps to BEAD-funded locations that will not exceed the cost of the same service in any other location in Oregon or surrounding states in which the applicant offers service. Full points will be awarded to applications that make this commitment in clear and unambiguous terms, without caveats that compromise the commitment. Applications that do not make a clear commitment will receive zero points.

Fair labor practices: up to 15 points

Up to 15 points will be awarded based on (1) a demonstrated history of compliance with federal labor laws; (2) demonstrated commitments to future compliance with federal labor laws; and (3) the quality and contents of labor practice-related items submitted during the Prequalification Phase.

New entrants without a record of labor and employment law compliance will receive points in this category based on specific, concrete commitments to strong labor and employment standards and protections going forward.

Up to 10 points will be deducted for official labor relations complaints or violations in the five years preceding the date of application.

5.3.2.2   Secondary criteria

Speed to deployment: up to 2 points

Based on the federal BEAD rules, all funded projects must be complete within four years following execution of grant awards. Applicants will be awarded 1 point if they can demonstrate that they will deploy the network within three years of award. Applicants will be awarded 2 points if they can demonstrate that they will deploy a network within two years of award.

Community/local government/tribal government support: up to 10 points

OBO will award up to 10 points to applicants for demonstrations of support from local governments, tribal governments (for applications that propose to build on tribal lands), and other community institutions and stakeholders. 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 can include such items as letters, board or council resolutions, commitments of funding, and commitments to purchase services if the project is funded.

Speed of network and other technical capabilities: up to 13 points (for Other Last-Mile Broadband Deployment Projects only)

Pursuant to NTIA rules, applications will be scored based on applicants' demonstration of the speeds, latency, and other technical capabilities of the technologies proposed for projects that are not Priority Broadband Projects (i.e., that use technologies other than fiber-to-the-premises).

NTIA requires assigning greater weight to those applications that propose to use technologies that exhibit greater ease of scalability with lower future investment and whose capital assets have longer useable lives over those proposing technologies with higher costs to upgrade and shorter capital asset cycles.

Accordingly, OBO will award up to 13 points to Other Last-Mile Broadband Deployment Projects that can demonstrate the following:

- **Speed of network and sufficient capacity**: 6 points will be awarded to applications that demonstrate that the proposed project can reliably deliver 100/20 Mbps broadband services to at least 80 percent of unserved and underserved locations in the proposed service area. Applications must detail the selection of technology and particular hardware configurations in both backbone and last-mile segments, including any assumptions and/or calculations around capacity oversubscription, limitations imposed by terrain, and geographic constraints, to definitively demonstrate the connection speed and network capacity requirements can be met. Applicants that do not make this demonstration will be awarded zero points for Speed of Network and Sufficient Capacity.

- **Scalability**: 5 points will be awarded to applications that demonstrate that the proposed infrastructure will be capable of delivering higher speeds in the future, including that the infrastructure will be scalable with respect to capacity to support higher speeds to 80 percent of currently unserved and underserved locations in the proposed service area. Applications must detail the specific approach to scalability both in backbone and last-mile segments of the network, such as increased wireless base station sectorization, hardware upgrades, addition of towers, etc., to include projected capital costs per location associated with upgrades necessary to deliver increased service level thresholds of the applicant's choosing (i.e., 100/100, 500/100, 1000/1000). Applications that do not make this demonstration will be awarded zero points for Scalability.

- **Cost-effective future upgrade and capital investment path**: Up to 2 points will be awarded to applications that demonstrate a cost-effective projected technical upgrade path, including a capital investment timeline and costs for equipment refresh and replacement cycles.

Connecting CAIs at a gigabit symmetrical: up to 13 points (for Priority Broadband Projects only)

OBO recognizes, as is discussed throughout this document, that the BEAD allocation for Oregon is insufficient to reach the third statutory priority for deployment, community anchor institutions.

However, the state of Oregon places a high value on best-in-class, future-proof connectivity to CAIs statewide. In particular, the state recognizes the necessity of end-to-end fiber connectivity to community anchors such as government buildings, libraries, schools, higher education, and institutions that provide internet services to the public.

For these reasons, OBO will award up to 13 points to applicants that demonstrate that, at no additional cost to the BEAD program, they will deploy fiber infrastructure to connect CAIs that currently are unserved or underserved as determined through the Challenge Process in early 2024.

All 13 points will be awarded to an applicant that demonstrates that it will provide fiber connectivity to all currently unserved or underserved CAIs, identified through the Challenge Process, in the District Grant Area it proposes to serve.

A percentage of the 13 points will be awarded based on the ratio of CAIs that the applicant commits to connect, at a gigabit symmetrical, relative to the total unserved and underserved anchor institutions that result from the Challenge Process.

5.3.3 Scoring rubric

The Initial Proposal will include a scoring rubric in Appendix E based on NTIA's model. An outline of OBO's proposed scoring rubric is provided below, first for Priority Broadband Projects and then for Other Last-Mile Broadband Deployment Projects:

Scoring Criteria for Priority Broadband Projects

Primary Scoring Criterion (all are mandatory under NTIA rules)	Points available
Minimal BEAD program outlay	40
Affordability	20
Fair labor practices	15
Primary Criteria subtotal	75
Secondary Criteria	
Speed to deployment (mandatory under NTIA rules)	2
Community/local government/tribal government support	10
Connecting CAIs	13
Secondary Criteria subtotal	25
Total	100

Scoring Criteria for Other Last-Mile Broadband Deployment Projects

Primary Scoring Criterion (all are mandatory under NTIA rules)	Points available
Minimal BEAD program outlay	40
Affordability	20
Fair labor practices	15
Primary Criteria subtotal	75
Secondary Criteria	
Speed to deployment (mandatory under NTIA rules)	2
Community/local government/tribal government support	10
Speed of network and other technical capabilities (mandatory under NTIA rules)	13
Secondary Criteria subtotal	25
Total	100

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

OBO recognizes the statutory BEAD requirement for unserved locations as first priority, underserved locations as second priority, community anchor institutions as third priority, and non-deployment activities as the fourth priority. This

prioritization is mandated by the Infrastructure Investment and Jobs Act (IIJA), which authorized and funded the BEAD program.

Oregon's internal modeling suggests that the funds available may provide for fiber-to-the-premises to the majority of unserved and underserved locations, with the remainder served with alternative technologies. However, OBO believes it is possible that Oregon's BEAD allocation will be insufficient to fund deployment to all underserved locations and that it is probable that the allocation will be insufficient to fund deployment to any community anchor institutions.

OBO thus proposes to focus the BEAD funding on unserved and underserved locations. If, however unlikely, all unserved and underserved locations can be served with fiber-to-the-premises based on the results of the BEAD application process described above, OBO reserves the opportunity to negotiate with applicants and/or undertake an additional application round with remaining BEAD funds for service to community anchor institutions.

If the BEAD funds are insufficient to deliver fiber to all unserved and underserved locations, applications to serve high-poverty areas will be prioritized through the additional points proposed for scoring applications that propose to serve such areas.

5.5   Prioritization of non-deployment projects

Not applicable. Both OBO's own modeling and the data released by NTIA demonstrate that there will not be sufficient BEAD funds to meet all the statutory priorities and have funds leftover for non-deployment projects.

5.6   Environmental and historic preservation and Build America, Buy America Act compliance

OBO plans to highlight issues of historic preservation, environmental preservation, and Build America, Buy America (BABA) 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.

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

5.7 Project area definition

As described above in Section 5.1.3.2.1, OBO plans to define project areas based on District boundaries (see Figure 3) and to award funds through a process of requiring applications for all, or almost all, unserved and underserved locations within District boundaries.

Figure 3: Map of Oregon school district boundaries
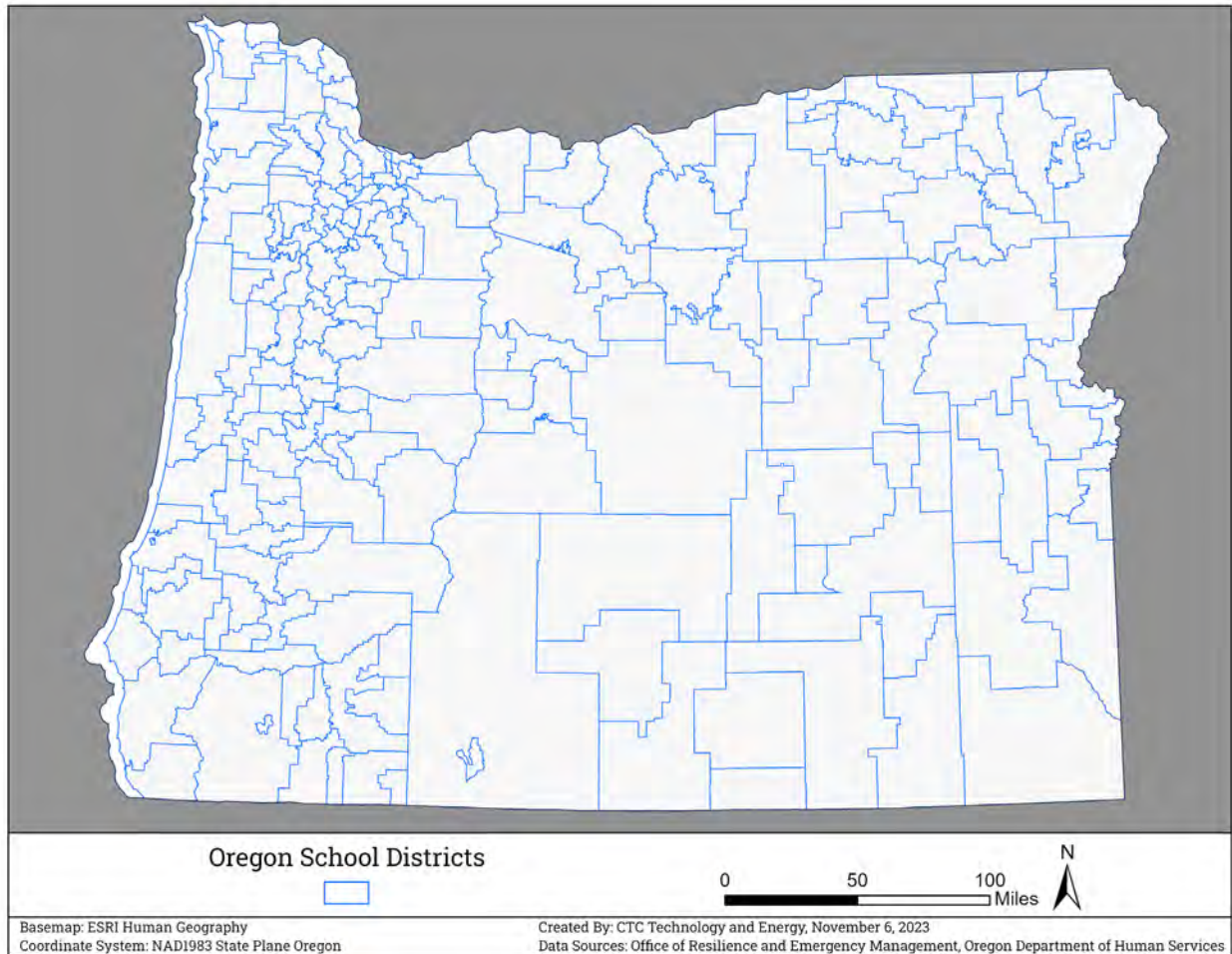
OBO anticipates offering applicants the opportunity to propose projects at the school district (District) level, such that all applications will be required to propose to build

to unserved and underserved locations across a full District (each District and its eligible locations will hereinafter be referred to as District Grant Area). Each school district will constitute a District Grant Area, except that given the size of Klamath County and the small number of school districts, OBO anticipates dividing the county into District Grant Areas by Klamath County Public School Attendance Areas, as created by Klamath County IT/GIS, in order to provide more manageably-sized areas.

This approach is designed to enable efficient application review with minimal application overlap or need for deconfliction.

This is described in detail in Section 5.1.3.2.1 above.

In addition, given the large size of the state of Oregon and of many of the Districts, OBO anticipates that some Districts may benefit from two or more providers building broadband in parts of the District, and that allowing applicants to provide proposals for parts of District Grant Areas could make it easier for smaller and non-traditional applicants to participate in the BEAD program. At the same time, OBO prefers not to subdivide District Grant Areas itself because its subdivision decisions may not align with the preferred service deployment boundaries of potential applicants.

OBO therefore will accept applications from groups of applicants that choose to apply together, in consortium, to cover specific District Grant Areas.

In a consortium application, one entity must serve as the lead applicant and designated recipient of the award, taking responsibility for all agreements and enforceable commitments of the grant program as required by OBO and NTIA. The consortium must demonstrate in its application how it is organized and how it will meet the requirements of the grant program. It must also demonstrate that the lead applicant is authorized to make commitments on behalf of the other members of the consortium. Furthermore, all consortium members must provide all relevant information during the Prequalification and Scoring Phases of the grant program.

If OBO makes a provisional award to a consortium and the lead applicant declines to accept the obligations of the award, the entire provisional award will be cancelled, and OBO will seek an alternative solution for that District Grant Area.

5.8 Approach to subsequent funding rounds if no proposals are received

As described above, in the event no proposal (or no viable proposal) is received for eligible locations, OBO plans to undertake one or both of the following processes, depending on the circumstances.

1. First, OBO anticipates undertaking negotiations with one or more applicants that have applied for adjacent or nearby District Grant Areas to determine whether they would be willing to take on commitments to fund those locations, based on costs that will be negotiated between the applicant and OBO. OBO may choose to negotiate with one or more applicants to maximize the chances of determining a solution for those locations.

2. Second, OBO anticipates that, depending on circumstances, it may choose to undertake a second (and possibly third) competitive round to attract applications for those District Grant Areas.

Both with respect to the negotiations and potential subsequent grant rounds, OBO anticipates that it may change the parameters so as to secure the best possible outcome given available grant funds and applicant interest. For example, OBO may negotiate or seek new applications for unserved locations only or for smaller geographic units than a full District Grant Area.

5.9 Projects on tribal lands

Pursuant to NTIA requirements, OBO does not intend to award any funds for deployment on tribal lands without written approval from the tribal authorities who hold sovereignty over those lands.

Applicants will be encouraged to provide evidence of tribal consent during the Prequalification Phase. While the lack of pre-application tribal consent will not disqualify an applicant from moving forward, OBO anticipates that during the Negotiation Phase of the grant program, it will request that applicants provide written support from tribal authorities if such documents has not already been provided.

In the event that a presumptive awardee cannot provide documentation of support and approval from tribal authorities, OBO will use the Negotiation Process to engage

with other applicants and/or to meet with tribal authorities to understand their preferences.

5.10 Identifying the Extremely High Cost Per Location Threshold

OBO will determine the Extremely High Cost Per Location Threshold (EHCPLT) once it has received all grant applications and will use it to efficiently allocate its BEAD funding based on the applications received. OBO will determine the EHCPLT through a process that will involve analysis of the pricing and associated data provided by applicants through the application process, including feedback and outcomes from the Negotiation Phase of the process.

Based on these inputs, OBO will develop the EHCPLT in order to determine at what cost per unit (if any) fiber-to-the-premises is too costly to achieve the critical BEAD goal of achieving 100 percent broadband coverage with the funds provided in the BEAD allocation.

5.11 Utilizing the EHCPLT

Given federal requirements to achieve 100 percent broadband coverage statewide, while maximizing fiber-to-the-premises, OBO proposes the following approach to the EHCPLT and negotiation processes:

1. OBO will review applications to determine whether there exist sufficient funds to fund all the highest-scoring Priority Broadband applications for 100 percent coverage in all District Grant Areas. If this is the case, there will be no need for the EHCPLT.

2. If OBO determines that there are insufficient funds, it will calculate the EHCPLT through the following analysis:

    a. OBO will use its broadband design and business case modeling tool to algorithmically calculate an EHCPLT across the state using the following data:

        i. The cost of the highest-scoring 100 percent Priority Broadband (end-to-end fiber) proposal for each District Grant Area that receives a Priority Broadband proposal

ii. For those District Grant Areas that do not receive a Priority Broadband proposal, the cost of the highest-scoring non-Priority Broadband proposal

iii. For those District Grant Areas that do not receive any proposal, the cost, at standard consumer pricing, of satellite equipment and installation for all unserved and underserved locations

b. The model will combine these data on a statewide level, then iteratively reduce the percentage of fiber by identifying the costliest locations and substituting the proposed per location costs for non-fiber technology. The iteration process will continue until the total BEAD grant funding needed matches Oregon's BEAD allocation.

c. OBO will then review the District Grant Areas after the final iteration and calculate, for the District Grant Areas for which the model assigns fiber to 99 percent or more locations, the average grant cost per location for each District Grant Area. The highest of these will be defined as the EHCPLT. **The EHCPLT will thus represent the highest average fundable cost per location, averaged across a District Grant Area, that can then be used as a tool to determine which District Grant Areas received 100 percent fiber proposals that can be funded within Oregon's BEAD allocation and which will require either negotiation or consideration of (1) Alternative Percentage proposals and/or (2) non-Priority (non-fiber) proposals.**

d. OBO will then tentatively plan to provide awards to the highest-scoring 100 percent Priority Broadband application for each District Grant Area for which the average grant cost per location is below the EHCPLT.

3. For those District Grant Areas with Priority Broadband applications that are left, OBO will evaluate the proposed pricing for the category of Alternative Percentages and will calculate an average BEAD amount per location for each Alternative Percentage proposal.

4. For each of the remaining District Grant Areas with Priority Broadband applications, OBO will tentatively plan to provide awards to the highest-

scoring application at the highest Alternative Percentage bid that falls below the EHCPLT.

5. If it is not possible to secure through this process Priority Broadband for all District Grant Areas because some have no Priority Broadband Alternative Percentage proposals lower than the EHCPLT, OBO will then negotiate with the Priority Broadband bidders to reduce their average per location proposal below the EHCPLT, as follows:

   a. Beginning with the costliest per location District Grant Area, OBO will negotiate with the applicant that submitted the highest-scoring Priority Broadband proposal for that District Grant Area the opportunity to revise its proposal so that it does not exceed the EHCPLT.

   b. If the applicant is unable to sufficiently reduce its cost per location, OBO will then negotiate the same with the other applicant(s) for that District Grant Area, in order of highest-scoring application.

   c. OBO will undertake this process with respect to all remaining District Grant Areas that received Priority Broadband applications and where all 100 percent and Alternative Percentage proposals exceed the EHCPLT.

6. If it is not possible to secure through the process above awards for Priority Broadband technology, OBO will then apply the same process to evaluate applications that propose an alternative, non-Priority Broadband technology that meets the BEAD Program's requirements for Reliable Broadband Service.

7. If it is not possible, through the process above, to secure awards for alternative, non-Priority Broadband technology that meet the BEAD Program's requirements for Reliable Broadband Service, OBO will then apply the same process to evaluate applications for non-Priority Broadband technologies that do not meet the BEAD Program's requirements for Reliable Broadband Service (while otherwise satisfying the Program's technical requirements).

8. For all District Grant Areas for which no satisfactory application can be funded, as well as for locations that are excluded from funding under the

Alternative Percentages process, OBO may undertake an additional grant round and seek alternative proposals or may otherwise seek alternative solutions for securing broadband to those areas and locations.

5.12   Requiring prospective subgrantees to certify their qualifications

OBO 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 online portal that is part of OBO's grants management platform. Documentation will then be reviewed 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.

OBO'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.

5.12.1 Officer certifications

As part of the Prequalification Phase, OBO will require a certification from an officer or director 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 or director 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, OBO will require certifications from the applicant that it will have sufficient financial resources to provide the pledged

matching funding as required by the program rules.[18] 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.

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

5.12.2 Letter of credit

Note: On November 1, just a few days before OBO released this draft document for public comment, NTIA provided new guidance and a waiver regarding the letter of credit requirement.[19] OBO seeks public comment regarding how to address the waiver and new requirements. The language below was developed based on NTIA's original guidance, which is no longer current as of November 1.

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)), OBO will implement a letter of credit process using the framework adopted by the Federal Communications Commission for its Rural Digital Opportunities Fund program (47 C.F.R. §54.804I).

OBO will have a model letter of credit posted on its website as part of the BEAD application materials and will discuss the requirements for a letter of credit during its Prequalification and Scoring Phase application workshop and additional technical assistance outreach.

OBO's letter of credit process will require program applicants to satisfy three steps.

As part of the Prequalification Phase, OBO will require applicants to certify that they are aware of and understand the letter of credit obligations and processes for the

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[18] The BEAD program requires a 25 percent match for all awards, other than for locations designated by NTIA as "high cost," for which there is no match requirement. More detail on NTIA's match requirements can be found in Section III. B. of the BEAD NOFO.

[19] "BEAD Letter of Credit Waiver," BroadbandUSA (NTIA), November 1, 2023, https://broadbandusa.ntia.gov/funding-programs/policies-waivers/BEAD-Letter-of-Credit-Waiver.

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. OBO will define a "qualified financial institution" as one that meets the program rules for the FCC's RDOF program (47 C.F.R. §54.804I(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. §54.804I(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 90 days of the notification of the award and prior to the finalization of the final award agreement. OBO 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.

5.12.3 Financial statements

In addition to the certifications discussed above, OBO will require potential subgrantees to submit documentation of their financial capabilities. During the Prequalification Phase, applicants will be required to submit one year 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, 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 a Prequalification Phase applicant does not prepare audited financial statements in the ordinary course of business, it must describe the circumstances and reasons for the lack of audited financials and provide a year of financial statements that contain substantially the same level of detail and information. A Prequalification Phase applicant without audited financial statements must also commit to providing a year of audited financials within eight months 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 similar information and that will allow OBO 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, OBO 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.

5.12.4 Financial sustainability

During the Scoring Phase, OBO 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, OBO 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.

Applicants will be allowed to upload additional documentation that they believe will complement the template information and will present a fuller picture of the applicant's financial capabilities and the proposed project's financial sustainability.

The budget narrative template 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.

OBO 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. OBO will provide additional technical assistance and Frequently Asked Questions materials to support this element of an applicant's submission.

Applicants will also submit templates to present a pro forma business case analysis to present their financial projections to demonstrate sustainability. These templates ask for 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. The template also requests a proposed

project budget with standard categories that correspond with the cost categories in the template budget narrative.

By standardizing this application requirement through the use of templates, OBO can review the financial sustainability of each project in a more consistent, fair, and transparent manner.

OBO 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.

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

OBO 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.

5.12.5 Managerial capability

OBO will require potential subgrantees to demonstrate managerial capability to successfully complete and support a BEAD funded broadband network. OBO 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. OBO 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.

5.12.5.1 Key management personnel resumes

During the Prequalification Phase, applicants 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.

OBO will expect applicants 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.

5.12.5.2 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 Prequalification Phase applicant should describe any recent or expected changes to the organization's structure, processes, and planning that may impact its BEAD project efforts.

5.12.5.3 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 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.

Applicants may register and provide proposals as consortia of two or more service providers. In such cases, a lead applicant must be designated and will be held responsible for all program deployment provisions, performance requirements, and other enforceable commitments. All consortia members must meet all certification requirements as part of a consortium application. OBO reserves the right to allow transfer of awarded areas to, and execute agreements regarding enforceable commitments with, other consortia members.

All applicants, partnerships, and consortia members must certify that there is no collusion, bias or conflict of interest or provide ownership and partnership disclosures as outlined in 47 CFR 1.2105(a). This includes the certification that no consortium member provides or participates in other proposals outside of the consortium. All applicants, partnerships, and consortia members must likewise disclose foreign interest if pertinent.

All applicants must certify that they will not engage in prohibited communications as defined in 47 CFR 1.2105(a) starting from the date of submission of preregistration application until final award.

An applicant to the Prequalification Phase that is a new entrant 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.

5.12.5.4   Project-specific managerial requirements

While potential subgrantees will be expected to demonstrate their managerial capability during the Prequalification Phase, applicants will also be required to provide additional data and descriptions of their management capabilities to specifically address any unique needs of the proposed project that is the subject of

the Scoring Phase application. This demonstration of project-specific management 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. OBO 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.

5.12.6 Technical capabilities

During the Prequalification Phase, applicants 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 OBO 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.

5.12.6.1 Officer and director certifications

Prequalification Phase applicants will be required to provide certifications from an officer or director of the company that they are fully and properly licensed in Oregon 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.

OBO 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.

5.12.6.2   Certifications and licenses

In addition to the certifications from an officer or director, Prequalification Phase 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 Oregon. 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 OBO to validate the reported data.

Prequalification Phase 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. Oregon 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 9.

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.

5.12.6.3   Narrative description

Prequalification Phase 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.

5.12.6.4   Scoring Phase – project-specific certifications

As part of the Scoring Phase application process, OBO 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.

5.12.6.5   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 5.3 of this Initial Proposal Volume II) 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 fiber routes, interconnect points, and required right of way usage.

- Narrative descriptions of the geographic location, characteristics of the local community, anticipated labor requirements, and other related information that will provide OBO 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. A template for this requirement, hereinafter referred to as the Technical Specifications Template, will be provided in the application materials.

- 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. A template for this requirement, hereinafter referred to as the Project Timeline Template, will be provided in the application materials.

- 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.

OBO 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.

OBO 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, OBO intends these showings to be complementary and not duplicative. Applicants can reference attachments and information provided in other parts of the application.

5.12.6.6   Certification of a Professional Engineer

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

OBO 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.

5.12.7 Compliance with applicable laws

OBO's Prequalification Phase will require applicants to provide a legal opinion by an attorney licensed to practice law in Oregon 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, OBO will reference the types of laws that Prequalification 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 OBO or NTIA may develop. OBO 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, OBO will require compliance with the most stringent obligations and requirements to the extent those obligations are not preempted by applicable federal law.

OBO will also require Prequalification Phase 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 applicant's plans to mitigate the impact of any noncompliance on its participation in the program.

OBO will further require applicants in the Prequalification Phase 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 Safety and Health Act and related state and federal regulations.

As part of this showing, OBO 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 an applicant'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.

5.12.8 Organizational capability

5.12.8.1   Experience offering voice and broadband services
During the Prequalification Phase, OBO will require applicants to provide a certification by an officer or director 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 voice, broadband, or electric

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 Prequalification Phase 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 voice and 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.

5.12.8.2 Compliance with FCC regulations

Prequalification applicants will also be required to provide a separate certification that they are in compliance with any applicable federal laws and regulations implemented by the Federal Communications Commission (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 noncompliance with applicable FCC regulations, and a description of any efforts by the organization to cure the noncompliance or violations of the applicable regulations.

5.12.8.3 Electric service providers and new entrants

If the Prequalification Phase applicant is a provider of electricity transmission or distribution services without two years of experience offering communications services or is a new entrant to the communications market, the applicant will be required to provide additional documentation of its operational capabilities to successfully complete and operate a BEAD funded project.

Such documentation can be considered if it can substantiate the expertise and resources of the organization to deploy and operate a broadband network in

compliance with BEAD program requirements. Such documentation could include additional operational or financial reports that the electric service provider or new entrant may have originally submitted to a financial institution or applicable regulatory agency. These additional reports must be accompanied by a certification from an officer or director of the organization that they are true and correct copies of the reports originally provided to the financial institution or regulatory agency.

Electric services providers and new entrants will also be required to provide documentation of plans to acquire additional resources to increase the organizations' organizational capabilities, including third party contractors and stakeholders with relevant operational expertise, to the extent that they cannot demonstrate that they have already acquired those capabilities.

5.12.9 Ownership information

During the Prequalification Phase, OBO 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 Federal Communications Commission that can be found at 47 C.F.R. §1.2112(a)(1)-(7). OBO 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.

Participants 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 applicants that report to the FCC, OBO 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.

OBO will also verify the submitted information against relevant business licensing requirements for the state of Oregon and will require applicants to explain any discrepancies or inconsistencies between the two sets of reported data.

This requirement is critical for OBO, and NTIA, to uphold their commitments to fairness and transparency under the BEAD program. Ownership information for each prospective subgrantee will allow OBO to have a full and complete picture of the applicants 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.

5.12.10 Information on other public funding

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

OBO 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 applicant has committed over the term of these projects.

Participants 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 OBO's own broadband grant programs, as well as any state or local universal service or broadband deployment funding program.

As part of the Prequalification Phase, OBO will provide a template, hereinafter referred to as the Other Public Funding Template, that applicants must complete. Participants will be required to use the Other Public Funding Template to provide the requested information for each publicly funded broadband deployment project

where the applicant is planning to submit an application for funding, has an application pending, has been awarded public funding, or has committed to completing a project. Participants will also be required to include information about any publicly funded broadband projects for their affiliates and parent company.

For each current publicly funded broadband project, OBO will require Prequalification Phase 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 applicant or its affiliates.

6. Non-deployment subgrantee selection (Requirement 9)

OBO does not anticipate having non-deployment subgrantees. NTIA allocated $688,914,932.17 to Oregon under the BEAD program to help close the broadband gap in the state and to cover administrative and programmatic efforts to manage the program. The state's estimated cost to reach unserved locations exceeds its BEAD allocation so OBO does not anticipate reaching its underserved locations, ensuring sufficient CAI availability, or having additional funds for other non-deployment activities.

If, unexpectedly, the state has 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, OBO will consider supporting additional non-deployment activities related to the following:[20]

1. User training with respect to cybersecurity, privacy, and other digital safety matters.

2. Remote learning or telehealth services/facilities.

3. Digital literacy/upskilling (from beginner level to advanced).

4. Computer science, coding, and cybersecurity education programs.

5. Implementation of digital equity plans in the state (to supplement, but not to duplicate or supplant, planning grant funds received by the Eligible Entity in connection with the Digital Equity Act of 2021).

6. Broadband sign-up assistance and programs that provide technology support.

7. Multilingual outreach to support digital navigator activities that support issues of both adoption and digital literacy.

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[20] These activities are identified as eligible non-deployment uses in the BEAD NOFO, p. 39.

8. Education for incarcerated individuals to promote pre-release digital literacy, job skills, online job acquisition skills, etc..[21]

9. Digital navigators.

10. Direct subsidies for use toward broadband subscription, where the Eligible Entity shows the subsidies will improve affordability for the end user population (and to supplement, but not to duplicate or supplant, the subsidies provided by the ACP or successor programs).

11. Costs associated with stakeholder engagement, including travel, capacity-building, or contract support.

12. Other allowable costs necessary to carrying out programmatic activities of an award, not to include ineligible costs described in Section V.H.2 of the NOFO.

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

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

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[21] These are permitted in Oregon. "Electronic Communications," Department of Corrections, https://www.oregon.gov/doc/contact-inmate/pages/electronic-communications.aspx; "Education Programs," Department of Corrections, https://www.oregon.gov/doc/aic-programs/pages/education.aspx.

7. Eligible Entity implementation activities (Requirement 10)

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

Given that Oregon's estimated cost for universal service far exceeds its BEAD allocation to reach unserved locations, the state is not proposing any new initiatives.

However, if the state has funds remaining after funding all unserved, underserved, and CAI locations,[22] the state may consider implementing non-deployment activities itself through existing state programs. OBO may work with other agencies to support programs that include workforce development related to the deployment of broadband, digital equity or broadband adoption activities, and mapping or data collection.

OBO has only 365 days to oversee multiple rounds of funding to finalize its plans to issue provisional grants designed to deploy broadband infrastructure to all unserved and if possible, all underserved locations in Oregon. Given the limited time to administer the state's challenge process and manage multiple rounds of grants to maximize BEAD funding to unserved and underserved locations, the state is not likely to know if there are remaining funds until late in its Final Proposal process. As such, OBO will maximize the use of any remaining funds towards the activities noted above through existing state agencies and programs.

Additionally, Oregon plans to implement key grant activities without issuing a subgrant. These activities include:

- General administration of the BEAD award.

- Oversight of BEAD subgrantee applications and issuance.

- Other BEAD management processes:

  o Implementing the BEAD challenge process.

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[22] Although not formally classified by OBO as CAIs for the purposes of the BEAD program, the state may also evaluate potential connectivity options for locally identified emergency shelters and evacuation gathering points in the state, such as Red Cross Congregate Shelters, Tsunami Assembly Areas, and community-identified Commercial Points of Distribution (CPOD).

- o Managing the processes for subgrantee applications and issuance.

- o Obtaining software to manage both processes.

- o Overseeing subgrantee compliance.

8. Labor standards and protection (Requirement 11)

This section explains how OBO 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.

8.1 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, OBO will require the following from all applicants:

1. Certification from an Officer/Director-level 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. Discussion of the potential subgrantee's workforce plan, including information on training and safety, job quality, local hire and targeted hire, accountability and subcontracting practices, and ongoing operational workforce.

4. 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.

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

6. Discussion of job quality considerations as part of the applicant's workforce development strategies.

7. Discussion of track record and commitment to maintaining high standards of workplace safety practices, training certification or licensure for all relevant workers, and compliance with state and federal workplace protections.

8. 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 Oregon state labor and employment laws.

9. 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, OBO 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 OBO's evaluation of these considerations, the applications will be placed into two categories: (1) for those applications 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, OBO 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.

8.2 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 OBO. 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.

In the event that successful applicants fail to meet the Program Requirements or Workforce Plan Data requirements, or otherwise falsify information regarding such requirements, OBO 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 OBO's website.

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

- Whether the workforce will be directly employed by the subgrantee/ISP or whether work will be performed by a subcontracted workforce.

- The entities that the subgrantee 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.

9. Workforce readiness (Requirement 12)

Oregon's success in executing broadband deployments under the Broadband Equity, Access, and Deployment (BEAD) program requires unprecedented collaboration across the public, private, and nonprofit sector, especially when it comes to fostering a well-trained and diverse Oregon workforce.

This section will outline the workforce needs that Oregon anticipates based on statewide broadband construction under the BEAD program and simultaneous broadband construction enabled by Capital Projects Fund (CPF) resources. Additionally, it will outline the state's approach to helping foster a robust, diverse workforce, document how OBO intends to meet the labor and workforce requirements in the BEAD NOFO and describe how BEAD deployments will benefit and work in concert with the state's long-term economic development goals.

9.1 Establishing a baseline for the broadband construction sector in Oregon

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.[23]

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[23] 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

The following table, generated using data from the economic and labor market modeling tool Lightcast,[24] outlines the performance of these subsectors that are directly employed in telecommunications in Oregon 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.*)

Table 1: Performance of Oregon's broadband deployment sector (2018 – 2022)[25]

NAICS	Industry	2018 jobs	2022 jobs	2018–2022 change	2018–2022 % change	Avg. earnings per job – Oregon	Avg. earnings per job – national
237130	Power and Communication Line and Related Structures Construction	2,169	2,409	240	11%	$110,613	$108,440
335921	Fiber Optic Cable Manufacturing	128	385	257	201%	$104,315	$109,335
335999	All Other Electrical Equipment and Component Manufacturing	561	121	-440	-78%	$134,783	$122,081
516210	Media Streaming Distribution Services, Social Networks, and Other Media Networks and Content Providers	2,432	2,502	70	3%	$143,598	$239,987
517111	Wired Telecommunications Carriers	4,551	3,549	-1,002	-22%	$108,091	$126,979
517112	Wireless Telecommunications Carriers (except Satellite)	370	511	141	38%	$93,542	$126,584
	Total	**10,211**	**9,476**	**-735**	**-7%**	**$117,511**	**$147,794**

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

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).

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

[25] Source: Lightcast Datarun 2023.3.

- 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.

- The decline in *Wired Telecommunications Carriers* is likely the result of a number of factors, which may include 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 carriers such as T-Mobile, Verizon, and AT&T to deploy and market FWA technology for home internet service.

- The increase in *Fiber Optic Cable Manufacturing* reflects investments in manufacturing capacity and facilities in the state, signifying that the state's economy is benefitting from the growing national and international demand for fiber optic cables.

- The decrease in *Electric Equipment and Component Manufacturing* obviously represents a contraction of that sector in the state; however, manufactured goods will be bought from out of state regardless, and while contractions in this workforce do signify job declines, it is not necessarily as much of a barrier to future construction deployment as a lack of construction laborers, for example.

Overall, however, the state saw a reduction of over 700 jobs in industries related to broadband deployment during this timeframe, which was greater than national trends. Specifically, Oregon saw a 7 percent reduction in the broadband deployment workforce, while the same sector shrank by 4 percent nationally over the same timeframe. However, if workers can be enticed back into the sector into their previous occupations, or even into adjacent, in-demand roles—e.g., if workers who left occupations as *Wired Telecommunications Carriers* could be welcomed back into occupations related to *Power and Communications Line and Related Structures Construction*—the challenge of a recently contracting workforce can also be seen as an opportunity.

Wages for the people of Oregon in the broadband construction roles are varied in their relationship to national averages; for critical roles in construction, the state exceeds national averages, which makes it more likely that trained lineworkers will stay in Oregon rather than pursue higher wages elsewhere.[26]

9.2　Estimating the impact of BEAD on broadband construction jobs

This analysis estimates that the construction spending due to the BEAD program will be approximately $827 million, reflective of the entire BEAD allocation for Oregon plus 20 percent to approximate the BEAD matching funds across the portfolio. Because the construction is happening with significant overlap, this analysis also adds in anticipated spending in the state from Capital Projects Fund dollars directed to broadband—projected to be about $188 million including match. Taken together, the BEAD and CPF investment is expected to be approximately $1 billion.

The ultimate amount spent on construction may be higher or lower depending on how much match can be catalyzed for each deployment, with some projects leveraging 25 percent match or more, and some high-cost areas potentially necessitating much lower match; however, analyzing a total estimated construction of $1 billion for the state is proportionally accurate for the analysis at this time.

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.[27, 28]

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[26] Lightcast Datarun 2023.3.

[27] 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," (https://www.brookings.edu/wp-content/uploads/2021/03/Federal-infrastructure-investment.pdf) by Escobari, Gandhi, and Strauss, from June 2021, which is based on the work of Pollin et al. (2020).

[28] 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, p. 107.

Table 2: 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.

9.2.1 Broadband construction spending will require Oregon to grow their broadband construction workforce by over 800 jobs

Though many occupation categories may be involved in broadband deployment in some form or another, 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 in those categories to execute on a $827 million BEAD investment and a $1 billion total investment in broadband construction, and the proportional increase in workforce needed for each occupation.

Table 3: Estimated workforce requirements for broadband deployment occupations

Occupation	Currently employed in Oregon	$827 million BEAD investment		$1 billion BEAD + CPF investment	
		New workers needed	% increase	New workers needed	% increase
Project Management Specialists	17,608	78	0.44%	95	0.54%
Business Operations Specialists, All Other	14,731	38	0.26%	46	0.31%
Software Developers	20,016	55	0.27%	68	0.34%
Software Quality Assurance Analysts and Testers	2,667	8	0.30%	10	0.37%
Electronics Engineers, Except Computer	1,137	8	0.70%	10	0.88%

Occupation	Currently employed in Oregon	$827 million BEAD investment		$1 billion BEAD + CPF investment	
		New workers needed	% increase	New workers needed	% increase
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	9,310	63	0.68%	77	0.83%
Customer Service Representatives	30,241	87	0.29%	106	0.35%
Construction Laborers	12,527	175	1.40%	213	1.70%
First-Line Supervisors of Mechanics, Installers, and Repairers	5,987	56	0.94%	69	1.15%
Telecommunications Equipment Installers and Repairers, Except Line Installers	1,695	78	4.60%	98	5.78%
Electrical Power-Line Installers and Repairers	1,253	93	7.42%	115	9.18%
Telecommunications Line Installers and Repairers	962	113	11.75%	138	14.35%

Source: Lightcast Datarun 2023.3

Because this chart is based on job classifications regardless of industry (as in, 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. In other words, a significant number of lineworkers in the chart above are likely working for electric utilities rather than telecommunications companies.

However, this chart gives perspective as to the pool of people who *could* be drawn upon to work—and which categories may be hardest to supply as a percentage of the existing workforce. For example, though *Project Management Specialists* and *Telecommunications Equipment Installers and Repairers* will need approximately the same amount of new people (95 and 98, respectively), as a percentage, *Telecommunications Equipment Installers and Repairers* will need to grow by much more, suggesting that it may be significantly harder to fill those roles.

This analysis indicates that the most attention should be put to the categories that need to grow the most in total workers, like *Construction Laborers*, but also the categories that need to grow the most proportionally, including line installers and repairers with both electrical and telecommunications specialties. (The electrical

power-line installers are needed specifically for processes like make-ready work and pole replacements.)

Another factor that impacts how difficult it will be to grow the net workforce in a particular category is how concentrated that workforce is relative to a national baseline in a particular area. When there are 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 is 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 4: Occupations needed for broadband deployment (by percentage increase required)

Occupation	% occupational increase required	Location quotient
Telecommunications Line Installers and Repairers	14.35%	0.68
Electrical Power-Line Installers and Repairers	9.18%	0.79
Telecommunications Equipment Installers and Repairers, Except Line Installers	5.78%	0.77
Construction Laborers	1.70%	0.96
First-Line Supervisors of Mechanics, Installers, and Repairers	1.15%	0.83
Electronics Engineers, Except Computer	0.88%	0.80
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	0.83%	0.66
Project Management Specialists	0.54%	1.59
Software Quality Assurance Analysts and Testers	0.37%	1.03
Customer Service Representatives	0.35%	0.81
Software Developers	0.34%	0.99

Occupation	% occupational increase required	Location quotient
Business Operations Specialists, All Other	0.31%	1.02

Source: Lightcast Datarun 2023.3

While some of these impacted occupations are at or above national levels of concentration, there are several that are well below, indicating those roles may also be especially hard to fill as more broadband deployment demand is generated across the country. Of particular concern, again, are *Telecommunications Line Installers and Repairers* (LQ of 0.68), *Electrical Power-Line Installers and Repairers* (LQ of 0.79), and *Telecommunications Equipment Installers and Repairers* (LQ of 0.77). This reinforces the need for increased workforce development for those areas.

9.2.2 Characteristics of key workforce categories

Understanding how to create 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 retiring—both of which are trends in parts of the broadband deployment sector—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 5: Characteristics of key occupations impacted by broadband investment

Occupation	Currently employed in Oregon	2018 – 2022 % change	Median annual earnings	Annual turnover rate
Project Management Specialists	17,608	83%	$83,845	52%
Business Operations Specialists, All Other	14,731	95%	$65,582	50%
Software Developers	20,016	28%	$121,222	34%
Software Quality Assurance Analysts and Testers	2,667	40%	$81,453	40%
Electronics Engineers, Except Computer	1,137	-77%	$99,715	23%
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	9,310	1%	$65,416	70%
Customer Service Representatives	30,241	8%	$39,083	84%
Construction Laborers	12,527	-5%	$46,509	82%

Occupation	Currently employed in Oregon	2018 – 2022 % change	Median annual earnings	Annual turnover rate
First-Line Supervisors of Mechanics, Installers, and Repairers	5,987	28%	$75,462	50%
Telecommunications Equipment Installers and Repairers, Except Line Installers	1,695	-24%	$66,872	61%
Electrical Power-Line Installers and Repairers	1,253	8%	$114,587	34%
Telecommunications Line Installers and Repairers	962	34%	$56,618	56%

Source: Lightcast Datarun 2023.3

While most of these occupations have seen growth from 2018 to 2022, a few occupations have contracted in numbers, particularly *Telecommunications Equipment 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. While some workers may be enticed back out of retirement or brought back into the industry despite a previous contraction—and the state encourages employers to mount specific efforts to attract former workers— a large number may be out of the sector's workforce for good.

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. However, the intensity and physical demands of broadband construction jobs are unavoidable, and so higher turnover rates are to some extent unavoidable.

9.2.3   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 6: 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

A key workforce strategy for filling new roles, retaining existing employees, marketing career opportunities to new recruits, and leveraging on-the-job training opportunities is to define career pathways. Occupations that require more experience and qualifications can sometimes be filled by promotions, thereby transferring the process of bringing new people into the industry to roles that require less previous experience or fewer qualification requirements.

For example, a customer service representative will naturally learn the essential terminology, basic structure of an ISP and broadband network, and customer-facing soft skills through working in a customer service environment and responding to customer calls. With the right lexicon and customer-facing skills honed virtually, the training required to then start doing in-home installations becomes less onerous than training someone with no experience in ISP customer service. From there, that worker may wish to seek more training and transition again to various forms of higher-paid outside plant (OSP) work—such as fiber splicing—and after a few years, may become a supervisor of an OSP team.

9.2.4 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 the ability to fill open positions in broadband construction.

The chart below outlines the total number of unemployed workers in Oregon by major occupation category, the share of all unemployed people in Oregon represented by that category, and the comparable percentage of all unemployed people in that category for the nation. In other words, while 11 percent of unemployed people in Oregon are from the *Office and Administrative Support* occupations, 13 percent of people nationally who are unemployed are from that category, showing a proportionally smaller availability of those workers in Oregon compared to the nation.

Table 7: Unemployment for occupations impacted by broadband investment

Occupation	Unemployed in Oregon (April 2023)	% of state unemployment	% of national unemployment
Business and Financial Operations Occupations Project Management Specialists Business Operations Specialists, All Other	2,997	5%	6%
Computer and Mathematical Occupations Software Developers Software Quality Assurance Analysts and Testers	2,093	3%	3%
Architecture and Engineering Occupations Electronics Engineers, Except Computer	901	1%	1%
Sales and Related Occupations Sales Representatives of Services	4,311	7%	8%
Office and Administrative Support Occupations Customer Service Representatives	6,406	11%	13%
Construction and Extraction Occupations Construction Laborers	9,389	15%	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	2,080	3%	4%

Source: Lightcast Datarun 2023.3

This analysis suggests that in Oregon, some of the *Construction and Extraction* roles have higher proportional unemployment, and therefore open roles in that category may be easier to fill. Conversely, occupations in *Installation, Maintenance, and Repair*, which includes much of the telecommunications and construction roles that will be needed for BEAD deployments, comprise a low proportion of the unemployed workforce of the nation, and still a lower proportion of the workforce in Oregon, further indicating that these roles will be harder 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 8: 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	374	777
Business Operations Specialists, All Other	91	675
Software Developers	1,266	737
Software Quality Assurance Analysts and Testers	122	106
Electronics Engineers, Except Computer	36	30
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	135	648
Customer Service Representatives	1,138	2,095
Construction Laborers	237	1,000
First-Line Supervisors of Mechanics, Installers, and Repairers	245	288
Telecommunications Equipment Installers and Repairers, Except Line Installers	81	92
Electrical Power-Line Installers and Repairers	25	38
Telecommunications Line Installers and Repairers	32	48

Source: Lightcast Datarun 2023.3

One challenge of using job postings alone to quantify the hiring gaps is that hiring does not happen on a 1:1 ratio with postings. Within many occupations, more hiring is happening than job postings are listed, suggesting that hiring occurs via direct recruitment, re-hires, contractors, unions, career fairs, or directly from training or educational programs. In addition, it is common for large firms to use one posting to hire multiple roles at the same position and at the same time. That said, 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.

9.2.5 Current training programs at public institutions in Oregon

Training for broadband deployment happens in many ways and with a number of partnership configurations and program structures. The state wants to recognize that many successful programs have been established by unions and employers, such as the partnership between Key Line Construction and the International Brotherhood of Electrical Workers (IBEW) to utilize an apprenticeship training program to increase their workforce.

However, the demand for trained workers likely exceeds what any one sector could meet on their own, and developing a diverse and highly skilled workforce to meet the needs above requires a coordinated effort across the public and private sector. There are numerous examples of technical colleges that have created and grown programs to meet the needs of the construction workforce. Notable national examples that can be used as case studies for their innovative approaches include the Broadband Academy at Northwood Technical College in Rice Lake, Wisconsin,[29] and Bossier Parish Community College Fiber Technician Boot Camp in Bossier Camp, Louisiana;[30] however, robust training programs at public institutions are also present in Oregon already.

The following is a list of institutions and relevant graduates generated by accessing the Integrated Postsecondary Education Data System (IPEDS).[31]

Table 9: Broadband workforce training programs at public higher education institutions

Institution	Degrees	Associated occupations	County	Number of degrees granted in 2022
Blue Mountain Community College	Electrical and Power Transmission Installation/Installer, General	First-Line Supervisors of Mechanics, Installers, and Repairers; Electrical Power-Line Installers and Repairers	Umatilla County	5
Chemeketa Community College	Electrical and Electronics Engineering	Electronics Engineers, Except Computer	Marion County	8

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[29] "Broadband Academy," Northwood Technical College, https://www.northwoodtech.edu/continuing-education-and-training/professional-development/broadband-academy.

[30] "Case Study: Bossier Parish Community College," Internet for All (NTIA), https://www.internetforall.gov/blog/case-study-bossier-parish-community-college-fiber-optic-technician-bootcamp-bossier-camp-0.

[31] 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
Chemeketa Community College	Electrical and Power Transmission Installation/Installer, General	First-Line Supervisors of Mechanics, Installers, and Repairers; Electrical Power-Line Installers and Repairers	Marion County	1
Clackamas Community College	Electrical and Power Transmission Installation/Installer, General	First-Line Supervisors of Mechanics, Installers, and Repairers; Electrical Power-Line Installers and Repairers	Clackamas County	31
Clackamas Community College	Operations Management and Supervision	First-Line Supervisors of Mechanics, Installers, and Repairers	Clackamas County	22
Clackamas Community College	Retailing and Retail Operations	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	Clackamas County	4
George Fox University	Electrical and Electronics Engineering	Electronics Engineers, Except Computer	Yamhill County	4
Klamath Community College	Retailing and Retail Operations	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	Klamath County	16
Lane Community College	Electrical and Power Transmission Installation/Installer, General	First-Line Supervisors of Mechanics, Installers, and Repairers; Electrical Power-Line Installers and Repairers	Lane County	62

Institution	Degrees	Associated occupations	County	Number of degrees granted in 2022
Linn-Benton Community College	Electrical and Power Transmission Installation/Installer, General	First-Line Supervisors of Mechanics, Installers, and Repairers; Electrical Power-Line Installers and Repairers	Linn County	15
Linn-Benton Community College	Lineworker	First-Line Supervisors of Mechanics, Installers, and Repairers; Electrical Power-Line Installers and Repairers	Linn County	2
Mt. Hood Community College	Electrical and Power Transmission Installation/Installer, General	First-Line Supervisors of Mechanics, Installers, and Repairers; Electrical Power-Line Installers and Repairers	Multnomah County	30
Oregon Health & Science University	Electrical and Electronics Engineering	Electronics Engineers, Except Computer	Multnomah County	1
Oregon Institute of Technology	Electrical and Electronics Engineering	Electronics Engineers, Except Computer	Klamath County	26
Oregon Institute of Technology	Electrical, Electronics, and Communications Engineering, Other	Electronics Engineers, Except Computer	Klamath County	1
Oregon Institute of Technology	Operations Management and Supervision	First-Line Supervisors of Mechanics, Installers, and Repairers	Klamath County	12
Oregon State University	Electrical and Electronics Engineering	Electronics Engineers, Except Computer	Benton County	179
Oregon State University	Operations Management and Supervision	First-Line Supervisors of Mechanics,	Benton County	69

Institution	Degrees	Associated occupations	County	Number of degrees granted in 2022
		Installers, and Repairers		
Portland Community College	Electrical and Power Transmission Installation/Installer, General	First-Line Supervisors of Mechanics, Installers, and Repairers; Electrical Power-Line Installers and Repairers	Multnomah County	2
Portland State University	Electrical and Electronics Engineering	Electronics Engineers, Except Computer	Multnomah County	58
Rogue Community College	Electrical and Power Transmission Installation/Installer, General	First-Line Supervisors of Mechanics, Installers, and Repairers; Electrical Power-Line Installers and Repairers	Josephine County	3
Southwestern Oregon Community College	Retailing and Retail Operations	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	Coos County	2
Umpqua Community College	Retailing and Retail Operations	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	Douglas County	167
University of Portland	Electrical and Electronics Engineering	Electronics Engineers, Except Computer	Multnomah County	22

Though this data does not capture graduates from private training programs, technical high schools, 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.

Another important aspect to consider with training programs is their geographic distribution around the state. While some professions related to broadband construction, like *Fiber Network Engineers* (which are produced under the *Electrical and Electronics Engineering* category), can very effectively operate remotely, others, like lineworkers and installers, are most valuable if they are available across the state to reduce travel and better achieve local hiring goals. To illustrate potential geographic gaps in training, the following map shows a 30-minute drive-time around public institutions that are producing trainees that may be needed for field work.

Figure 4: 30-minute drive time around Oregon institutions training roles relevant to broadband construction field work

Sources: 2022 IPED; drivetime derived using OpenStreetMap; Basemap © 2020 Google

Because the workforce distribution in Oregon is based on population centers and training programs, building networks in the rural parts of the state—especially in the east—may require importing construction labor, which will increase the cost of construction due to the expense of transportation and lodging. Training skilled workers across the entire state will therefore be an important strategy to mitigate this problem.

9.3 Continuing to support workforce development in Oregon

Even though the constellation of higher education institutions and private training providers are producing significant qualified workers, Oregon is encouraging ISPs to ensure 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.

As noted in the BEAD plan, Oregon has relationships with unions, ISPs, and training providers, all of which have been activated in the workforce space in anticipation of increased broadband construction demands. Oregon universities, extension services, and technical schools have been partnering with ISPs to develop specialized training programs.

As part of this ongoing work across the state, OBO affirms a few strategies employed in the industry, best practices demonstrated by the training providers locally and nationally noted above. These best 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:** Models for industries where apprenticeships exist (i.e., for lineworkers or electricians, such as those offered by the Communications Workers of America or International Brotherhood of Electrical Workers), 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:** OBO 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 notable experience with outreach to nontraditional students, women, and minorities—and their participation in growing a diverse, qualified telecom sector workforce is essential.

- **Local hiring:** Hiring local workers 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. OBO 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 growth pathways can both incentivize people to start in the sector and ensure retention 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 modify as needed.

- **Recruitment strategies tailored to the realities and challenges of the industry:** Enticing people into a new sector and new career—especially one as unique as being a telecommunication worker—is difficult when unemployment rates are low. 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, since certain challenges of a job 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 lineworker or installer. Because of this, it is recommended

that programs and employers set recruitment targets at double or even triple the number of people needed.

Additionally, given the significant gaps in certain critical in-the-field occupations such as electric and telecommunications lineworkers, and the challenges of getting trained workers to the most rural areas of the state where substantial construction will be happening, OBO encourages training providers to develop explicit pathways for people in the rural parts of the state to take advantage of training programs. Strategies may include increasing marketing and outreach to rural areas, offering more hybrid or fully virtual learning opportunities, or even offering pop-up or temporary training events in rural communities.

Lastly, perhaps the most important workforce role for Oregon is its commitment to ongoing and close coordination with employers, unions, and training programs in the broadband sector. Ultimately, the state's workforce initiatives will be most successful if they are responsive to industry needs. For example, multiple stakeholders have noted that the current lack of fiber and utility locators will create a major bottleneck during construction unless more people are trained to fill those roles. Granular information about nuances to the broadband construction process that unions, employers, and ISPs are seeing in the field is critical for the state to have to better play a role in facilitating a robust and diverse workforce.

A full description of how Oregon intends to stay in close coordination with broadband construction stakeholders is in the next section.

9.4   Coordination with unions and other workforce stakeholders

Without a robust and highly trained workforce, broadband deployment in our state will not happen on time, at cost, and to the high standards that will set Oregon up for success for decades to come. Unions, worker groups, ISPs, and training providers are critical partners both in the deployment of broadband and in the extensive preparation happening across the state to ensure the deployment goes according to plan. Organizations that provided input on workforce considerations include, but are not limited to, those on the list in Appendix B.

The feedback of these entities has been Instrumental In shaping state plans and understanding the workforce landscape. Some of the many notable examples of feedback that has shaped the planning process include descriptions from

employers about the training and apprenticeship programs they currently offer and notable remaining gaps (such as with fiber and utility locators). Importantly, stakeholders demonstrated full alignment with the need to grow Oregon's trained workforce to keep as much of the construction dollars in the state (by minimizing the need to use out-of-state firms).

In addition, stakeholders raised the idea of providing online training to complement in-person work to extend the reach of programming to rural areas, create efficiencies with instructor and staff time, and minimize ad-hoc programs in favor of standardization and scale.

The state welcomes and plans on participating in ongoing coordination with unions, employers, and worker groups, which is essential for the state to create programs to strengthen the workforce and ensure subgrantee awards can be built and executed according to plan. As such, OBO will work with previously identified stakeholders and other parties interested in workforce issues to meet regularly and establish open channels of communication.

Specifically, the state seeks ongoing updates from training providers, worker organizations, and firms with workforce needs on:

- Recruitment strategies and their effectiveness, including, but not limited to, the relative efficacy of online postings, job fairs, paid partnerships, and outreach to community and technical colleges, with specificity regarding the effectiveness of outreach designed to engage diverse communities.

- Progress in training and employing new workers, including training program entrance rates, training program graduation rates, job placement rates, and retention rates after 3 and 6 months of employment, or similar data illustrating retention.

- Industry trends that may impact training and recruiting needs, including changes in staffing models, technology, certifications, or skill sets required of workers to be effective throughout deployment.

- Feedback on state programs, as well as additional ideas the state may consider to improve workforce readiness and reach diverse populations.

9.5   Ensuring strong labor standards

Ensuring strong labor standards throughout the entire BEAD deployment process is important not only for the wellbeing of the vast workforce that will be participating in the process but also important for the long-term integrity of the network. Treating employees well, which includes providing adequate training, ensuring fair compensation and sufficient breaks, and following robust safety protocols, will have numerous benefits to the BEAD effort.

1. **Worker safety:** Worker safety is a primary concern for any construction happening in the state. Many protocols and practices essential to ensuring strong labor standards are paramount to increase worker safety and fulfill OSHA standards, such as providing regular and sufficient work breaks, proper training and oversight to new workers, and reasonable working hours and expectations.

2. **Worker satisfaction and retention:** Construction trades are physically difficult, and when a job also requires tasks that could be dangerous, it is understandable that a portion of workers leave shortly after trying the work. Part of reducing turnover, however, involves implementing sufficient training, safety, pay, and break standards so that the physical challenges are minimized and new workers become accustomed to the work within a supportive environment.

3. **Quality, resilient networks:** Inordinately rushing construction or building networks without appropriate oversight or training will jeopardize the long-term integrity of the networks being built. Strong labor standards will ensure networks are built to the quality and standards expected of this critical infrastructure.

The first step to strong labor standards is recognizing and highlighting the regulations and laws by which subgrantees are bound. Oregon is very familiar with the nature of the following laws and the work needed to ensure compliance:

Table 10: U.S. labor laws noted in the BEAD NOFO

Labor law	Summary
Fair Labor Standards Act	Establishment of minimum wage, overtime pay, recordkeeping, and child labor standards affecting full-time and part-time workers across private and public sectors.
Occupational Safety and Health Act	Establishment of safe and healthy workplace standards.
Service Contract Act	Establishment of standards for contractors and subcontractors performing services on prime contracts in excess of $2,500.
Title VI of the Civil Rights Act of 1964 (see also 15 C.F.R. Part 8)	Prohibition of discrimination on the basis of race, color, or national origin under programs or activities receiving federal financial assistance, including from the Department of Commerce.
Title IX of the Education Amendments of 1972	Prohibition of discrimination on the basis of sex under federally assisted education programs or activities.
The Americans with Disabilities Act of 1990	Prohibition of discrimination on the basis of disability under programs, activities, and services provided or made available by Eligible Entities and local governments or instrumentalities or agencies thereto, as well as public or private entities that provide transportation.
Section 504 of the Rehabilitation Act of 1973	Prohibition of discrimination on the basis of handicap under any program or activity receiving or benefiting from federal assistance.

Labor law	Summary
The Age Discrimination Act of 1975	Prohibition of discrimination on the basis of age in programs or activities receiving federal financial assistance.
Parts II and III of Executive Order 11246, Equal Employment Opportunity	Requires that federally assisted construction contracts incorporate and fulfill the nondiscrimination provisions of §§ 202 and 203 of E.O. 11246 and Department of Labor regulations implementing E.O. 11246 (41 C.F.R. § 60-1.4(b)).
Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency	Requires federal agencies to examine the services that they provide, identify any need for services to those with limited English proficiency (LEP), and develop and implement a system to provide those services so LEP persons can have meaningful access to them.
Executive Order 13798, Promoting Free Speech and Religious Liberty (see also OMB M-20-09 Guidance Regarding Federal Grants and Executive Order 13798)	States or other public grantees may not condition sub-awards of federal grant money in a manner that would disadvantage grant applicants based on their religious character.

As the first step to ensuring compliance, Oregon will ask applicants to self-certify compliance with the laws and regulations listed in the NOFO and other NTIA guidance documents, as well as all applicable state labor laws that either exceed or address different concerns than federal law. In alignment with NTIA mandates, Oregon will require:

- Certification from an Officer/Director-level employee (or equivalent) on past compliance with federal labor and employment laws.

- Disclosure of any violations of labor and employment laws in the last three years, or written confirmation of no such violations.

- Written description of steps taken to mitigate any violations that occurred in the past three years.

- Documentation of applicable wage scales and overtime payment practices for each class of employee that will be directly in the physical construction of high-speed internet.

- Plans for the implementation of workforce safety committees that will be authorized to raise any health and safety concerns.

Self-certification is a common practice that firms are accustomed to complying with and will take place during the subgrantee application process. The state will ask subgrantee applicants to certify compliance with state workforce and labor laws as well, should state regulations exceed or expand on guidance in the NOFO.

As with potential labor law infractions in other industries, the state makes it known that potential infractions may be reported to the Oregon Bureau of Labor & Industries and/or OBO. Reported infractions will be investigated under the existing protocols established by the state, and the individuals or entities filing reports will be covered under state whistleblower policies as applicable to the situation and law.

To further ensure self-certification results in appropriate adherence to labor laws, the state will follow best practices for evaluation upon indications of noncompliance. Specifically, auditors or compliance workers employed by the state may request and scrutinize business records of subgrantee firms and may impose fines should noncompliance be discovered.

In alignment with NOFO guidance, OBO also encourages workers and unions to create worker-led health and safety committees who can then meet with employer management upon request to raise concerns about labor laws and ensure compliance with occupational safety and health requirements. Given Oregon has a strong union presence, and unions in the state have avenues of communication with public officials who establish and oversee labor laws, unions will also provide another check on labor law compliance, especially regarding hours worked, pay, and safety.

Lastly, OBO will consider, in collaboration with the Oregon Bureau of Labor and Industries (BOLI), how to best publish guidance for potential subgrantee on the requirements for prevailing wage usage, including through a potential webinar presented by OBO in collaboration with the Oregon Bureau of Labor.

9.6 Ensuring recruitment of diverse firms

Not only does the recruitment of qualified, diverse firms as part of the BEAD deployment demonstrate a fair and unbiased process, the scale of the work that needs to be done is so profound that excluding any qualified firms could jeopardize the efficient completion of the work that needs to be done.

OBO will affirm during the subgrantee selection process its commitment to hiring qualified, diverse firms and ask that applicants note in their application if they or any of their partners and subcontractors qualify as a women-owned or minority-owned business. As subgrantee awards are made, these metrics will be shared as part of the final proposal process and publication of awards.

The state also encourages women-, minority-, and veteran-owned businesses to prepare to engage in the BEAD process. Obviously, this includes firms that directly engage in telecommunications activities such as telecom construction contractors, lineworkers and installers, and ISPs. However, the deployment process will also require significant participation from firms and businesses not traditionally associated with telecommunications. For example, the deployment process also requires construction of all types, electricians, road flagging crews, tree-trimmers, accountants, utility locators, and more. The state expects firms that supply these services will frequently be brought on as subcontractors or partners to applicants, and ensuring recruitment of qualified, diverse firms is essential for these types of businesses as well.

To further encourage diverse participation in the workforce, the state will take the following additional actions:

1. Work with the Oregon Business Development Department (OBDD) Certification Office for Business Inclusion and Diversity (COBID), Oregon Association of Minority Entrepreneurs, Hispanic Metropolitan Chamber, Northwest Native APEX Accelerator, Women Entrepreneurs of Southern Oregon, Oregon Minority Business Development Agency Business Center,

and other partners to ensure Minority, Veteran, and/or Women Business Enterprises are on all relevant solicitation lists.

2. Maintain and share a list of Minority, Veteran, and/or Women Business Enterprises that have expressed interest in participation in BEAD deployments and promote the list to help make connections to the broader telecommunications business community.

3. Ensure recruitment efforts by training providers and employers to target diverse communities by being a conduit between those entities and groups whose goals include encouraging diverse workforce participation, such as job and career centers in communities with higher populations of people of color, as well as stakeholder groups we have consulted with such as tribal leaders, community colleges, and others who have a focus on promoting inclusive economies.

Lastly, state and local economies and tax bases benefit the most when firms from Labor Surplus Areas are engaged, particularly when they fill staff openings locally (and thus reduce the unemployment in those areas). The Labor Surplus Areas in Oregon are identified by the U.S. Department of Labor as:

- Crook County

- Curry County

- Grant County

- Grants Pass

- Klamath County.[32]

9.7 Subgrantee selection process related to workforce considerations

Oregon will take the following approach to the subgrantee selection process as it relates to workforce:

- **Require self-certification that applicants meet federal labor standards indicated in statute, as well as any applicable state laws that expand or**

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[32] "Labor Surplus Area – Fiscal Year 2024," U.S. Department of Labor, https://www.dol.gov/agencies/eta/lsa (accessed October 26, 2023).

exceed federal rules. As directed in the NOFO, Oregon will prioritize firms that can certify compliance.

- **Require disclosure of any workforce violations within the past three years.** If violations exist, require documentation of how the applicant has updated their policies and practices to ensure compliance moving forward.

- **Require documentation of whether subgrantees, their partners and contractors qualify as a minority-owned enterprise, women-owned enterprise, or Labor Surplus Firm.** The state may use answers to these questions as a tiebreaker if multiple equally qualified and equally scoring applications for the same area are received.

- **Require a written description or affirmation of subgrantee policies or practices for any of the following items:**

  - Using a directly employed workforce, as opposed to a subcontracted workforce.

  - Use of project labor agreements.

  - Use of local hire provisions.

  - Use of labor peace agreements.

  - Commitment to union neutrality.

  - Steps taken to prevent the misclassification of workers.

- **Ask applicants to describe their usage of on-the-job training, internship, or apprenticeship programs, as well as credentials they confer upon program completion.** This can not only lead to better retention of staff but allows pathways for workers with a wide range of educational backgrounds to participate.

- **Ask applicants to describe the actions they take specific to recruiting a diverse workforce, and/or future plans to do more outreach to diverse groups.** This answer may include a description of specific outreach or materials intended to be welcoming to women, members of minority groups, or other

groups not typically represented in most telecommunications construction workforces.

- **Require subgrantee to certify compliance with Davis-Bacon prevailing wages and/or Oregon's "Little Davis-Bacon" prevailing wage rules, as applicable.**

Please see Section 5 for a full description of the proposed subgrantee selection process.

9.8 Economic development impacts and opportunities from BEAD deployments

Oregon's economy is undoubtedly going to benefit from the broadband expansion that will occur over the next few years. Some benefits will happen ambiently simply due to increased spending in the economy during construction or the increase in home values that occur with the presence of fiber infrastructure. However, the major long-term impacts to the economy will occur if more broadband adoption happens because of these deployments and if broadband users across the state use their connectivity to access efficient services, move businesses online, leverage new technologies, start digital businesses, access remote learning and working opportunities, use telehealth when appropriate, and more. This section describes how the BEAD deployment will help Oregon's economy in the short and long term.

9.8.1 Short-term economic impact from initial construction outlay

Input-output models are industry-standard tools that use advanced data modeling to estimate how money and workforce flow through the economy and between industries. In this case, the model shows how the broadband construction sector contributes significant direct, indirect, and induced benefits to the state's economy.[33]

The initial broadband construction spending leads to a direct effect that results from the increased demand for goods and services in the broadband construction supply chain (for example, the increased demand for conduit, fiber, and network

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[33] **Direct effects** result from expenditures within that industry's supply chain. **Indirect effects** are the changes in expenditures and employment in the supply chains of the initial supply chain (as in, one level removed). **Induced effects** are the effects generated by the subsequent spending money at a household level (e.g., lineworkers' use of their paycheck for food, clothing, etc.).

electronics). The indirect effect results from the increased demand for goods and services that the broadband supply chain uses (for example, the increased demand for the materials and equipment that contribute to the manufacture of conduit and fiber, or the transportation needed to deliver said goods).

As the initial, direct, and indirect effects increase earnings for workers, these workers spend their earnings on various goods and services (for example, at grocery stores, restaurants, and clothing stores), which is represented by the induced effect.

The chart below outlines the total estimated benefits from both a $827 million and a $1 billion investment in broadband in Oregon. Sales are the industry's total annual gross receipts for products and services, a job is any position in which a worker provides labor in exchange for monetary compensation, and earnings include wages, salaries, supplements (additional employee benefits), and proprietor income.

Table 11: Estimated economic effects of investing $827 million in broadband construction.[34]

Effect	Sales	Jobs	Earnings
Initial	$826,697,920	1,846	$186,210,826
Direct	$207,204,188	1,043	$73,590,429
Indirect	$77,067,967	471	$29,650,982
Induced	$397,683,191	2,466	$155,608,370
Total	**$1,508,653,265**	**5,826**	**$445,060,607**

Table 12: Estimated economic effects of investing $1 billion in broadband construction[35]

Effect	Sales	Jobs	Earnings
Initial	$1,014,852,420	2,266	$228,591,971
Direct	$254,363,373	1,281	$90,339,438
Indirect	$94,608,455	578	$36,399,475
Induced	$488,194,949	3,028	$191,024,469
Total	**$1,852,019,196**	**7,153**	**$546,355,353**

9.8.2 Long-term objectives for enhancing economic growth and job creation

While the economic benefits from construction spending are considerable, and some economic benefits (like an increase in home values, as demonstrated by Deller and Whitacre in 2019)[36] can be expected just from the presence of fiber on a street, the long-term benefits to Oregon's economy will be fully realized as a result of increased utilization of the internet. In other words, building better networks is good, but encouraging as much adoption as possible is necessary to maximize the long-term economic benefits.

Because broadband touches almost every aspect of life, it is nearly impossible to quantify the economic impacts across all potential aspects of savings, efficiencies, benefits from innovation, or benefits to quality of life. However, a significant number

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[34] Lightcast Datarun 2023.3.

[35] Lightcast Datarun 2023.3.

[36] Steven Deller and Brian Whitacre, "Broadband's relationship to rural housing values," Papers in Regional Science, May 2019, https://rsaiconnect.onlinelibrary.wiley.com/doi/full/10.1111/pirs.12450.

of distinct and measurable benefits have been identified by academic researchers over the years, including:

- Local employment growth.[37]

- Lower unemployment rates.[38]

- Faster income growth.[39]

- Faster growth in firms and employees.[40]

- Higher attraction rate in new and existing firms.[41]

- Greater civic engagement.[42]

Since it is nearly impossible to measure long-term benefits across all possible avenues directly, this report uses a Consumer Surplus Analysis methodology to roughly quantify total economic benefits to consumers. The premise of this type of analysis is that if a consumer would pay more for a service than they currently are paying, they are deriving a quantifiable value from that service. For example, if a broadband connection costs $60 per month, but the family would pay $250 per month because it provides them so much opportunity and value across their work and personal life, then one could say that the household is deriving $190 of surplus value each month from that service.

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[37] Jed Kolko, "Broadband and local growth," Journal of Urban Economics, January 2012, https://www.sciencedirect.com/science/article/abs/pii/S0094119011000490.

[38] Krisha Jayakar and Eun-A Park, "Broadband and Unemployment: Analysis of Cross-Sectional Data for U.S. Counties," Journal of Information Policy, January 2013, https://www.jstor.org/stable/10.5325/jinfopoli.3.2013.0181.

[39] Brian Whitacre, Roberto Gallardo, and Sharon Strover, "Broadband's contribution to economic growth in rural areas: Moving towards a causal relationship," Telecommunications Policy, December 2014, https://www.sciencedirect.com/science/article/abs/pii/S0308596114000949.

[40] Ibid.

[41] Younjun Kim and Peter F. Orazem, "Broadband Internet and New Firm Location Decisions in Rural Areas," American Journal of Agricultural Economics, November 2016, https://onlinelibrary.wiley.com/doi/10.1093/ajae/aaw082.

[42] Brian Whitacre and Jacob L. Manlove, "Broadband and civic engagement in rural areas: What matters?" Community Development, 2016, https://www.tandfonline.com/doi/abs/10.1080/15575330.2016.1212910.

Analysis by Rembert et al. (2017) suggests that each household has an annual added benefit from broadband worth an estimated $1,850 per year.[43] Given that this research occurred before the COVID-19 pandemic, when broadband increased the benefits and opportunities available to users, that estimated value can be considered conservative.

To estimate the potential economic impacts of expanded broadband in this regard, this report must first model the rate at which adoption may increase across the state.[44] Oregon's 5 Year Action Plan notes that currently, 84.1 percent of the people of Oregon use the internet at home, and 15.9 percent do not. This analysis estimates the impacts of reducing that gap in home adoption in the state by half—in other words, decreasing the percentage of households without broadband from 15.9 percent to 7.95 percent.

In Oregon, cutting the home adoption gap in half will result in 87,042 new households enrolled in a broadband plan after 10 years. But clearly, broadband adoption cannot happen all at once; only *after* infrastructure is built can households become subscribers. The estimated adoption percentages for this analysis are included in the table below, based on adoption trends and projections outlined in previous research from Spell and Low (2021). These adoption percentages assume most new infrastructure is built in years 1 to 5.[45]

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[43] Mark H. Rembert, Bo Feng, and Mark D. Partridge. "Connecting the Dots on Ohio's Broadband Policy," Ohio State University, 2017, https://kb.osu.edu/handle/1811/81414.
[44] Baseline data were derived from the 2021 American Community Survey 5-Year Estimates.
[45] Alan Spell and Sarah A. Low, "Economic Benefits of Expanding Broadband in Select Missouri Counties," University of Missouri Extension, June 2021, p 7, https://mobroadband.org/wp-content/uploads/sites/44/2021/06/Exceed_BroadbandImpactReport_Jun2021.pdf.

Table 13: Estimated rate at which new households adopt broadband

Year	1	2	3	4	5	6	7	8	9	10
Percent of new households adopted	0%	20%	40%	80%	90%	92%	94%	96%	98%	100%
Cumulative new households	0	17,408	34,817	69,634	78,338	80,079	81,820	83,561	85,302	87,042
Yearly surplus value		$32 m	$64 m	$129 m	$145 m	$148 m	$151 m	$155 m	$158 m	$161 m

Then, multiplying the value of broadband identified by Rembert et al. to the new adopters in each year, the cumulative consumer surplus value calculated over 10 years for Oregon can be estimated at more than $1.1 billion.

9.8.3 Economic development opportunities in Oregon as a result of BEAD deployments

Importantly, increased high-speed broadband usage and adoption will greatly benefit the state's existing economic development priorities and plans. Business Oregon—Oregon's economic development agency—described the following economic development priorities in their most recent (2018-2022) strategic plan:

- Innovate Oregon's economy.

- Grow small and middle-market companies.

- Cultivate rural economic stability.

- Advance economic opportunity for underrepresented people.

- Ensure an inclusive, transparent, and fiscally healthy organization.

These goals dovetail with the ways in which broadband has been shown to impact economies and accelerate efforts like the ones Oregon has prioritized.

There is significant evidence that innovation, entrepreneurship, and talent growth happen more readily with increased access to broadband, and Oregon's emphasis on growing small and middle-market companies fits with the types of benefits that broadband can bring. Broadband provides growth opportunities for small

businesses, enables entrepreneurs to reach new markets and talent outside of their immediate location, and provides everyone with the bandwidth needed to access innovative technology to help businesses be more efficient.

Given the gaps in broadband are predominantly concentrated in rural areas, closing the gaps in broadband will significantly support the state's goal of cultivating rural economic stability.

With the significant increase in remote work and virtual education opportunities, bringing better broadband to rural people in Oregon will allow them access to alternate modes of employment. Importantly, research by Kolko (2012)[46] and Mack and Faggian (2013)[47] indicates that employment gains that occur with new access to, and utilization of, high-speed broadband are not achieved across all sectors, but instead concentrated in knowledge-intensive industries. These industries are ones that rely on specialized human capital—often digitally enabled or working in concert with technology—to create value. These roles often have higher wages than other industries; a Brookings report identifies digital jobs as the second-fastest-growing industry in the country, and wage growth in tech is the highest of any industry.[48]

One reason that tech jobs and knowledge-intensive jobs have such an outsized impact on local economies—and why increasing these jobs will support the state's goal of creating stable rural economies—is the "multiplier effect".[49]: for every high-tech job created, three to five additional jobs are created locally. Since tech jobs offer

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[46] Jed Kolko, "Broadband and local growth," Journal of Urban Economics, January 2012, https://www.sciencedirect.com/science/article/abs/pii/S0094119011000490.
[47] Brian Whitacre, Roberto Gallardo, and Sharon Strover, "Does rural broadband impact jobs and income? Evidence from special and first-difference digressions," The Annals of Regional Science, 53(3), 649-670. https://www.researchgate.net/publication/272008852_Does_rural_broadband_impact_jobs_and_income_Evidence_from_spatial_and_first-differenced_regressions. Cited in Spell and Low (2021).
[48] Mark Muro, Sifan Liu, Jacob Whiton, and Siddharth Kulkarni, "Digitalization and the American Workforce," Metropolitan Policy Program at Brookings, November 2017, https://www.brookings.edu/wp-content/uploads/2017/11/mpp_2017nov15_digitalization_full_report.pdf.
[49] "The Multiplier Effect of Innovation Jobs," MIT Sloan Management Review, June 6, 2012, https://sloanreview.mit.edu/article/the-multiplier-effect-of-innovation-jobs/.

an income that can exceed up to twice the national average,[50] increased investment in tech workforces (starting with high-speed broadband as a foundation) can lead to greater opportunity for households *and* entire communities.

In summary, as Oregon deploys broadband across the state under the Internet for All mandate, truly maximizing the economic impact of that broadband will require two primary strategies. First, it requires working hard to increase broadband adoption both in areas of new builds as well as areas of existing broadband so that as many people can take advantage of the opportunities that great broadband affords. Second, it requires the state to continue pursuing economic development strategies that leverage the unique ability for high-speed broadband to provide Oregon businesses better access to talent and technology and allows Oregon entrepreneurs and business owners to access global markets whether their company has one employee or thousands.

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[50] "S4211: Occupation by Sex and Median Earnings in the Past 12 Months," U.S. Census Bureau, 2022, https://data.census.gov/cedsci/table?q=S2411&g=01000H0US.

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

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

Business Oregon's COBID certifies minority- and women-owned businesses, and emerging small businesses interested in contracting with state, county, city government agencies, and special jurisdictions such as hospitals and universities.[51] The program goal is to foster an environment where small and disadvantaged businesses can compete fairly, regardless of ethnicity, gender, disability, or size. They strive to help owners of small and disadvantaged businesses access opportunities to compete for public contracting and provide additional resources. COBID has certified 2,473 businesses as underrepresented or disadvantaged businesses. Of those, 31 percent are minority-owned businesses and 49 percent are women-owned businesses.[52]

In 2022, Business Oregon partnered with The Executive Learning Lab to lead staff through the Lab's Diversity, Equity, Inclusion, and Belonging learning series. The first session has been completed and engaged staff in interactive discussions on the meaning of Cultural Responsiveness and how to create safe and affirming environments for colleagues and communities.[53]

Throughout the last fiscal year, Business Oregon invested in and supported culturally focused organizations. Internally, the Business Oregon Technical Assistance (TA) program was established to help businesses respond to the COVID-19 pandemic. TA providers offer technical assistance to historically underserved small businesses across the state. Providers are selected biennially through a competitive Regional Funding Announcement process and reflect the program's

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[51] See "Types of State Certification," State of Oregon Business Xpress, https://www.oregon.gov/business/Pages/Certification.aspx.
[52] "Annual Report – Fiscal Year 2022," Business Oregon, 2022, https://www.oregon.gov/biz/Publications/ARFY22.pdf.
[53] "Annual Report – Fiscal Year 2022," Business Oregon, 2022, https://www.oregon.gov/biz/Publications/ARFY22.pdf.

commitment to ensuring that small business technical assistance is widely available and accessible so that economic recovery is equitable and does not perpetuate long-standing disparities.[54]

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. That means that employers located in those areas can be given preference in bidding on federal procurement contracts.[55]

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 an LSA. The U.S. Department of Labor's 2024 updated list designated the qualified LSAs in the state of Oregon as Crook County, Curry County, Grant County, Grants Pass City, and Klamath County.[56] The state will work with subgrantees during the award period to maximize their use of MBEs/WBEs and LSAFs. OBO will work closely with COBID to ensure all prospective and future subgrantees are aware of qualified MBEs/WBEs and LSAFs certified by the state.

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[54] "Annual Report – Fiscal Year 2021," Business Oregon, 2021, https://www.oregon.gov/biz/Publications/AR21.pdf.

[55] See "Executive Order 12073—Federal procurement in labor surplus areas," National Archives, 1978, https://www.archives.gov/federal-register/codification/executive-order/12073.html and "Executive Order 10582—Prescribing uniform procedures for certain determinations under the Buy-American Act," National Archives, https://www.archives.gov/federal-register/codification/executive-order/10582.html.

[56] See "Labor Surplus Area – Fiscal Year 2024," U.S. Department of Labor, 2023, https://www.dol.gov/agencies/eta/lsa (accessed October 27, 2023) and "2024-FINAL-LSA," U.S. Department of Labor, 2023, https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.dol.gov%2Fsites%2Fdolgov%2Ffiles%2FETA%2Flsa%2Fpdfs%2F2024-FINAL-LSA.xlsx&wdOrigin=BROWSELINK (accessed October 27, 2023).

10.1 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

10.1.1 Place qualified small and minority businesses and women-owned businesses enterprises on solicitation lists

OBO will work with COBID as it provides regional MWBE business development events and outreach, including training sessions, webinars, mentorship opportunities, and programs aimed at connecting MWBEs with state agencies, authorities, and local contracting opportunities.

10.1.2 Assure that small and minority businesses and women-owned business enterprises are solicited whenever they are potential sources

OBO will collaborate with COBID to ensure information about grant and contracting opportunities are made available.

COBID'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.

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

OBO will leverage the strength of the state of Oregon procurement policies to break tasks and requests into smaller, more manageable subcontracts to maximize participation by small and state certified minority owned as well as women-owned business enterprises.

10.1.4 Establish delivery schedules, where the requirements permit, which encourage participation by small and minority businesses and women-owned business enterprises

Where requirements permit, OBO will establish delivery schedules to encourage participation by small and minority businesses and women-owned business

enterprises. OBO will also seek to be flexible with its requirements to enable greater MWBE participation.

10.1.5 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

OBO will also 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). OBO may describe its plans to consult with SBA's Small Business Development Centers[57] and MBDA's State-Based Business Centers[58] for more information on system for award management (SAM) contracting assistance programs, including:

- Small Disadvantaged Business[59]

- Women-Owned Small Business Federal Contract program[60]

- SBA Mentor-Protégé program[61]

Small businesses make up 99 percent of Oregon state businesses and employ 54 percent of Oregon's private sector workforce.[62] Oregon's Office of Small Business Assistance 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.[63]

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[57] "Small Business Development Centers (SBDC)," U.S. SBA, https://www.sba.gov/local-assistance/resource-partners/small-business-development-centers-sbdc.

[58] "Business Centers," MBDA, https://www.mbda.gov/mbda-programs/business-centers.

[59] "Small Disadvantaged Business," U.S. SBA, https://www.mbda.gov/mbda-programs/business-centers.

[60] "Women-Owned Small Business Federal Contract program," U.S. SBA, https://www.sba.gov/federal-contracting/contracting-assistance-programs/women-owned-small-business-federal-contract-program.

[61] "SBA Mentor-Protégé program," U.S. SBA, https://www.sba.gov/federal-contracting/contracting-assistance-programs/sba-mentor-protege-program.

[62] "2022 Oregon Small Business Profile," U.S. SBA Office of Advocacy, 2022, https://advocacy.sba.gov/wp-content/uploads/2022/08/Small-Business-Economic-Profile-OR.pdf#:~:text=402%2C928%20small%20businesses%2099.4,percent%20of%20Oregon%20businesses.

[63] See ORS 56.200 and Oregon Office of Small Business Assistance, https://www.oregon.gov/smallbusiness/Pages/default.aspx.

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

OBO will work with subgrantees to ensure that they take steps to include qualified MBE/WBEs and LSAFs whenever possible. OBO may take steps that include, but are not limited to:

- Provide subgrantees with training and opportunities to connect with qualified MBEs, WBEs and LSAFs.

- Require subgrantees to demonstrate diversity in suppliers and equitable procurement practices.

- Require a formal commitment from subgrantee confirming organizational commitment to supplier diversity, equity, and inclusion.

- Mandate reporting requirements regarding supplier diversity.

10.2 Certification

The state certifies that it will:

- Place qualified small and minority businesses and women-owned business enterprises on solicitation lists.

- Assure that small and minority businesses and women-owned 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-owned business enterprises.

- Establish delivery schedules, where the requirements permit, which encourage participation by small and minority businesses and women-owned 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.

11. Cost and barrier reduction (Requirement 14)

This section documents the steps OBO may take to reduce costs and barriers to deployment through promoting the use of existing infrastructure and promoting and adopting dig-once policies, streamlined permitting processes, and cost-effective access to poles, conduits, easements, and rights of way, including the imposition of reasonable access requirements. This section also includes steps to reduce costs associated with construction, labor, overhead, and materials, which OBO has identified as additional barriers.

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

11.1   Promote the use of existing infrastructure

11.1.1 Streamline access to state conduits and poles

OBO is in discussions with the Oregon Department of Transportation (ODOT) on approaches to streamline access to conduits, poles, and rights-of-way on state roads.

ODOT plans to include conduit and vaults in future construction projects[64] and has expressed an interest in participating in public-public partnerships as well as public-private partnerships "to share the infrastructure costs" of broadband deployment.[65] ODOT's Broadband Strategy & Implementation Plan (June 2022) notes the synergy between efforts to connect underserved areas of the state and ODOT's plans to deploy broadband infrastructure for its own operations and transportation management needs. According to the Plan, this new strategy "sets in motion the actions needed to streamline ODOT processes, build relationships, define the public-private partnership arrangements, and define the broadband infrastructure construction specifications."[66]

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[64] "Project List," ODOT, https://www.oregon.gov/odot/Projects/Pages/default.aspx.
[65] "ODOT Broadband Strategy & Implementation Plan," ODOT, June 2022, https://www.oregon.gov/odot/Maintenance/Pages/Plans,-Architectures-&-Reports.aspx, p.8-9, 18, 23.
[66] "ODOT Broadband Strategy & Implementation Plan," ODOT, June 2022, https://www.oregon.gov/odot/Maintenance/Pages/Plans,-Architectures-&-Reports.aspx, p. 7.

ODOT has designated a Broadband Coordinator as a liaison and point of contact.[67]

A 2023 study of compensation structures for accommodating utility and communication installations in public rights-of-way across multiple state departments of transportation, conducted by the National Cooperative Highway Research Program,[68] found that Oregon takes a revenue-generating approach to right-of-way accommodations and charges a fee for broadband/fiber optic utilities.[69]

Education and conflict resolution on matters related to utility poles in the state can be provided by the Oregon Joint Use Association (OJUA),[70] an advisory group composed of members representing pole owners and pole users including electric utilities, communications companies, and government entities. OJUA was formed from a task force established by the state Legislature in 1999 and works to "buil[d] trust, cooperation, and organization between support structure (pole) owners, users, and government entities that will result in a safe, efficient use of the Right of Way." The organization also provides standards development and legislative and regulatory review.

11.1.2 Encourage local communities to leverage their poles and conduits

OBO will encourage municipalities that own poles or conduits to make them available and will provide examples of local ordinances or policies. These localities can indicate availability of such streamlined access and OBO will publish this information for eligible areas so grant applicants can take it into consideration for their cost proposals.

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[67] "ODOT Broadband," ODOT, https://www.oregon.gov/odot/maintenance/pages/broadband.aspx.

[68] "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.

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

[70] OJUA, https://www.ojua.org/.

11.1.3 Allow access to limited access rights-of-way for last-mile broadband providers providing service to unserved locations

The state will also explore ways it can facilitate subgrantees gaining access to limited-access rights-of-way through streamlined public interest and resource sharing arrangements. There may be opportunities for ODOT to allow fiber installations in limited-access state and interstate highways. If delivering broadband to unserved locations is defined as public interest construction, it could potentially facilitate resource sharing arrangements that could be standardized to reduce permit timelines and costs.

11.1.4 Create online state-hosted middle-mile database and conduct RFI

The state's commitment to asset sharing does not end with physical assets; OBO will also build a robust and comprehensive database containing information (geospatial and otherwise) on known public and private assets. The state will publish a request for information (RFI) which will invite ISPs, utility providers, pole owners, and local governments to submit information, with an emphasis on documenting middle-mile presence from which many applicants' projects will branch.

This asset and information database will be made available to all prospective BEAD applicants, allowing for early planning and budgeting before applications are filed. Access to such information will allow some competitors to submit more cost effective, accurate, and informed project applications.

11.2 Promote dig-once policies by providing a guide for localities

OBO will encourage sharing of open trenches and available conduit via the promotion and adoption of dig-once policies, which ensure proper notification has been made before rights-of-way are open with the goal of facilitating collaborative (and concurrent) construction timelines between entities hoping to dig in the same rights-of-way.

ODOT has implemented an open trench policy to enable broadband providers to take advantage of ODOT projects to expand their networks. House Bill 2411, enacted in 2021, requires ODOT to notify telecommunications providers about opportunities to coordinate with ODOT on certain Statewide Transportation Improvement Program (STIP) projects that include the potential to accommodate the installation of underground infrastructure for the provision of broadband services. The bill requires

OBO to develop the list of telecommunication providers for ODOT to use to notify the industry about opportunities.[71]

ODOT also notes in its Broadband Strategy & Implementation Plan (2022) that it will "investigate the feasibility of a Dig-Once policy and develop if needed."[72]

The state will publish guidance for localities to consider implementing similar policies and model local codes. This will minimize the number of times rights-of-way will be dug into, allowing even the smallest funded projects to leverage economies of scale to reduce costs.

The City of Sandy, Oregon, has instituted a dig-once policy in which private developers are required to install conduit in addition to other public facilities such as water and sewer infrastructure when disturbing or building new roads for subdivision construction, guided by City maps that allow for strategic placement.[73] This policy could serve as a model for other localities in the state.

This approach is in alignment with guidance from the U.S. Federal Highway Administration (FHWA) Office of Transportation Policy Studies, which notes in a policy brief that "the largest cost element for deploying broadband is burying fiber optic cables and conduit underground," citing the FCC. In the brief, FHWA emphasizes the importance of implementing dig-once policies at the local level as permits to install or work on existing facilities are often requested from cities and counties.[74]

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[71] "ODOT Broadband," ODOT, https://www.oregon.gov/odot/maintenance/pages/broadband.aspx.
[72] "ODOT Broadband Strategy & Implementation Plan," ODOT, June 2022, https://www.oregon.gov/odot/Maintenance/Pages/Plans,-Architectures-&-Reports.aspx, p. 23.
[73] "Smart Conduit Policy in Sandy, Mount Vernon Reduces Network Cost," Community Networks, June 14, 2013, https://communitynets.org/content/smart-conduit-policy-sandy-mount-vernon-reduces-network-cost. See, City of Sandy Municipal Code 17.84.60, https://library.municode.com/or/sandy/codes/code_of_ordinances?nodeId=TIT17DECO_CH17.84IMREDE_S17.84.60PUFAEX.
[74] "Minimizing Excavation Through Coordination," policy brief from the FHWA Office of Transportation Policy Studies, October 2013, https://www.fhwa.dot.gov/policy/otps/policy_brief_dig_once.pdf.

11.3   Streamline permitting processes

OBO is working with the Governor's office, state and federal agencies, industry, cities, and other stakeholders to identify potential opportunities to streamline permitting processes.

11.3.1   Work with BIA and tribal governments to streamline federal permitting

OBO will use its convening power to bring together representatives from the tribal governments and federal agencies (e.g., Bureau of Indian Affairs, NTIA) to address opportunities to streamline federal permitting requirements with respect to tribal lands in Oregon.

11.3.2   Provide guidance for local permitting

The state will leverage its organizational and coordinating power to streamline permitting processes in anticipation that many awardees will deploy network infrastructure on or in assets owned by counties and localities.

OBO will publish guidance on "broadband-ready communities" for counties and localities to consider. These guidelines will include best practices regarding how localities may optimize their permitting for broadband deployment, develop and share relevant information regarding their permitting policies, create conditions that make private investment more attractive, develop strategies to increase staffing and administrative support, and publish information online on known assets of interest.

Many Oregon counties and cities[75] have opted to participate in the state of Oregon ePermitting system,[76] an online portal for local building permits—which could serve as a model.

OBO will also incorporate information on consultation with environmental and historic preservation agencies into its educational outreach to counties and localities. These agencies will likely receive an increased volume of permit requests and material within a condensed period of time to support project deployment by subgrantees within the timeline of the BEAD Program. OBO may discuss creation of standardized templates to simplify the materials required for environmental

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[75] "Participating Jurisdictions," Oregon Department of Consumer and Business Services, https://www.oregon.gov/BCD/epermitting/Documents/jurisdictions/participating.pdf.

[76] Oregon ePermitting, https://aca-oregon.accela.com/Oregon/Default.aspx.

assessments and allow the same materials to be provided to different agencies where feasible.

While OBO will include federal agencies in its discussions, it strongly encourages NTIA as the primary federal agency in charge of BEAD funds to enter into programmatic agreements with such agencies, including those that manage federal permitting considerations on tribal lands.

11.4   Address federal permitting timelines with NTIA

To benefit potential awardees that intend to cross federal lands, the state will attempt to address permitting timelines for access to federal lands by partnering with NTIA to discuss process reforms that might be implemented with key federal land-controlling agencies and exceptions that might be granted to BEAD awardees. As the lead federal agency, NTIA can also develop programmatic agreements with agencies to facilitate such permitting. One approach could include a "shot clock" permitting process on certain federal land use permits that would incentivize federal agencies to process BEAD permitting applications within a predetermined, finite, and reasonable amount of time.

11.5   Address equipment costs

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

11.6   Address drop costs

Drop costs, especially in rural areas where houses are often set back far from the public road, can be very high. Since applicants are required to absorb such costs to connect subscribers under BEAD terms, they will factor these costs into cost proposals. Prospects for lowering such costs could lead to lower BEAD outlay requests and therefore more unserved and underserved locations that can be connected with Priority Broadband Projects (i.e., deployment of fiber-to-the-premises, as discussed in Section 5).

The Oregon Joint Use Association (OJUA) maintains a map [77] of poles intended as a collaborative tool for communication between Oregon pole owners and ISPs as well as extensive maps showing the service territories and inspection areas of utility providers. [78] OBO will seek to ensure that potential applicants know of these resources.

The state will consult with ILECs and CLECs to assess the feasibility of using existing copper telephone wires on utility poles to overlash drop fiber cables. The state will also consult with electric utilities to assess the feasibility of using existing messenger wires that support low-voltage power to overlash drop fiber cables.

11.7   Strike a balance between skilled and certified labor requirements and the cost of labor

Extending Priority Broadband to the maximum number of unserved and underserved households and businesses requires lowering barriers to entry and the cost of construction, which includes labor costs. At the same time, the state is committed to fair labor standards and wages that reflect the skills and certifications of workers.

Accordingly, the state will require certifications appropriate to specific risks and roles, rather than overly broad professional requirements that would require specialized labor for low-skill tasks. OBO will apply standards consistent with previous broadband initiatives and best practices provided by industry organizations.

In addition, when engineering documentation requiring a Professional Engineer (PE) certification is a condition of grant participation, OBO will accept PE certifications from other states in the region.

11.8   Increase supply of labor through workforce development initiatives

OBO's workforce development plan is outlined in Section 9.

11.9   Provide information regarding environmental compliance

OBO will provide informational resources to Oregon state agencies on potential ways to fast-track screening for environmental safety evaluations with NTIA

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[77] "Oregon Utility Mapping Project," OJUA, https://www.ojua.org/oregon-utility-mapping-project/.
[78] "Oregon Utility Provider Maps," OJUA, https://ojua.maps.arcgis.com/home/index.html.

guidance to simplify and help awardees navigate the environmental and historic preservation review process.

For example, the Oregon Department of Environmental Quality (DEQ) has implemented an online system (Your DEQ Online) to streamline its permitting process, with the goal of reducing the time and resource burden to applicants, improving the turnaround time to issue permits, and enhancing transparency.[79] The Oregon State Historic Preservation Office (SHPO) also offers online resources to support its consultation process for project review and compliance, including standard forms;[80] through "Go Digital," SHPO accepts online submittals for both built environment and archaeological review.[81]

Depending on industry interest, OBO may also create a technical assistance committee consisting of ISP and agency representatives to share expertise and information regarding compliance reporting.

11.10   Reduce materials costs

OBO and BEAD subgrant awardees will collaborate to reduce the cost of materials by identifying and sharing information about vendors that are compliant with BABA policies and, where applicable, negotiating discounted rates.

Additionally, the state will encourage the creation of joint purchasing coalitions and joint purchasing agreements among awardees to provide them with additional leverage through which they may negotiate lower materials costs.

11.11   Support ISP efforts

11.11.1 Connect local and community banks with service areas overlapping eligible locations to local grant applicants

OBO will reach out to the Federal Reserve Bank of San Francisco to obtain a list of credit unions and community banks in Oregon and make a list of such banks available to ISPs. In addition, it will work with the Federal Reserve to provide Oregon

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[79] "Online Services," DEQ, https://www.oregon.gov/DEQ/PERMITS/Pages/default.aspx.

[80] "Begin Project Review Process," Oregon Parks and Recreation Department, https://www.oregon.gov/oprd/OH/Pages/ProjectReview.aspx.

[81] "Go Digital Instructions With Examples," SHPO, https://www.oregon.gov/oprd/OH/Documents/Go_Digital_Instructions_with_Examples_Final05.22.18.pdf.

credit unions and community banks with partnership models and options for banks to work with community development organizations and private partners to underwrite loan guarantees for local banks to provide letters of credit.

12. 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 Oregon.

The impacts of climate change are already being felt across Oregon. As a result, the state began taking steps decades ago to enhance community resilience to sea level rise, storm surge, flooding, and other risks 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.

At the close of the most recent legislative session, the Oregon legislature passed two omnibus bills, a Climate Package (HB 3409) and an Energy Package (HB 3630).[82] They declare climate emergency and take measures to address climate change and improve resilience.

At the direction of the Oregon State Legislature, the Oregon Climate Change Research Institute (OCCRI) issues a biennial assessment of scientific findings on climate change in the state and its likely effects to support the state's mitigation planning. The Sixth Oregon Climate Assessment was issued in January 2023.[83]

In accordance with the Disaster Mitigation Act of 2000, the state of Oregon has routinely published a statewide Natural Hazards Mitigation Plan[84] (NHMP). In the NHMP, the state has worked to identify the hazards most likely to impact the people of Oregon 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 NHMP was authored in 2020 and will be updated once more by 2025.

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[82] "HB 3409," Oregon State Legislature, https://olis.oregonlegislature.gov/liz/2023R1/Measures/Overview/HB3409; "HB 3630," Oregon State Legislature, https://olis.oregonlegislature.gov/liz/2023R1/Measures/Overview/HB3630. See also, e.g., "2023 Legislative Report," Oregon Public Utility Commission, https://www.oregon.gov/puc/forms/Forms%20and%20Reports/2023-Legislative-Session-Report.pdf.
[83] "Sixth Oregon Climate Assessment," Oregon Climate Change Research Institute, January 2023, https://ir.library.oregonstate.edu/concern/technical_reports/gt54kw197.
[84] Oregon Department of Land Conservation and Development, "Oregon Natural Hazards Mitigation Plan," 2020. https://www.oregon.gov/lcd/NH/Documents/Approved_2020ORNHMP_00_Complete.pdf (accessed October 5, 2023).

In addition to statewide planning, many permitting requirements and construction standards will govern the construction of BEAD-funded networks. These requirements will be subject to local ordinances. The state has taken steps to ensure local policy makers are taking the latest climate projection data into account as they set their standards and requirements.

To this end, the state has prepared numerous resources to support local policy makers to help increase the resilience and adaptability of their jurisdictions, including publishing helpful documents and resources for localities to prepare their own community sustainability plans and climate change vulnerability assessment and action plans. The Oregon Department of Land Conservation and Development (DLCD), which issues the state NHMP, helps cities, counties, and special districts develop local NHMPs which are reviewed by the Oregon Department of Emergency Management (OEM) and by FEMA. The nine federally recognized tribal governments in Oregon work directly with FEMA to prepare their NHMPs and DLCD provides technical assistance as requested.[85]

12.1 Identifying geographic areas subject to initial hazard screening

The NHMP 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 (80th-100th percentile).

Relative to many other states, Oregon does not face significant risks from natural hazards or disasters. According to FEMA's overall risk index, none of the state's 36 counties are identified as being at very high risk and five (Lane, Marion, Clackamas, Washington, and Multnomah Counties) are at relatively high risk. An additional 14 counties are identified as facing relatively moderate risk.

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[85] "Natural Hazards Mitigation Planning," DLCD, https://www.oregon.gov/lcd/nh/pages/mitigation-planning.aspx.

Figure 5: Composite hazard risk scores in Oregon
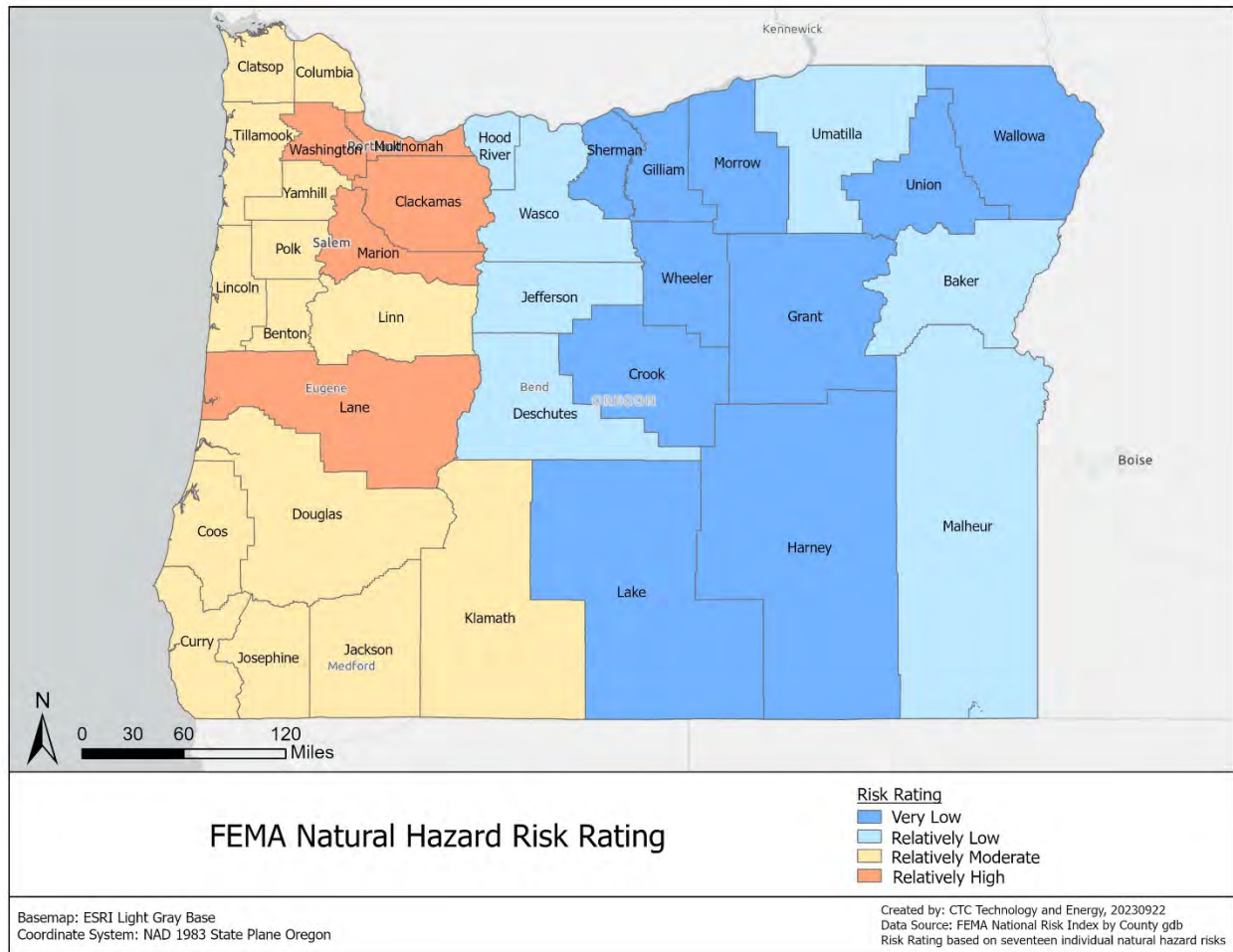
12.2   Weather and climate hazards to account for and respond to

The weather and climate hazards that are most important to account for and respond to in the state of Oregon are those associated with extreme rain and storms (e.g., flooding, landslides, hail, and lightning), those associated with wildfires, and those risks specific to coastal areas (e.g., coastal flooding).

Other threats include tsunamis, cold waves, and heat waves, but these threats either rarely impact Oregon 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.[86] for individual hazards across the state to understand the risk to BEAD assets associated with individual hazards. The contextualizing narratives are adapted from the NHMP and will aid BEAD subgrantees in determining which risks are a priority for mitigation.

12.2.1 Inland flooding

Oregon has an extensive history of flooding, and since 1960 at least one damaging flood has occurred in Oregon in 42 of the 52 years reported by NOAA.[87]

Damage and loss of life occur when flood waters come into contact with the built environment or where people congregate. Flooding can have secondary effects of causing stream bank erosion and channel migration, or precipitating landslides. While some counties and cities are more susceptible to both flood events and damages, every Oregon county has suffered flood losses at one time or another. Due to a catastrophic flood event in February 1996, 27 of Oregon's 36 counties were eventually covered by a Presidential major disaster declaration and statewide damages totaled over $280 million.

Flooding in the state can be classified into multiple categories. Riverine flooding, which is caused by the passage of a larger quantity of water than can be contained within the normal stream channel, is the most common flood hazard in Oregon. The most severe flooding conditions occur when heavy rainfall is augmented by rapid snowmelt.

Oregon also experiences other types of floods such as flash flooding (typically in the summer during the thunderstorm season), flooding in colder regions of the state during winter and early spring when the dam caused by an "ice jam" is breached, and urban flooding where land is converted to roads, roofs, and parking lots and loses its ability to absorb rainfall. Dam failures and accidents, though rare, can also result in extreme flooding downstream of the dam. Coastal areas have additional flood hazards, which are discussed in Section 12.2.5.

Climate change is expected to affect riverine flood risk as it is strongly associated with the dominant form of precipitation in a basin, with mixed rain-snow basins in

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

[87] "Storm Events Database," NOAA, https://www.ncdc.noaa.gov/stormevents/.

Oregon already seeing increases in flood risk. Generally, western Oregon basins are projected to experience increased precipitation, including extreme precipitation, which is likely to result in increased extreme river flows in future decades. It is very likely (>90 percent) that Oregon will experience an increase in the frequency of extreme precipitation events (high confidence). It is very likely that Oregon will experience an increase in the frequency of extreme river flows (high confidence). Most projections of extreme river flows show increases in flow magnitude at most locations across Oregon.

However, when considering rain-on-snow events, which cause some of the biggest floods in Oregon, there are some contradictory results as to how the changes in these events will affect flood magnitudes in different areas of the state and at different elevations. Overall, it is more likely than not (>50 percent) that increases in extreme river flows will lead to an increase in the incidence and magnitude of damaging floods (low confidence), although this depends on local conditions (e.g., site-dependent river channel and floodplain hydraulics).

Due to its geographic ubiquity and severity, this hazard is likely to pose a threat to BEAD assets. Many counties in Oregon are at very high risk of inland flooding, and an additional three counties carry a relatively high risk level. In these counties, project planners would be advised to consider, and design mitigations for, the risks from inland flooding.

Figure 6: Map of inland flooding risk in Oregon

Riverine Flooding Risk
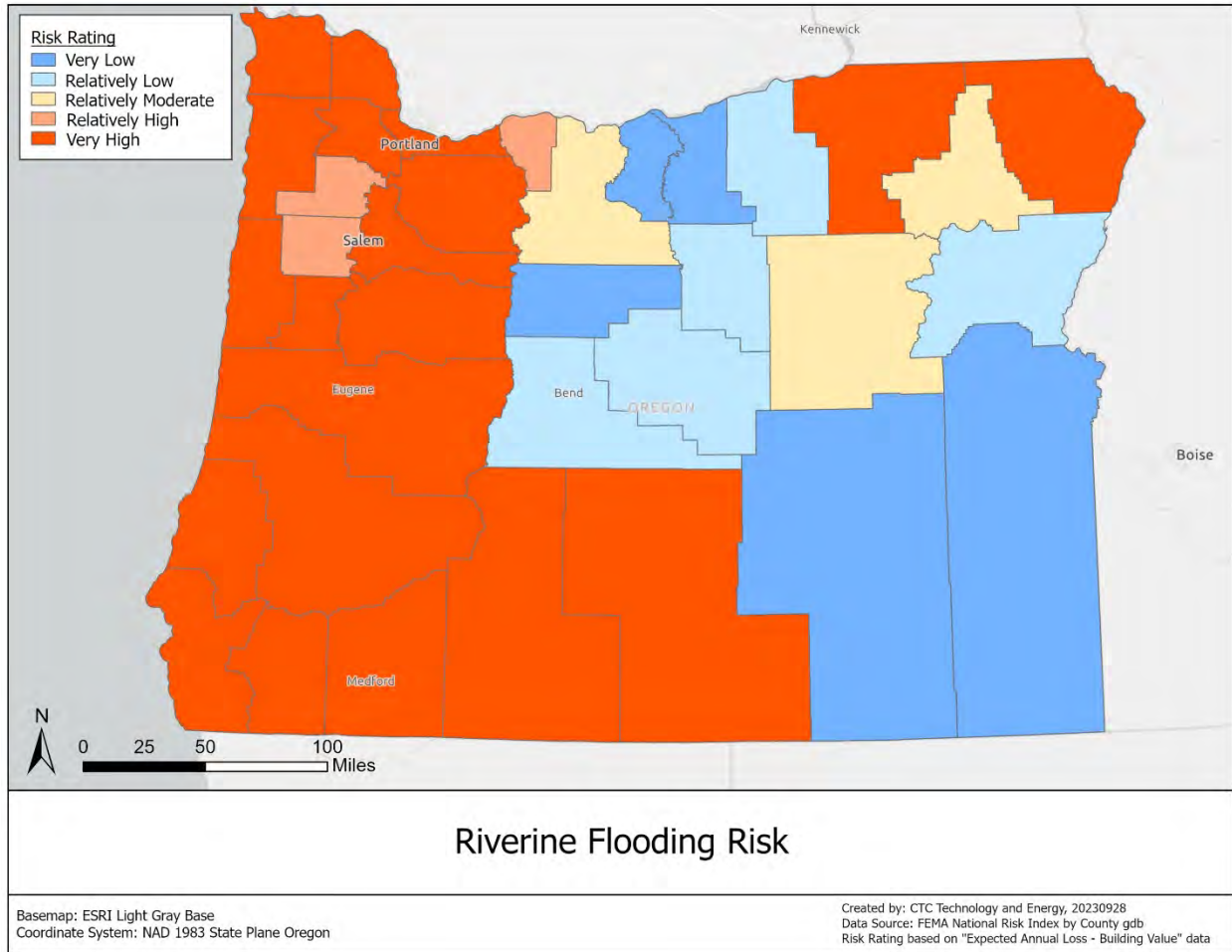
12.2.2 Hail

Nationwide, hail caused over $340 million in total damage in 2022 and over $1 billion in damage in 2021.[88], [89] Some weather events in Oregon that caused historic windstorms or flooding have also brought damaging hail: for example, in June 2006 strong winds and hail caused $7 million in insurance claims for damage to automobiles and homes in Deschutes County, and $20 million in insurance claims for damage to automobiles and homes in Crook County. Malin and Yonna Valleys in

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[88] "Summary of Natural Hazard Statistics for 2022 in the United States," National Weather Service, generated June 14, 2023, https://www.weather.gov/media/hazstat/sum22.pdf.
[89] "Summary of Natural Hazard Statistics for 2021 in the United States," National Weather Service, generated April 18, 2023, https://www.weather.gov/media/hazstat/sum21.pdf.

Klamath County experienced extensive wind, rain, and hail damage in July 2007 that downed several power lines due to falling trees.

In Oregon, Deschutes County is the only county with a very high risk from hail, and adjoining Crook County faces relatively high risk. While BEAD deployment construction in these counties should take hail into account, it is not the highest priority hazard to mitigate.

Figure 7: Map of hail risk in Oregon
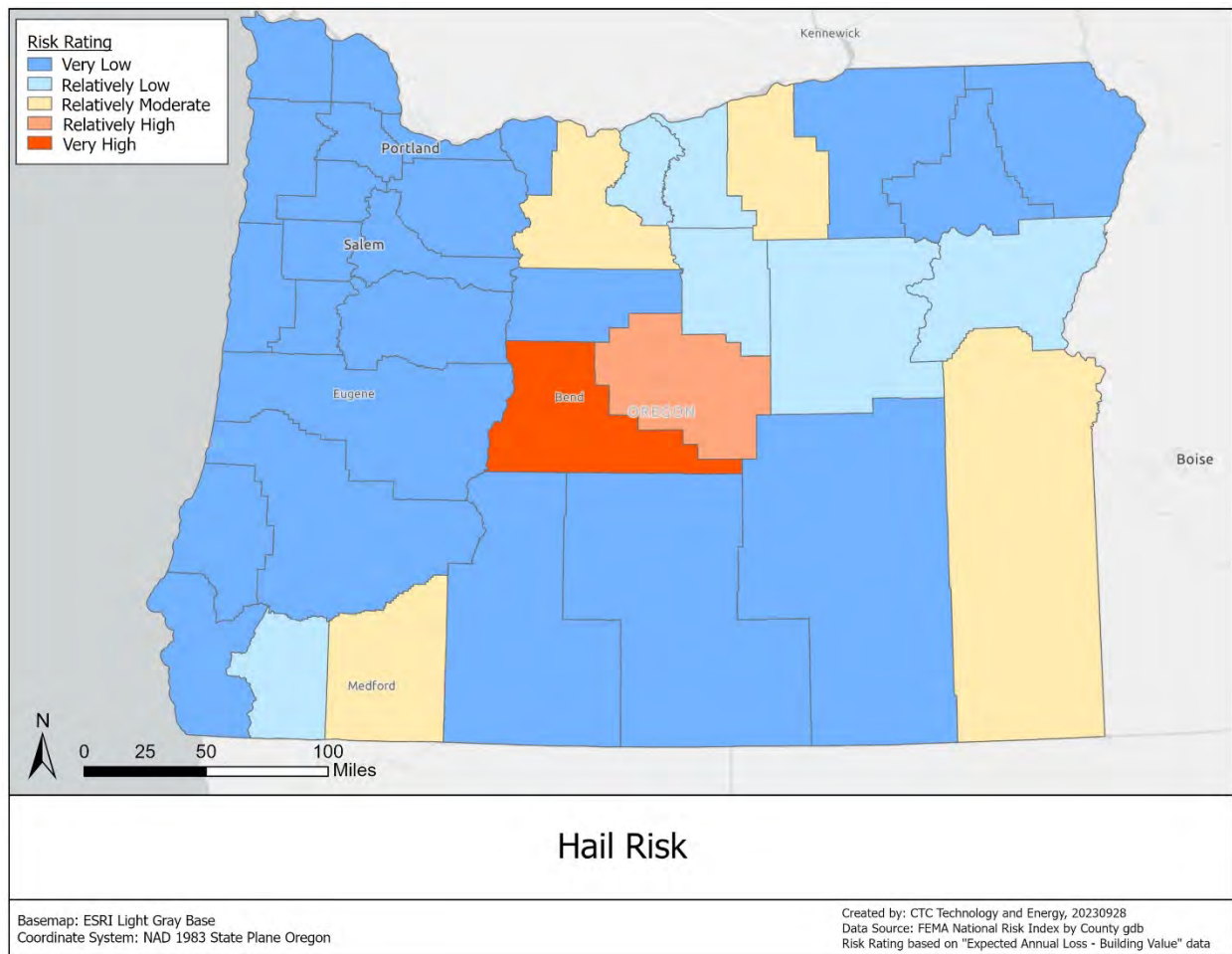
Changing climate conditions may result in warmer winters, the benefits of which may in time include a lower frequency of hail events. This would further reduce the risk from hail across the state. It is difficult to predict this system due to the uncertainties in long term models of climate changes.

12.2.3 Lightning

There are tens of thousands of lightning strikes in Oregon each year. Summer weather patterns produce lighting storms across multiple regions of the state, with central Oregon in particular seeing high lightning potential.

Based on analysis of historically common wildfire ignition sources, lightning is the most common in Oregon, and it is the primary cause of fires which require activation of Oregon's Conflagration Act. Aside from their potential to start destructive wildfires, however, lighting strikes can cause significant damage to infrastructure: a 2006 lightning strike to a building in Josephine County caused $60,000 in damage, for example. In July 2006, lightning from a severe storm hit an electrical transmission line in Deschutes County, knocking out power to 31,500 people.

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, comparatively few counties face significant risks from lightning, with two counties (Deschutes and Washington) at very high risk and one (Crook) at relatively high risk. Eight counties are at relatively moderate risk. 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 8: Map of lightning risk in Oregon

Lightning Risk

Basemap: ESRI Light Gray Base
Coordinate System: NAD 1983 State Plane Oregon

Created by: CTC Technology and Energy, 20230928
Data Source: FEMA National Risk Index by County gdb
Risk Rating based on "Expected Annual Loss - Building Value" data
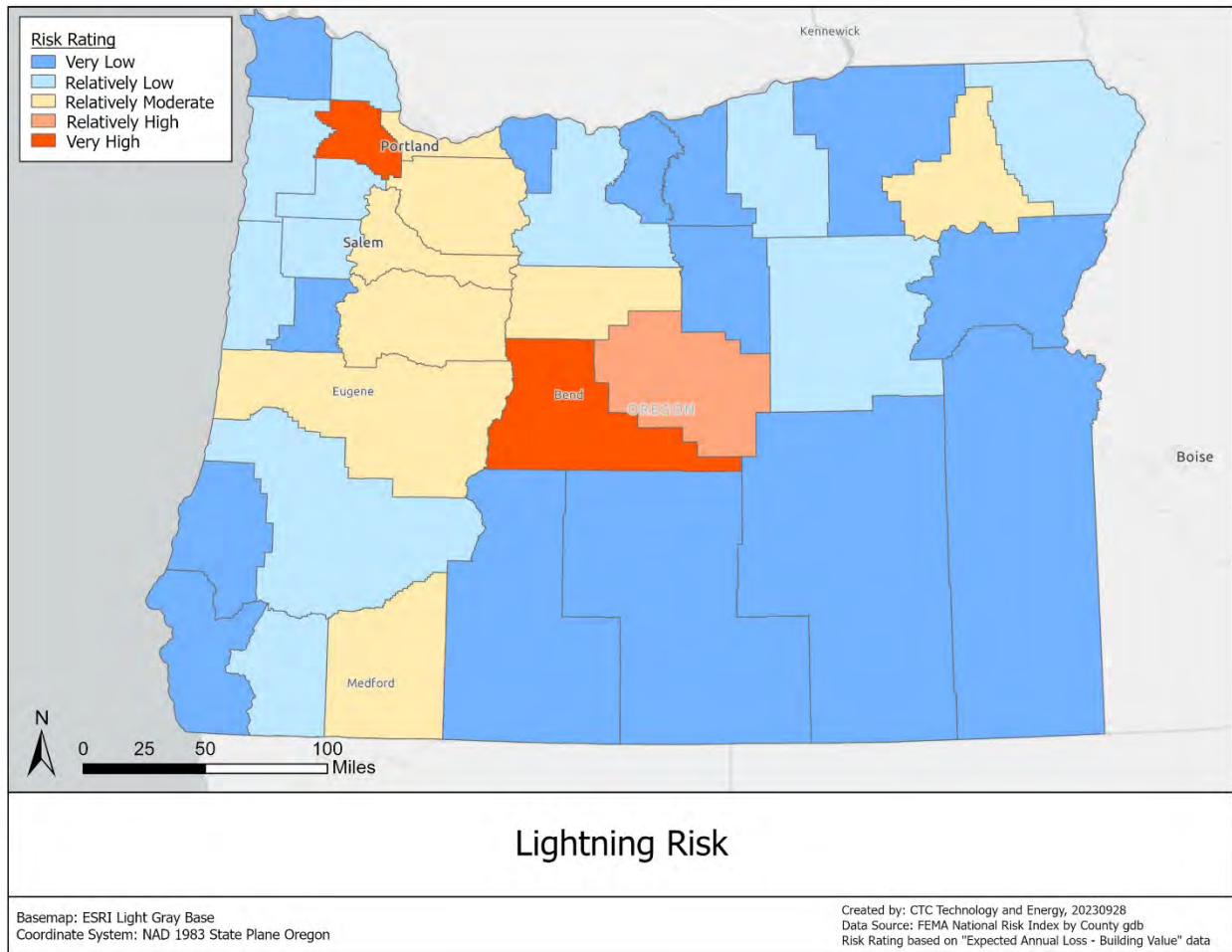
12.2.4 Cold waves

Exposure to cold can cause frostbite and life-threatening hypothermia. Hypothermia begins to occur when a person's body temperature drops three degrees below normal temperature. Cold temperatures can cause hypothermia in anyone who is not adequately clothed or sheltered in a place with adequate heat. Wind chill (i.e., a measure of how cold the combination of temperature and wind feels) of 50°F or lower can be very dangerous: exposed skin can develop frostbite in less than a minute, and a person or animal could freeze to death after just 30 minutes of exposure.

Severe cold can also cause significant harm by damaging crops and other vegetation and by freezing pipes, causing them to burst. Unusually cold temperatures are especially dangerous in areas not accustomed to them because

people in Oregon are generally unprepared and may not realize the dangers severe cold presents.

Winter storms occur annually in Oregon that bring snow to the mountains and much of Eastern Oregon. Approximately every four years, winter storms also bring extreme cold temperatures, snow, sleet, and ice to Oregon's western valley floors. Because these storms are infrequent and tend to last only a few days, people in western Oregon are often unprepared for such events.

Cold waves pose minimal risk to physical infrastructure but may inhibit timely repair of infrastructure.

Figure 9: Map of cold wave risk in Oregon
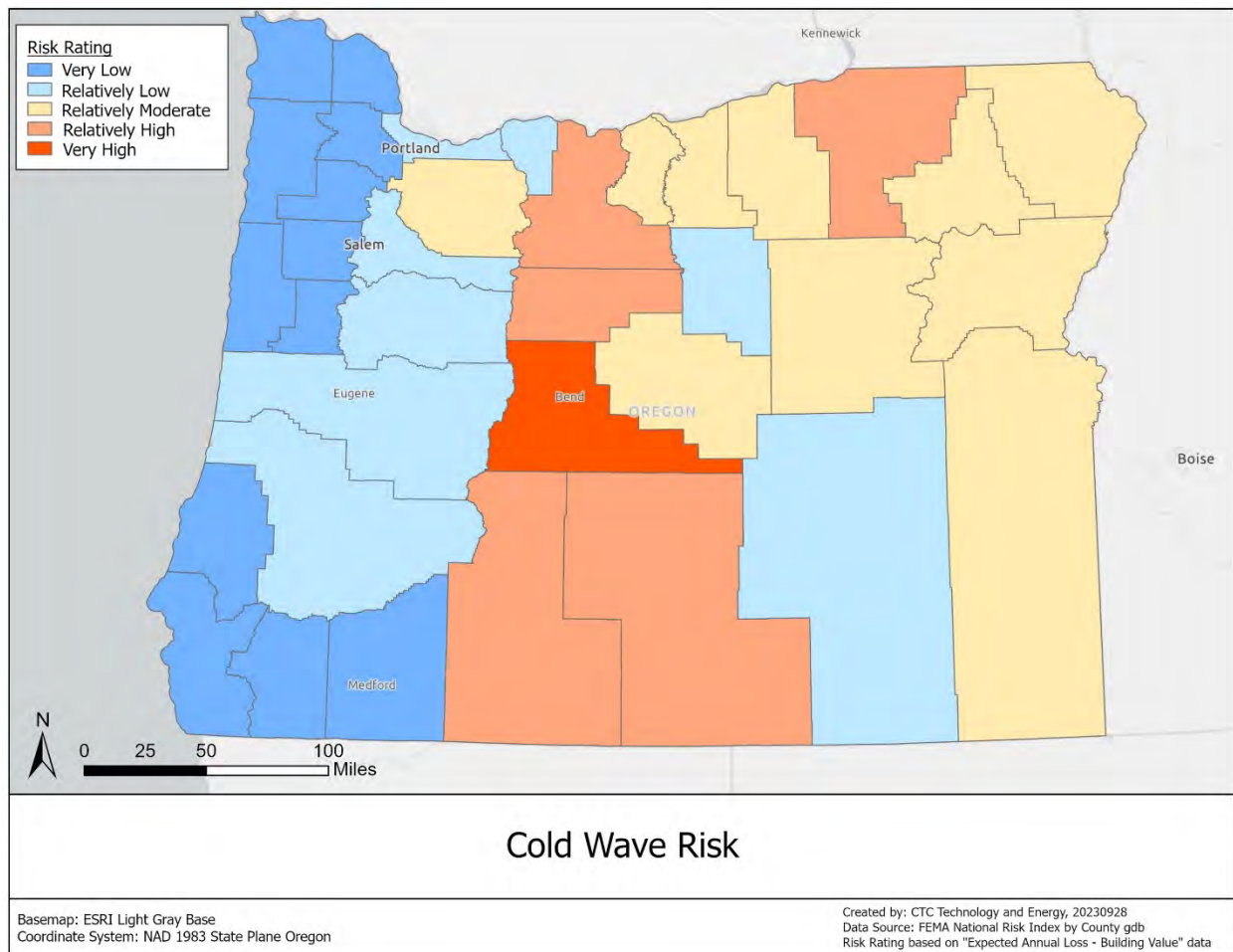
Changing future conditions have the potential to result in warmer winters, the benefits of which may in time include a lower frequency of cold wave events. It is

difficult to precisely predict cold wave outcomes due to the uncertainties in long term models of climate changes.

12.2.5 Coastal flooding

The Pacific Northwest (PNW) coast of Oregon is without doubt one of the most dynamic coastal landscapes in North America, drawing people to live along its narrow shores. However, coastal communities are increasingly under threat from a variety of natural hazards that all come together along the coastal strip—including wave-induced coastal erosion (both short- and long-term) and wave runup and overtopping (wave-induced flood hazards).

A particular concern is that the local geology and geomorphology of the region have restricted development to low-lying areas that are highly susceptible to increased impacts as erosion processes and flood hazards intensify, driven by rising sea level and increased storminess.

The Oregon coast is exposed to one of the most extreme ocean wave climates in the world, due to its long fetches and the strength of the extratropical storms that develop and track across the North Pacific. These storms exhibit a pronounced seasonal cycle producing the highest waves (with a mean of 12.8 feet) in the winter, with winter storms commonly generating deep-water wave heights greater than 33 feet; the largest storms in the region have generated waves in the range of 45 to 50 feet. When large waves are superimposed on high tides, they can reach much higher elevations at the back of the beach, contributing to significantly higher rates of coastal erosion and flood hazards.

All counties along Oregon's coastline, as well as Columbia, Multnomah, and Clackamas Counties, carry a very high risk of coastal flooding. Therefore, projects awarded via BEAD should consider hazard mitigation techniques that specifically account for the possibility of coastal flooding.

Figure 10: Map of coastal flooding risk in Oregon
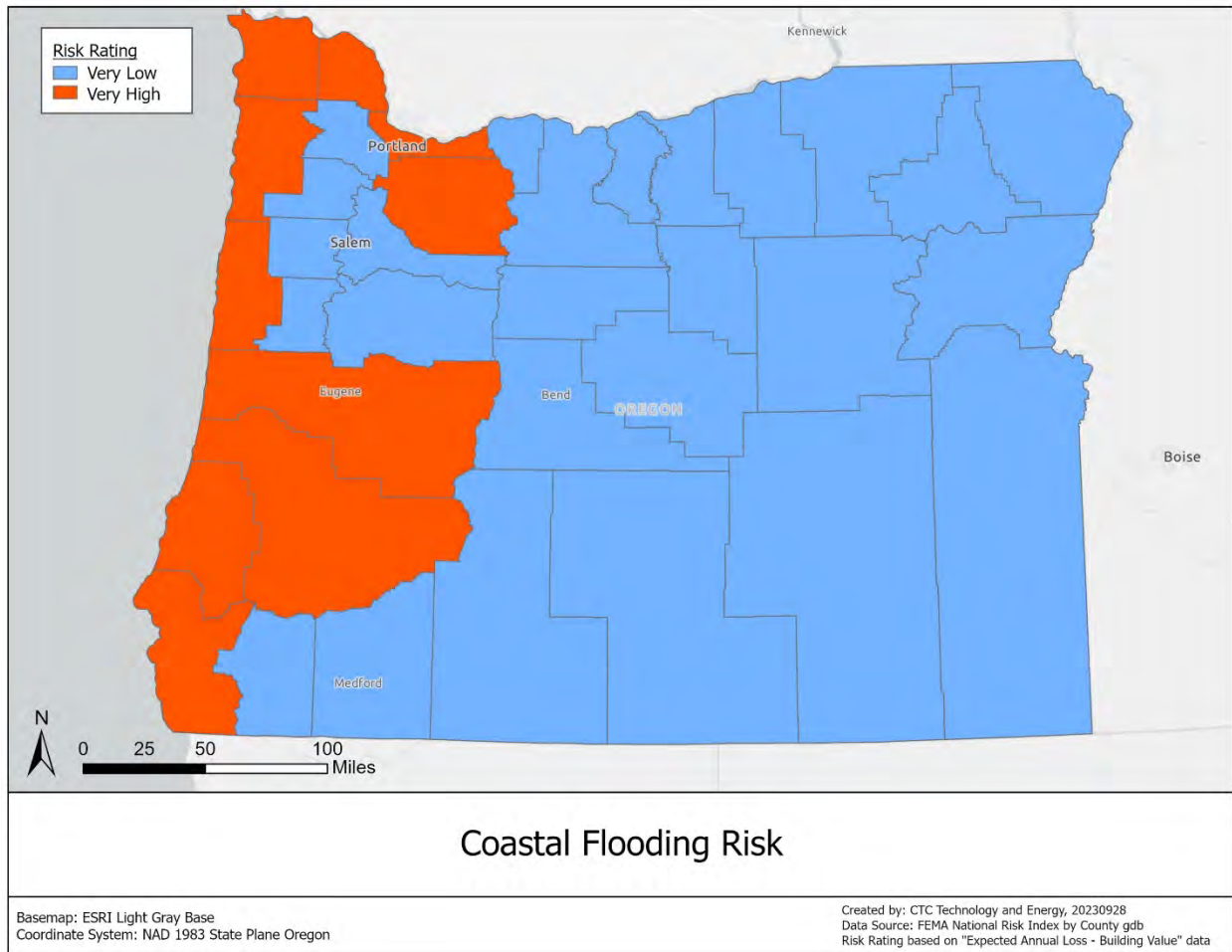
Changing future conditions are very likely to increase the sea level in the Pacific Ocean, causing an increase in coastal floods across the coast. Additionally, the anticipated warming of the Pacific will increase the severity of storms and storm surges. This adds to the import of proactive hazard mitigation strategizing.

12.2.6 Wildfire

Wildfires are a common and widespread natural hazard in Oregon, and the state has a long history of wildfire. In addition to being a chronic occurrence, wildfires frequently threaten communities at the "wildland-urban interface" (WUI) where structures and other human development meet or intermingle with natural vegetative fuels.

Oregon has more than 41 million acres (more than 64,000 square miles) of forest and rangeland that is susceptible to damage from wildfire, as well as significant

agricultural areas which grow crops that are also susceptible to damage. On average, 97 percent of the fires in the state are suppressed at 10 acres or less. Unfortunately, the remaining 3 percent of the fires tend to be damaging and very difficult to manage.

The majority of wildfires take place between June and October, though fire season has been increasing in length since 1970 and is now, on average, 78 days longer than it used to be—largely a result of warming temperatures.

Wildfires burn primarily in vegetative fuels located outside highly urbanized areas, and may be broadly categorized as agricultural (i.e., burning in areas where the primary fuels are flammable cultivated crops), forest, range (i.e., burning across open lands used predominantly for grazing or wildlife management purposes), or WUI fires. Nationally, WUI fires have frequently resulted in catastrophic structure losses as fire can spread rapidly from natural fuels to structures and vice versa, large numbers of structures are simultaneously exposed, and—especially in the early stages—structural fire suppression resources may be quickly overwhelmed.

An analysis of large fire costs and acres burned for Oregon Department of Forestry (ODF) protected lands since 2006 shows a significant shift in 2013, when the cost and burned acreage severely increased. This increase is consistent with the trend over the last several decades of warmer and drier conditions during the summer months that have contributed to an increase in fuel aridity enabling more frequent large fires and an increase in the total area burned across the western United States. Human-caused climate change is partially responsible for these trends, which are expected to continue increasing under continued climate warming.

Twenty-two of Oregon's 36 counties, covering the majority of the state's land area, are at very high risk for wildfire, and an additional county (Curry) is at relatively high risk.

Figure 11: Map of wildfire risk in Oregon

Wildfire Risk
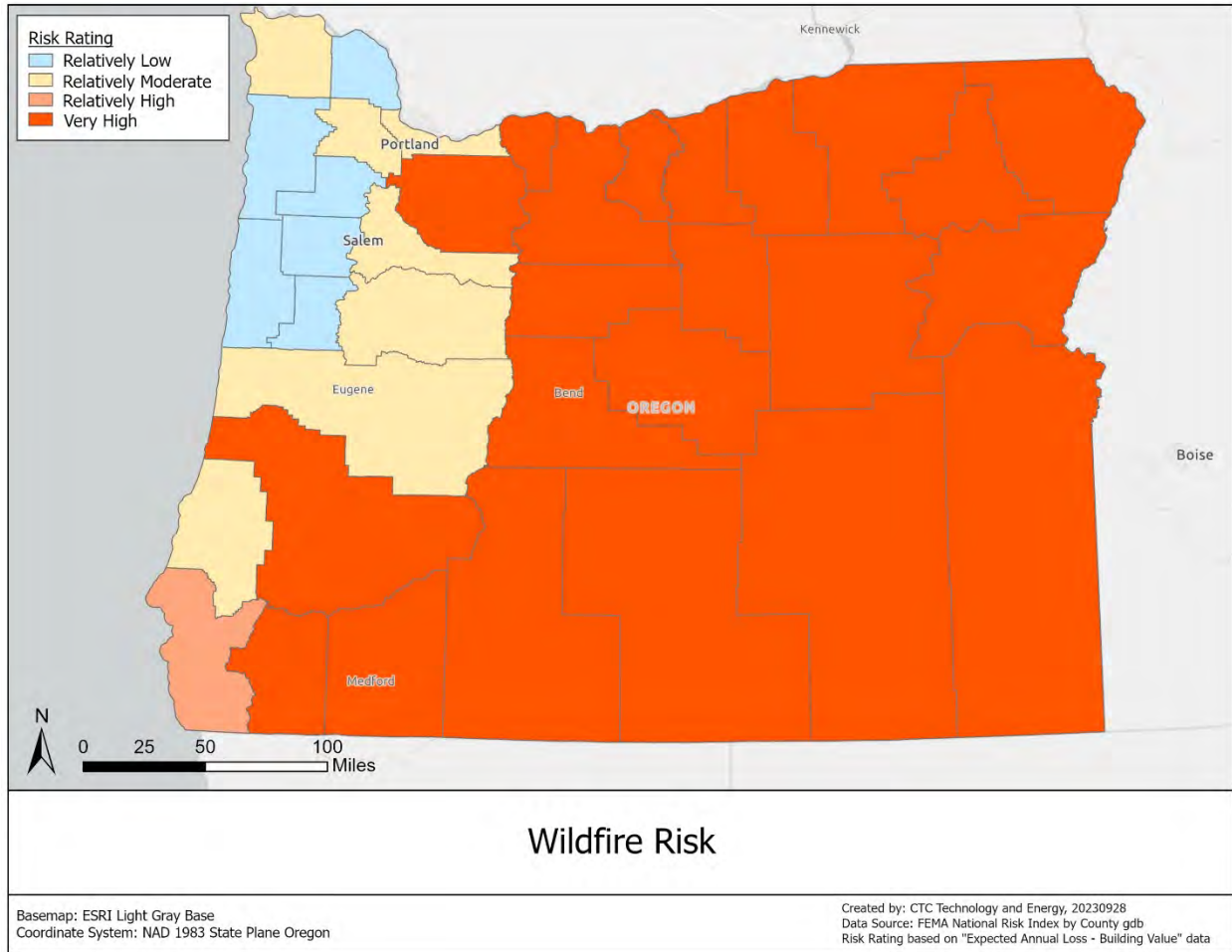
12.2.7 Tsunami

Tsunamis, most often caused by the abrupt change in the seafloor accompanying an earthquake, are a low frequency natural hazard in Oregon and are restricted almost exclusively to coastal areas. As noted above in the section on coastal flooding, climate change is likely to exacerbate coastal flooding hazards by increasing the sea level in the Pacific Ocean.

Distant tsunamis caused by earthquakes on the Pacific Rim strike the Oregon coast frequently but only a few of them have caused significant damage or loss of life. Local tsunamis caused by earthquakes on the Cascadia Subduction Zone (CSZ) happen much less frequently but will cause catastrophic damage and, without effective mitigation actions, great loss of life.

Tsunamis are generally more destructive than the earthquake that caused them. The initial tsunami wave mimics the shape and size of the sea floor movement that causes it, but quickly evolves into a series of waves that travel away from the source of disturbance, reflect off of coastlines, and then return over many hours. As a tsunami approaches land where the water depth decreases, the forward speed of the wave will slow and the wave height increase dramatically. When the wave makes landfall, the water is mobilized into a surging mass that floods inland until it runs out of mass and energy. The wave then retreats, carrying all sorts of debris. The inland wave of water can often cause most or all of the damage, and the current may be just as destructive when it is retreating from the land as when it is advancing. Successive waves then batter the coast with the accumulated debris.

Tsunami risk in Oregon is limited to coastal areas, but all the counties along Oregon's coastline are at very high risk from a tsunami.

Figure 12: Map of tsunami risk in Oregon
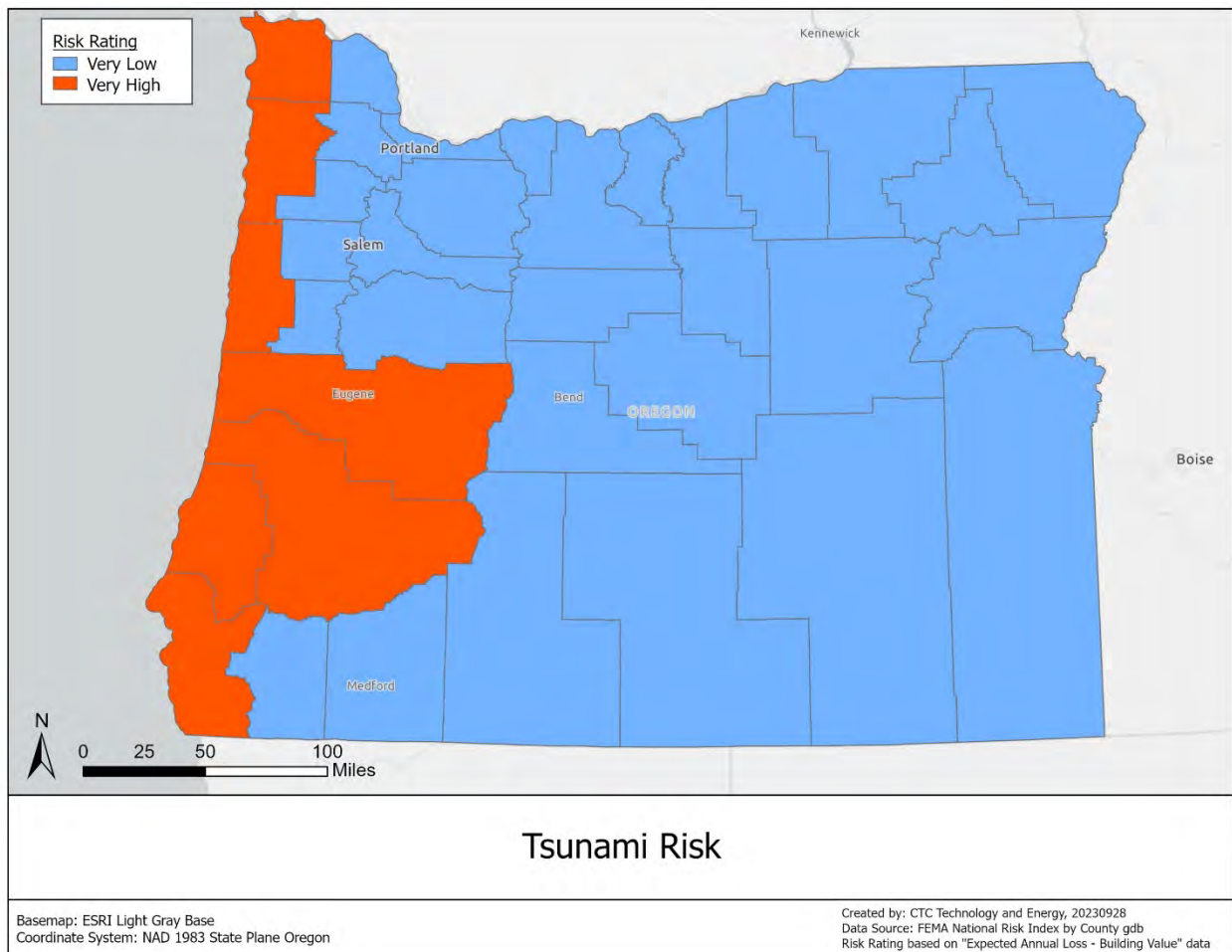
12.2.8 Landslide

Landslides can be found throughout Oregon, and they are one of the most common and devastating geologic hazards in the state. Average annual repair costs for landslides in Oregon exceed $10 million and individual severe winter storm losses can exceed $100 million. As population growth continues to expand and development into landslide susceptible terrain occurs, greater losses are likely to result.

Oregon has declared 28 major disaster declarations from 1955 through 2012, and most of these are related to storm events causing flooding and landslides.

The term "landslide" encompasses a wide range of geologic processes and a variety of nomenclatures that can lend itself to confusion. The general term refers to a range of mass movements including rock falls, debris flows, earth slides, and more. All landslides have different frequencies of movements, triggering conditions, and very different resulting hazards.

In Oregon, landslides are typically triggered by periods of heavy rainfall and/or rapid snowmelt. They can also be caused by earthquakes, volcanoes, and human activities. Three main factors influence an area's susceptibility to landslides: geometry of the slope, geologic material, and water. In general, locations with steep slopes are most susceptible to landslides, and the landslides occurring on steep slopes tend to move more rapidly and therefore may pose life safety risks. Areas that have failed in the past often remain in a weakened state, and many of these areas tend to fail repeatedly over time.

Every county in Oregon is at very high or relatively high risk of landslides.

Figure 13: Map of landslide risk in Oregon
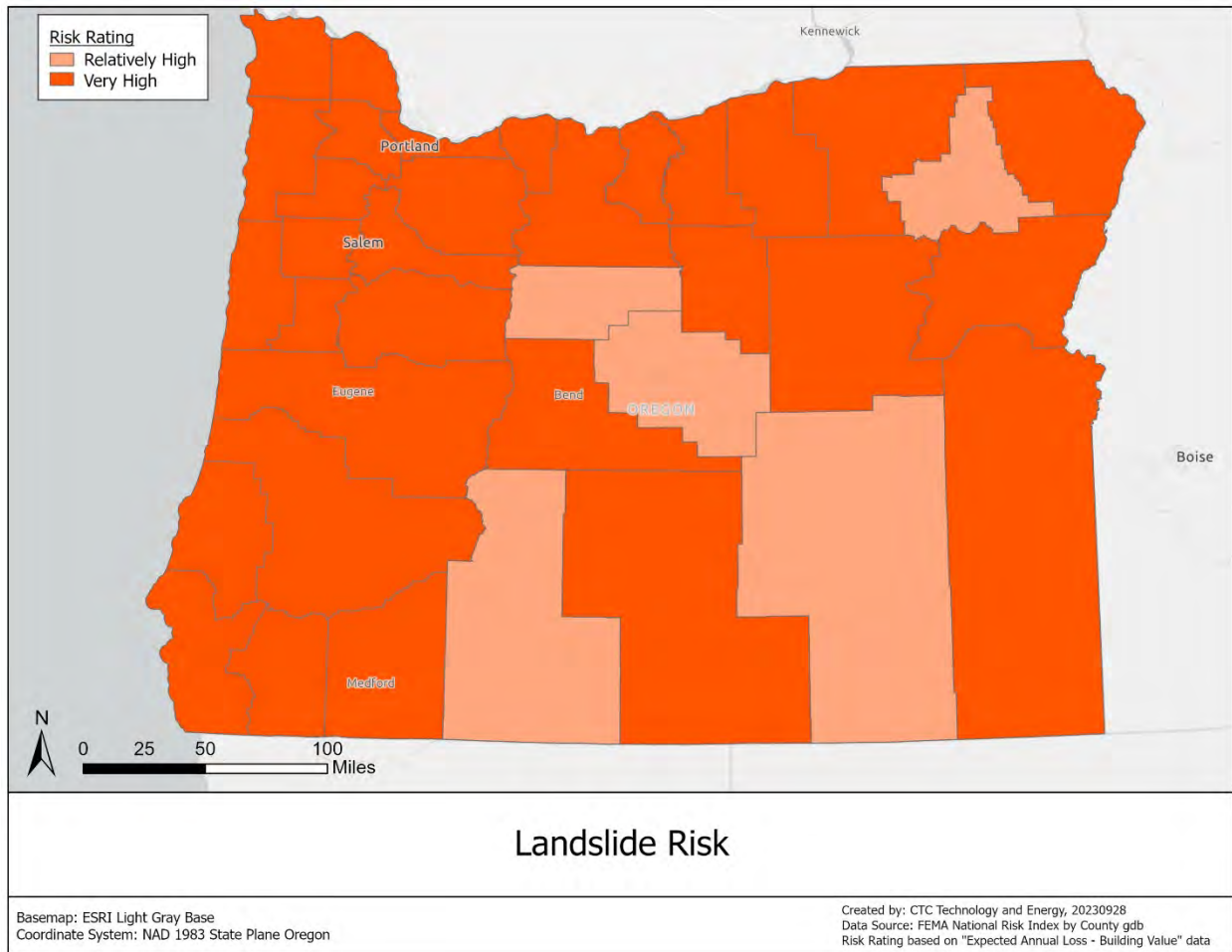
Landslide Risk

It is very likely (>90 percent) that Oregon will experience an increase in the frequency of extreme precipitation events due to climate change (high confidence). Because landslide risk depends on a variety of site-specific factors, it is more likely than not (>50 percent) that climate change will result in increased frequency of landslides.

12.2.9 Heat wave

Extreme heat is included as a hazard in the 2020 Oregon NHMP for the first time due to the recognition that as the climate continues to warm, extreme heat events will be an emerging hazard with implications for public health as well as infrastructure. Extreme heat events are expected to increase in frequency, duration, and intensity in Oregon due to continued warming temperatures.

The National Weather Service issues heat warnings when the heat index exceeds given local thresholds. The heat index is a measure of how hot it feels combining both temperature and relative humidity. As relative humidity increases, a given temperature can feel even hotter.

There have historically been few places in Oregon that experience substantial number of days with heat index greater than 90°F. Under future climate change, however, nearly the entire state could see substantial increases in such extreme heat days.

In addition to human health impacts, extreme heat events can disrupt transportation by delaying rail and air transportation when safe operating guidelines are exceeded, damaging rail tracks that may bend or roadway joints that may buckle under extreme heat. Heat waves can increase the demands on electric power for cooling, increasing the risk of cascading failures within the electric power network.

Heat wave risk is widespread in Oregon: 21 counties are at very high risk, 11 are at relatively high risk, and the remaining four counties are at relatively moderate risk.

Figure 14: Map of heat wave risk in Oregon

Heat Wave Risk
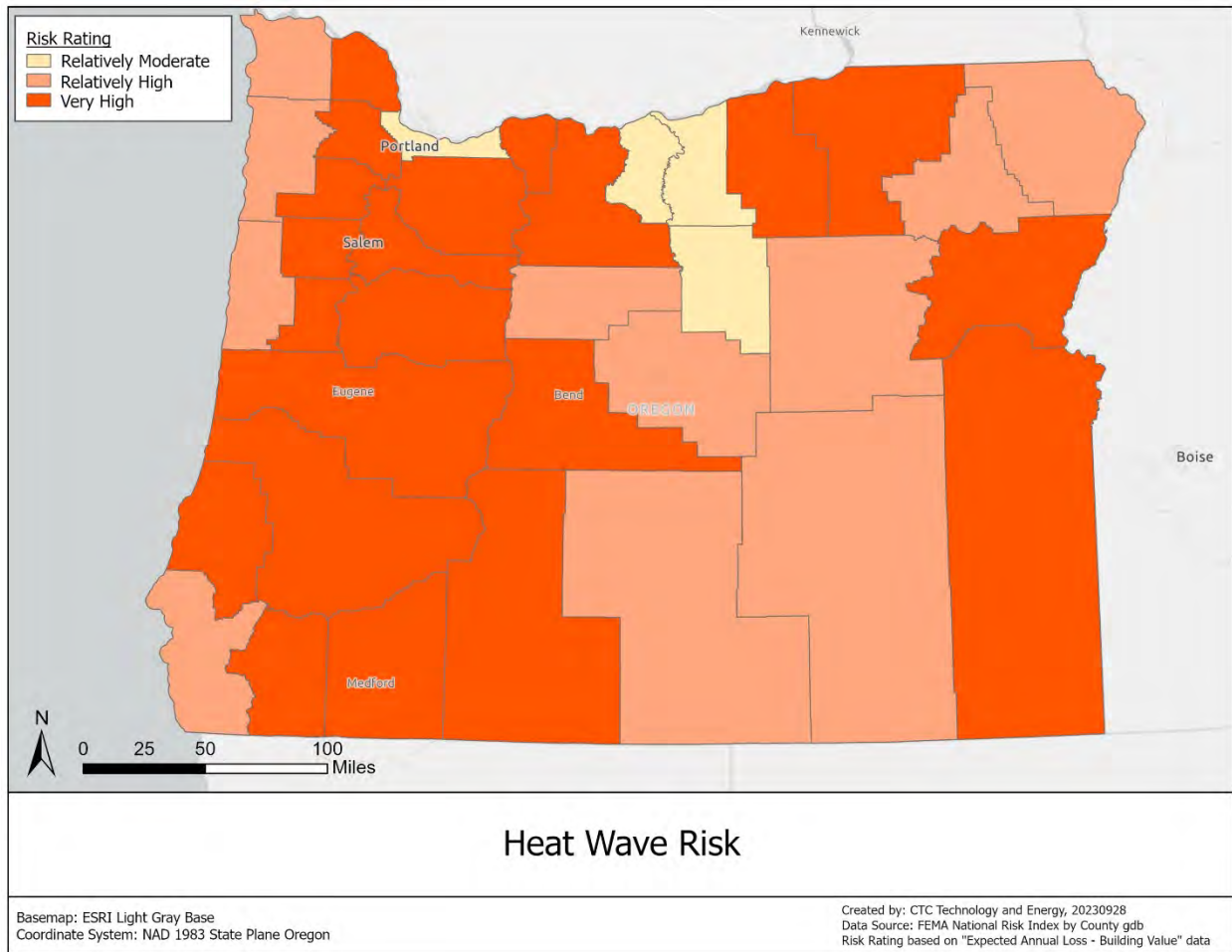
12.2.10 Earthquake

Oregon has experienced few damaging earthquakes during its recorded history, but large destructive earthquakes elsewhere in the world have heightened awareness of the hazard. Recognized hazards range from moderate sized crustal earthquakes in eastern Oregon to massive subduction zone megathrust events off the Oregon coast. All have the potential for significant damage.

The Juan de Fuca plate slides beneath the continent (subducts) at about 1.5 inches per year, a speed which has been directly measured using high-accuracy GPS. The fault that separates the plates extends from Cape Mendocino in Northern California to Vancouver Island in British Columbia, and slopes down to the east from the sea floor. The fault is usually locked, so that rather than sliding slowly and continuously, the 1.5 inches per year of subduction motion builds tremendous stress along the

fault. This stress is periodically released in a megathrust earthquake, which can have a magnitude anywhere from 8.3 to 9.3.

Future crustal earthquakes will occur along one of many Oregon fault lines; the shaking will be strongest near the epicenter and will decrease fairly quickly as you move away. As a result, a magnitude 6 earthquake in Klamath Falls may cause significant damage near the epicenter but will be only weakly felt in Medford or Eugene. Coastal earthquakes are associated with risks of tsunami, as discussed in section 12.2.7.

As shown in the map below, most of Oregon is at Very High risk of earthquakes.

Figure 15: Map of earthquake risk in Oregon
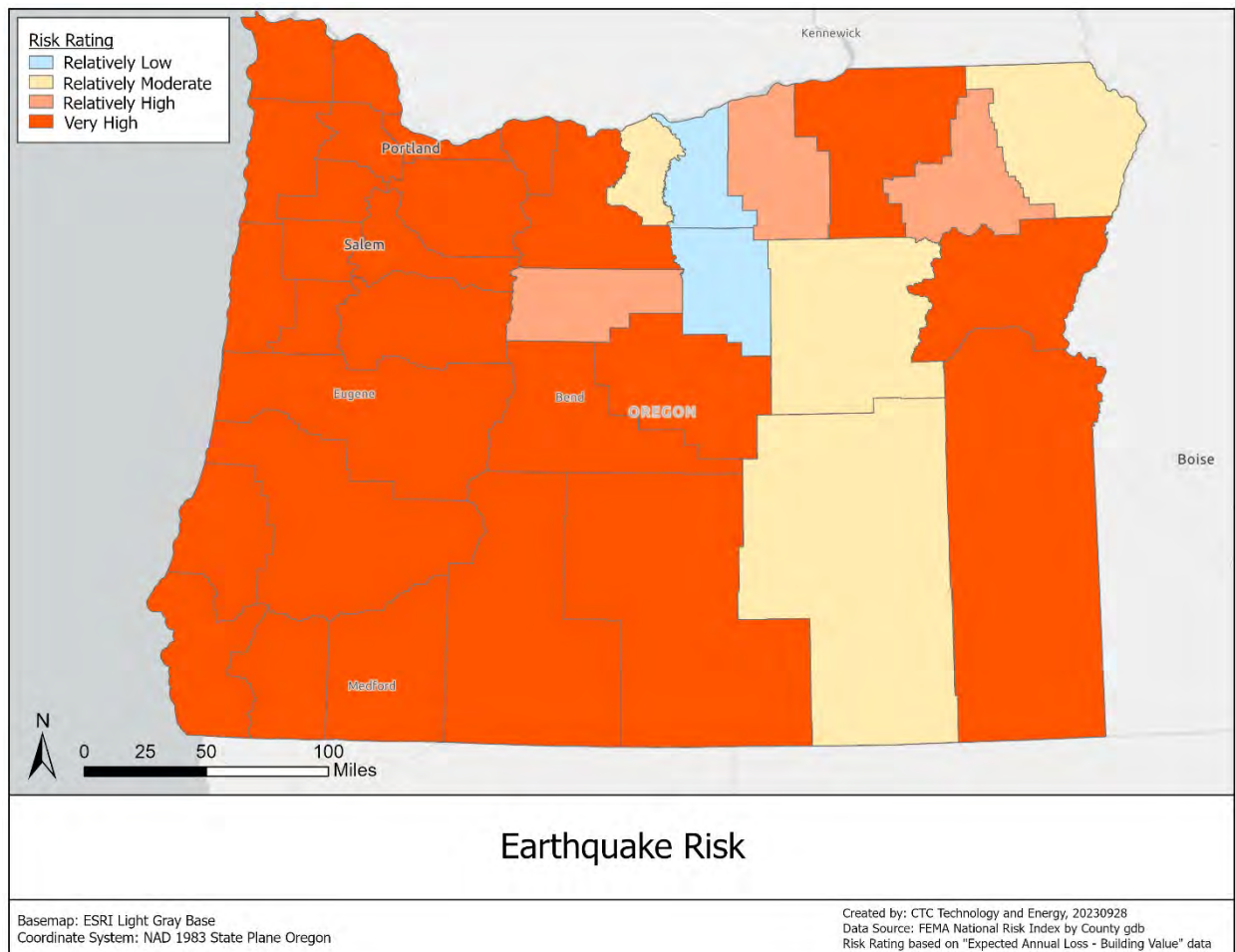
12.3   Characterizing weather and climate risks to new infrastructure deployed using BEAD program fund for next 20 years

The top natural hazard risks impact broadband infrastructure in the following ways: through power outages,[90] through equipment damage[91] and through signal degradation.[92]

Table 14: Threats to infrastructure posed by weather and climate risks

Risks	Potential causes
Power outages	Flooding, heat wave, tsunami, wildfire
Equipment damage	Lightning, flooding, hail, landslide, wildfire
Signal degradation	Flooding, hail

Storms, strong winds, and other similar climate events 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, flooding, and other similar climate events 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.

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[90] "Evaluation of Hurricane Harvey's Effects on the Internet's Edge," University of Southern California ANT Lab, https://ant.isi.edu/outage/ani/harvey/index.html.
[91] Jose George, "Fiber-Optic Cables Cut: What are the Consequences and How to Fix It," Clooms, March 22, 2021, https://www.clooms.com/fiber-optic-cables-cut/.
[92] "Does Rain Affect WiFi?" WXResearch, May 10, 2023, https://wxresearch.org/does-rain-affect-wifi/.

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.

12.4   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 Oregon are likely to include, and how the state will adopt processes to ensure climate resiliency.

12.4.1 Hazard mitigation for anticipated BEAD-funded projects in Oregon

BEAD is focused mostly on fiber optic deployments and Oregon anticipates that alternative technologies such as fixed wireless and satellite will make up a smaller 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 should also 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 also require minimal power in the field (unlike technologies with extensive active components in the field).

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 allow the gradual implementation of 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.

12.4.2 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 applicants 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.

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

The Oregon State Interagency Hazard Mitigation Team (IHMT)[93]—of which the Oregon Department of Emergency Management (OEM) is a member—updates the state's Hazard Mitigation Plan every five years, with the next refresh planned for 2025. This cadence and schedule will represent a convenient opportunity for the above analysis to be updated, such that ongoing trends can be monitored and understood.

In March 2023, the Oregon Department of Land Conservation and Development (DLCD), which issues the Plan, and OEM initiated a project to upgrade the Oregon Natural Hazards Risk Assessment with the following goals:

- "Develop and implement a public-facing comprehensive risk assessment tool in a geospatial environment that will respond to FEMA's new requirements for incorporating climate change, social vulnerability, lifelines, and equity;

- Incorporate additional elements and information that enhance the tool to further Oregon's natural hazards mitigation and climate adaptation aspirations;

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[93] The state IHMT is composed of representatives from state agencies that prior to 1996 each had responsibilities for hazard mitigation, but only convened after Presidential declarations of a major disaster. The IHMT meets quarterly to coordinate strategies and is responsible for the Oregon Natural Hazards Mitigation Plan. "State Interagency Hazard Mitigation Team," Oregon Department of Emergency Management, https://www.oregon.gov/OEM/Councils-and-Committees/Pages/IHMT.aspx.

- Design the tool in a way that is useful not only for the state, but also for Native American Tribes (tribes), cities, counties, special districts, and others for natural hazards mitigation planning."[94]

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.

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[94] "Oregon Natural Hazards Risk Assessment Upgrade," Oregon Department of Land Conservation and Development, https://www.oregon.gov/lcd/NH/Pages/Risk-Assessment-Upgrade.aspx.

13. Low-cost broadband service option (Requirement 16)

Affordable broadband service, while not the primary barrier to internet adoption in Oregon, nevertheless presents a significant challenge to connectivity for a large number of people in Oregon. In Oregon, low-income individuals are 12.7 percentage points less likely than higher-income individuals to have a home internet subscription,[95] highlighting the connection between affordability and internet adoption.

The American Community Survey reports that 94.3 percent of people in Oregon have a home internet subscription of any kind which—despite surpassing the national rate by 4 percentage points[96]—still suggests that a substantial number of Oregon households are not connected to the internet at home. Accordingly, among Oregon households that do not subscribe to internet service of any kind, an estimated 16 percent report that a primary reason they do not pay for an internet service at home is an inability to afford service.[97]

One of the most widely recognized interventions to lower the cost of internet service is the Federal Communications Commission's (FCC) ACP,[98] which subsidizes up to $30 per month (or $75 for applicants on tribal lands) for broadband in qualifying households and may include a one-time $100 subsidy toward buying a laptop or tablet. Despite the benefit of the subsidy, the ACP is known to be greatly underutilized nationwide. Though the state provides relevant information for people in Oregon about the ACP on the Oregon Broadband Office's website,[99] only

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[95] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021 (accessed August 29, 2023).

[96] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021 (accessed August 29, 2023).

[97] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021 (accessed August 29, 2023).

[98] The ACP was established in the IIJA as the successor to a previous program that has since been discontinued. The FCC in 2022 issued the Affordable Connectivity Program Report and Order, which sets out details regarding the ACP's operation. See Affordable Connectivity Program, Report and Order and Further Notice of Proposed Rulemaking, FCC 22-2, (rel. Jan. 21, 2022).

[99] "Oregon Broadband Office," Business Oregon, The State of Oregon, https://www.oregon.gov/biz/programs/oregon_broadband_office/pages/default.aspx.

about 28 percent of Oregon's eligible households have enrolled in the ACP—compared to the already relatively low national rate of 39 percent.[100]

Considering Oregon's low enrollment rate in the ACP, there have been some local and regional efforts to increase participation among eligible households. A public housing corporation serving Multnomah County called Home Forward used a grant from the Your Home, Your Internet pilot program to promote and aid enrollment among local eligible households.[101] Using grants from the Tribal Competitive Outreach Program (TCOP), the Confederated Tribes of Siletz Indians[102] and the Burnes Paiute Tribe[103] have initiated efforts to promote awareness and enrollment in the ACP. Likewise, Josephine County and the South Central Oregon Economic Development District, covering Lake and Klamath County, have conducted their own ACP outreach efforts with grants from the National Competitive Outreach Program (NCOP).[104]

Additionally, there are many ISPs operating in Oregon that offer plans at low to no cost for eligible subscribers who enroll in the ACP. A list of Oregon broadband providers that participate in the ACP and that offer no-cost or low-cost plans, and may offer low-cost devices, under the ACP is included in Appendix D: List of ACP-participating broadband providers.[105] According to the Universal Service

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[100] 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.

[101] "Consumer and Governmental Affairs Bureau and Wireline Competition Bureau announce ACP Pilot Program Grants target funding," FCC, March 15, 2023, https://docs.fcc.gov/public/attachments/DA-23-219A1.pdf.

[102] "Consumer and Governmental Affairs Bureau Announces ACP Outreach Grant Program Target Funding," FCC public notice, March 10, 2023, https://docs.fcc.gov/public/attachments/DA-23-194A1.pdf.

[103] "Consumer and Governmental Affairs Bureau Announces Second Round of ACP Tribal Outreach Grant Program Awards," FCC public notice, September 6, 2023, https://docs.fcc.gov/public/attachments/DA-23-815A1.pdf.

[104] "Consumer and Governmental Affairs Bureau Announces ACP Outreach Grant Program Target Funding," FCC public notice, March 10, 2023, https://docs.fcc.gov/public/attachments/DA-23-194A1.pdf.

[105] Based on data provided by service providers to USAC, available at "Companies Near Me," USAC, https://cnm.universalservice.org/ (accessed October 31, 2023). Data last updated by USAC on October 22, 2023.

Administrative Co. (USAC), as of October 2023, 39 of the 139 ISPs (including mobile providers) participating in the ACP in Oregon.[106] offer a "no cost" plan or plans—making a total of 43 "no cost" home or mobile internet plans available to ACP-eligible subscribers in the state..[107]

People in Oregon can also apply for Lifeline—a federal and state government program which subsidizes up to $19.25 of eligible consumers' monthly internet service bill and up to an additional $25 off their bill for eligible people on tribal lands in the Tribal Lifeline program. Additionally, eligible people in Oregon residing on federally recognized tribal lands may participate in the Tribal Link Up program, which gives applicants a single $100 discount on an initial installation charge for wireline or an activation fee for wireless service. The state, via the Oregon Public Utility Commission, makes information about these programs readily available on its website..[108]

The state of Oregon is committed to providing people in Oregon 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 the state of Oregon and nationwide) and represents a sensible benchmark cost for a low-cost service option to be offered by subgrantees.

OBO's intention is to aid as many people in Oregon as possible while ensuring that the scale of the low-cost obligation—and its resulting impact on the business case for ISP applications to build to unserved Oregon locations—is not too burdensome to

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[106] Providers that offer both a home internet plan and a mobile internet plan are counted once (i.e., these initial totals represent the number of providers, not plans, available). See Appendix D: List of ACP-participating broadband providers.

[107] Based on data provided by service providers to the USAC, available at "Companies Near Me," USAC, https://cnm.universalservice.org/ (accessed October 31, 2023). Data last updated by USAC on October 22, 2023; see, https://opendata.usac.org/Lifeline/Lifeline-Companies-Near-Me/kjtb-4uf7 (accessed October 31, 2023).

[108] "Oregon Lifeline," Oregon Public Utility Commission, State of Oregon, https://www.oregon.gov/puc/Pages/Oregon-Lifeline.aspx.

grant applicants. The eligibility requirement for the ACP subsidy is equal to household income at or below 200 percent of the federal poverty line, suggesting a precedent for that benchmark as well as the potential to utilize the ACP National Verifier as a useful, low-cost means of verifying eligibility that does not impose additional burden on either the consumer or the ISP.

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

- Will be available to all households that meet the eligibility requirements of the ACP.

- Cost of $30 per month or less and $75 per month or less on tribal lands, inclusive of all government taxes and fees, with application of an annual inflation factor based on the Producer Price Index for the state of Oregon.

- Available to households with income equal to or below 200 percent of the federal poverty line.

- Allows the end user to apply the ACP subsidy to the service price and encourages 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 of 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).

The state certifies that all subgrantees will be required to participate in the ACP or any successor program.

14. Middle-class affordability plans

This section describes OBO'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 of Oregon is dedicated to prioritization of digital equity across the state. According to the American Community Survey, 94.3 percent of people in Oregon have a home internet subscription (of any kind)—surpassing the national rate by 4 percentage points.[109] However, affordability plans and policies that support middle-class households' access to reliable broadband are critical to ensure all people in Oregon are served, given that about 52.6 percent of Oregon households belong to the middle-class.[110]

Middle-income households are defined by the Pew Research Center as households with an income that is two-thirds to double the U.S. median household income, or approximately $40,000 to $150,000 annually.[111] When evaluating how to ensure broadband access in the state of Oregon, affordability presents a meaningful barrier to widespread adoption of service among people in Oregon of various socioeconomic backgrounds.

Middle-income households are a significant demographic in Oregon and as such, are a critical factor to be considered in support of the BEAD Program's goal to make high-quality broadband services available to all people in Oregon.

Affordability is more than merely the concern of whether people in Oregon can afford service. Rather, affordability in the context of middle-income homes is also inclusive of people in Oregon who can afford service, in theory, but nonetheless struggle with the financial burden. According to the current U.S. Population Survey, conducted in the 2021 Census, approximately 1 percent of people in Oregon that do

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[109] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021 (accessed August 29, 2023).

[110] Huff, Madison, "This map shows how big the middle class is in every state," Business Insider, August 17, 2022. https://www.businessinsider.com/map-how-big-the-middle-class-is-in-every-state-2022-7.

[111] Bennett, Jesse, Rakesh Kochhar, and Richard Fry, "Are You in the American Middle Class? Find out with Our Income Calculator," Pew Research Center, July 23, 2020, https://www.pewresearch.org/short-reads/2020/07/23/are-you-in-the-american-middle-class/.

not subscribe to internet service at home reported that the primary reason is that internet service is "not worth the cost."[112]

This figure, while not high, highlights the still notable number of people in Oregon that are held back by financial concerns beyond simply being able to afford the service at face value. Additionally, 57 percent reported the primary reason they do not subscribe to the internet at home is "don't need or not interested." [113] This was the most frequently reported response and could be indicative of greater concerns regarding internet affordability in the state.

Perhaps, if internet service was less expensive, a broader proportion of the people of Oregon would recognize the value of the service. As such, the broader notion of affordability fundamentally demonstrates the manner in which middle-income households are frequently disincentivized from participating in the digital economy.

Given recent FCC policy intentions from chair Jessica Rosenworcel that would reclassify broadband as an essential service, like water or electricity, the importance of broadband affordability has reemerged as a uniquely relevant barrier to address. [114] However, as broadband is not currently included in the HUD's definition of "utility services," the financial burden of broadband cost is frequently not included in analyses of affordable housing in the U.S. [115]

In its 2016 Universal Service Monitoring Report, the FCC provided a measure for affordability: broadband and voice service expenditures less than 2 percent of consumers' disposable income. For middle-income households specifically, experts

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[112] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021 (accessed August 29, 2023).

[113] U.S. Census Bureau, Current Population Survey Public Use Microdata, November 2021 (accessed August 29, 2023).

[114] "Is broadband an essential utility, like water or electricity? New net neutrality effort makes the case," The Associated Press, https://apnews.com/article/fcc-net-neutrality-plans-8c2210cc6ad225b1b3e866a375830217.

[115] "Public Housing Occupancy Guidebook," https://www.hud.gov/sites/dfiles/PIH/documents/PHOG_Utilities_FINAL.pdf (accessed September 21, 2023).

recommend that broadband costs should be no more than 2 to 5 percent of household income.[116]

As noted by the National Academy of Public Administration,[117] the United States Conference of Mayors,[118] and the American Water Works Association,[119] however, considering affordability as a simple percentage of income can disregard differential burdens placed on middle-class and low-income households. In measuring affordability, OBO will work to monitor the impact of broadband costs on communities at the highest risk of disconnection, especially given that covered groups in the state are 6.6 percentage points less likely than non-covered groups to subscribe to internet service (of any kind).[120]

A statistically valid survey of people living in Oregon conducted for the state's Digital Equity Plan shows the range of prices subscribers in Oregon at various income levels currently pay for their internet plan (Figure 16), and the amount they are willing to pay for high-speed, reliable service (Figure 17).

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[116] "The affordability of ICT services 2022," https://www.itu.int/en/ITU-D/Statistics/Documents/publications/prices2022/ITU_Price_Brief_2022.pdf (accessed September 21, 2023).

[117] "Developing a New Framework for Community Affordability of Clean Water Services," National Academy of Public Administration, October 2017, https://napawash.org/uploads/Academy_Studies/NAPA_EPA_FINAL_REPORT_110117.pdf.

[118] "Affordability Assessment Tool for Federal Water Mandates," American Water Works Association, 2013, https://www.awwa.org/Portals/0/AWWA/ETS/Resources/AffordabilityAssessmentTool.pdf.

[119] "Improving the Evaluation of Household-Level Affordability in SDWA Rulemaking: New Approaches," American Water Works Association, April 2021, https://www.awwa.org/Portals/0/AWWA/Government/ImprovingtheEvaluationofHouseholdLevelAffordabilityinSDWARulemakingNewApproaches.pdf.

[120] U.S. Census Bureau, American Community Survey Public Use Microdata, 2021 (accessed August 29, 2023).

**Figure 16: Monthly cost of home internet service by household income**
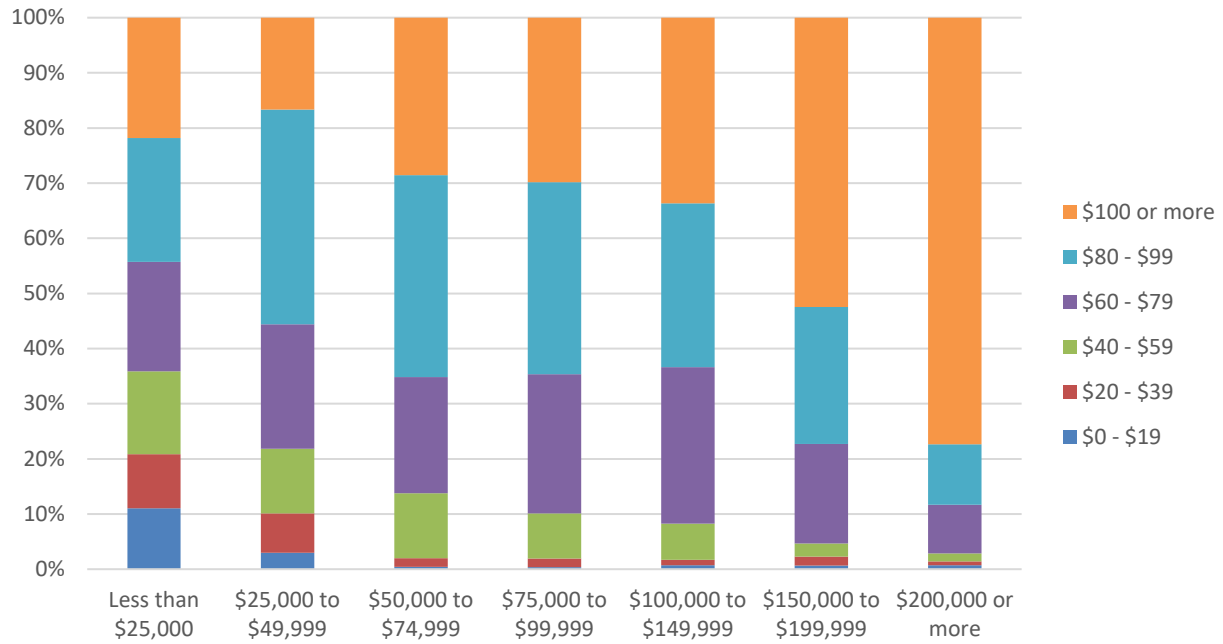
Figure 17: Amount willing to pay for high-speed, reliable home internet service by household income
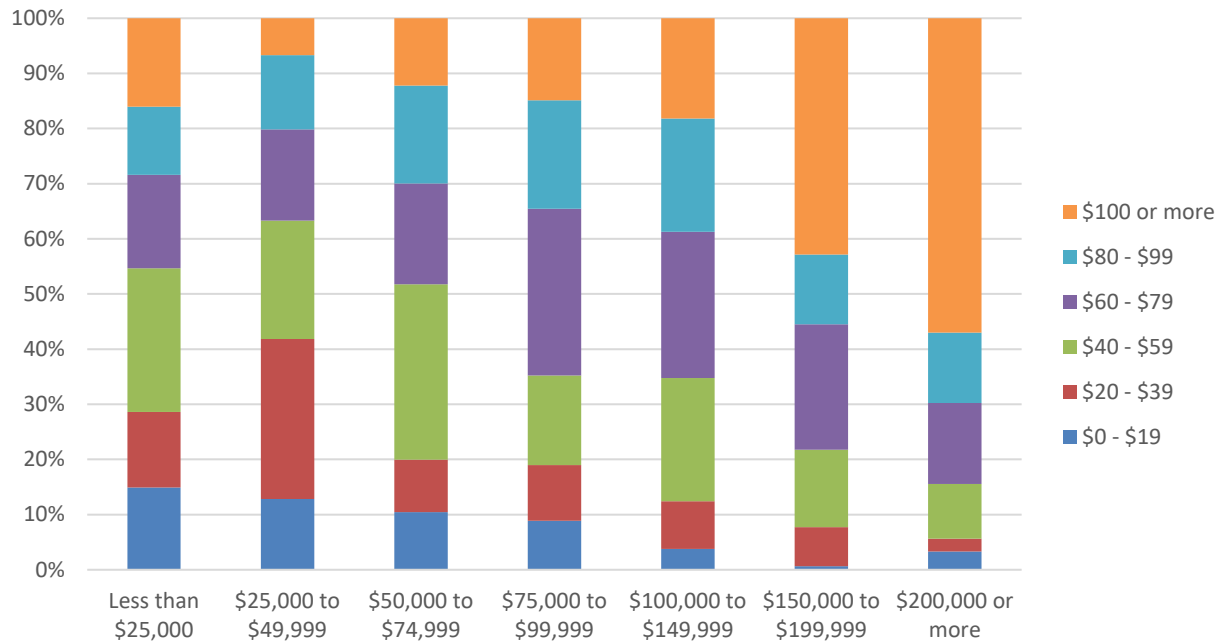
OBO will continue to monitor the affordability of available service options within the state and encourage providers to offer a range of options that support broadband adoption by people in Oregon regardless of income level and reduce the burden on lower-income subscribers.

As established, affordability strongly influences broadband adoption. To ensure that middle-income households have access to broadband, the lack of affordable broadband options must be addressed. OBO is considering several policy options to ensure that broadband is accessible by all people in Oregon, while simultaneously remaining cognizant of the delicate position of ISPs.

OBO's addressing of middle-class affordability aims to aid as many households as possible, while also aiming to prevent potential subgrantees from choosing not to participate in BEAD, which would lead to higher cost awards and fewer people in Oregon getting access to Priority Broadband (i.e., fiber). Furthermore, OBO's policy-oriented approach intends to address the barrier of affordability that plagues many households with incomes that just surpass ACP eligibility.

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

- **Undesired risk: Providers set high subscription costs.**

    o **Mitigation strategy:** OBO will encourage ISPs participating in the state's BEAD grant program to offer their best price to areas they serve with grant funding, matching the prices for analogous products they offer in other areas, in alignment with the gigabit best offered pricing requirement in the BEAD program rules.

- **Undesired risk: Providers shift drop and installation costs to the consumer to recover capital costs.**

    o **Mitigation strategy**: Grant participation rules will make clear that drops and network equipment are eligible BEAD costs and must be built into grant proposals and that these costs cannot be passed along to consumers at BEAD-funded locations. OBO expects this risk to be somewhat mitigated by expanding competition in rural areas from LEO satellite options.

- **Undesired risk: Providers refuse to provide service to expensive locations**.

- o **Mitigation strategy**: OBO will monitor and ensure that awardees make good on their BEAD service commitments, including not assessing additional fees beyond standard installation fees.

- **Undesired risk: Differential pricing between urban and new project areas**

  - o **Mitigation strategy:** The gigabit best pricing policy mandated in the BEAD program scoring matrix sets requirements around geographic non-discrimination.

As previously established, the state of Oregon is committed to establishing policies that would ultimately lead to more widespread affordability among middle-income people in Oregon. This commitment to expanding the adoption of broadband throughout the state necessitates OBO working with subgrantees. In doing so, OBO increases the likelihood of ISP participation and, in effect, will provide middle-income people in Oregon a genuine opportunity to be fully engaged in the digital world.

15. Use of 20 percent of funding (Requirement 17)

15.1   Planned use of funds requested

Oregon requests that NTIA obligate 100 percent of the funds remaining of its BEAD allocation, making at least 2 percent available immediately for programmatic work. Oregon, working closely with its partners from tribal and local governments, industry and community organizations, and other stakeholders, will use the funding to begin addressing Oregon's broadband needs 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 BEAD allocations as follows:

Table 15: Planned use of funds requested

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)	96%
Programmatic Expenses	BEAD Planning, Challenge Process, IT Systems to run Challenge and Grant Applications, Subgrantee Selection Process Development and Management	2%
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%

Given that Oregon anticipates its BEAD allocation will not cover sufficient broadband deployment expenses to reach to all unserved, underserved, and CAIs, it will not initially request funds for non-deployment activities. However, if the state has remaining funds after running a competitive grant process, it will amend its budget as part of its final proposal.

15.2   Amount of Initial Proposal funding request

Oregon requests 100 percent of the funds remaining of its BEAD allocation of $688,914,932.17.

15.3   Certification

OBO hereby certifies that OBO will adhere to BEAD Program requirements regarding Initial Proposal funds usage.

16. Eligible Entity regulatory approach (Requirement 18)

Oregon 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.

17. Certification of compliance with BEAD requirements (Requirement 19)

17.1 Certification of compliance

Oregon certifies that it will comply with all applicable requirements of the BEAD Program, including the reporting requirements.

Oregon would like to avail subgrantees 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, Oregon would like an opportunity to make those revisions.

17.2 Subgrantee accountability procedures

17.2.1 Overview

In creating the BEAD program through the Infrastructure Investment and Jobs Act (IIJA), Congress made a once-in-a-lifetime investment in connectivity and digital equity. The state is committed to ensuring that everyone has access to broadband and the ability to use it meaningfully. OBO, in executing the BEAD program, will work diligently to ensure that subgrantees successfully complete their projects. OBO also takes its role as a steward of public funding seriously. OBO is creating and implementing robust programmatic monitoring, including effective risk-based assessments and active interventions, to make sure its subgrantees meet BEAD and the state's goals. OBO 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 subgrantees if needed, timely reporting requirements, and robust subgrantee monitoring.

17.2.2 Risk-based monitoring

The state 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. OBO 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. OBO will monitor individual grants but will also monitor the portfolio using program-wide data to ensure early intervention when it finds cross-cutting issues.

17.2.3 Fraud, waste, and abuse

The state will utilize a mechanism to report fraud, waste, and abuse operated by the Oregon Secretary of State.[121] The state will make stakeholders aware of federal reporting mechanisms such as the U.S. Department of Commerce's Inspector General hotline.[122]

17.2.4 Distribution of funds on a reimbursement basis

Although most federal grants allow grantees and subgrantees to obtain an advanced payment to cover grant-related expenses, OBO will indicate clearly in its guidance and through its award documentation that its BEAD subgrants will be issued on a reimbursement-only basis. OBO will require the following from subgrantees before dispersing BEAD funds:

- Reaching grant milestones

    o OBO will require the timely reporting of the completion of grant milestones.

- Providing compliant documentation

    o OBO will require subgrantees to request 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. OBO will ensure that it has the right to access documents and physical assets in a manner similar to that employed by the federal government in broadband grant programs.

17.2.5 Clawback provisions

OBO will also work with its legal advisors 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, OBO can deny a reimbursement request, require partial or full forfeiture of BEAD funds, or issue

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[121] "Report Misuse of State Government Resources," Oregon Secretary of State, https://sos.oregon.gov/audits/Pages/accountability.aspx. See also, "Other Hotlines and Organizations," Oregon Secretary of State, https://sos.oregon.gov/audits/Pages/other-hotline-resources.aspx.
[122] "Report Fraud, Waste, Abuse, & Whistleblower Reprisal," Office of the Inspector General, U.S. Department of Commerce, https://www.oig.doc.gov/Pages/Hotline.aspx.

financial penalties for fraud, misconduct, or non-performance. For its purposes, OBO considers non-performance to include lack of effective, timely broadband deployment, failure to continue to offer low-cost service options for the useful life of the assets, failure to meet reporting deadlines, failure to provide accurate deployment data, and failure to fulfill any additional BEAD requirements such as broadband speeds.

17.2.6 Timely reporting requirements

Building on its existing broadband funding and grantmaking experience, OBO will require subgrantees to report on their awards on a timely basis 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 OBO to discuss the project progress.

- Periodic reporting on project progress and fiscal performance.

- Responses to intermittent requests from OBO about the project.

- On-site inspections

17.2.7 Robust subgrantee monitoring

OBO will use various monitoring activities that produce data about subgrantee performance and progress to assess individual and portfolio risks and inform OBO's 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 OBO's own reports to NTIA contain timely information.

- Field engineering reviews and 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, OBO will establish and update monitoring levels for its projects based on factors including performance reporting, desk reviews, and OBO interactions.

17.3   Certification of nondiscrimination and civil rights

Oregon 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, OBO will require the subgrantee to agree, by contract or other binding commitment (to be determined by legal 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)

17.4   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 National Institute of Standards and Technology (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 OBO prior to the allocation of funds. If the subgrantee makes any substantive changes to the plan, a new version will be submitted to OBO within 30 days of adoption for reevaluation.

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 OBO prior to the allocation of funds. If the subgrantee makes any substantive changes to the plan, a new version will be

submitted to OBO within 30 days. OBO will provide the subgrantee's plan to NTIA upon NTIA's request.

OBO 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.

Cyber Security Services (CSS), part of Enterprise Information Services (EIS), is responsible for the creation and maintenance of the Statewide Information and Cyber Security Standards, pursuant to NIST standards, and can support the state's efforts to ensure subgrantee compliance with these requirements by setting out a framework and best practices.[123]

EIS also works with Oregon's State Interoperability Executive Council (SIEC)[124] to maintain the Statewide Communications Interoperability Plan (SCIP) with support from the Cybersecurity and Infrastructure Security Agency (CISA). The last update of the Plan in 2021[125] brought together input from cybersecurity, emergency management, public safety, and emergency communications stakeholders to outline the state's vision, goals, and objectives around planning for new technologies and enhancing interoperability for public safety and emergency communications.

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[123] "Cyber Security Services," EIS, https://www.oregon.gov/eis/cyber-security-services/pages/default.aspx.

[124] State Interoperability Executive Council, https://www.oregon.gov/siec/Pages/About-SIEC.aspx.

[125] "Oregon Statewide Communications Interoperability Plan," Version 1.2, updated November 2022, https://www.oregon.gov/siec/Documents/2021%20OR%20SCIP%20V1.2.pdf.

Appendix A: Local coordination tracker

The local coordination tracker will be included in this appendix in the version of this Initial Proposal that is submitted to NTIA. It will follow NTIA's model. For more details, see Section 4.

Appendix B: Contributors on workforce considerations

Organizations from which input on workforce considerations was sought includes, but is not limited to, the following:

- Alyrica Networks
- American Connection Corps/Josephine County IT
- Beacon Broadband
- Burns Paiute Tribe
- Charter Communications
- Chemeketa Community College
- Clear Creek Communications
- Colton Telephone and Monitor Telecom
- Columbia Fiber LLC
- Comcast
- Confederated Tribes of the Grand Ronde Community of Oregon
- Confederated Tribes of Siletz Indians
- Confederated Tribes of the Umatilla Indian Reservation
- Cow Creek Band of Umpqua Tribe of Indians
- CWA
- Datavision Communications
- DirectLink BCT
- Douglas Fast Net
- Eagle Telephone System, Inc.
- Free Geek/Coalition of Digital Equity
- Hunter Communications
- IBEW
- Layer 7 LLC
- Link Oregon (Oregon Fiber Partnership)
- Linn-Benton Community College
- Lumen (CenturyLink, Quantum Fiber)
- Mid-Willamette Valley Council of Governments
- Molalla Communications
- Monmouth Independence Networks
- MTC
- Oregon Cascades West Council of Governments
- Oregon City Economic Development

- Oregon Coast Community College
- Oregon Department of Education
- Oregon House of Representatives
- Oregon State University
- Oregon State University Extension Service
- Oregon Telecommunications Association
- PEAK Internet
- Pendleton Fiber
- Pioneer Connect
- Portland Community College
- Qlife
- Rally Networks
- Reliance Connects
- Rockaway Beach Planning Commission
- Rogue Broadband/Umpqua Broadband
- Room Telecommunications Inc./VARCOMM
- St Paul Telephone Cooperative Association
- Stayton Cooperative Telephone Company (SCTC)
- TNET Broadband Internet
- USBS Cloud Consulting
- Wtechlink Inc.
- Ziply Fiber

Appendix C: Summary of subgrantee selection process

The following table organizes the documents required from OBO and from the subgrantee at different points in the subgrantee selection process (see Section 5). The table is an organized visualization of the process, not a full accounting of the details of each required document.

Table 16: Summary of subgrantee selection process documents and milestones

Phase	OBO provides	Subgrantee provides	
		Brief description	Section
Preparatory	Prequalification materials (Application, Program Guide, FAQ documents, model letter of credit, list of required licenses and certifications)		
	Template for detailing other public funding		
	Website information (also directing to third-party resources)		
	Online application workshop and workshop materials		
	Continual updates to FAQ document as questions are received and answered		
Prequalification submission window opens			
Prequalification	Dedicated email address for questions and technical assistance	Audited unqualified financial statements from the last three years	5.3.1 5.12.3
	Continual updates to FAQ document as questions are received and answered	Statement signed by executive of company certifying financial qualifications	5.3.1 5.12.1
	Updates and reminders on milestones, deadlines, or technical resources as they come up	Resumes of management staff, CTO, contractor oversight team, and other key personnel; and description of their expected roles in a BEAD-funded project	5.3.1 5.12.5.1
		Certifications and licenses of the organization, the officer or director, management staff, contractor oversight team, and key technical personnel; and certification of processes and resources to employ	5.3.1 5.12.6.1 5.12.6.2

Phase	OBO provides	Subgrantee provides	
		Brief description	**Section**
		continued skilled, credentialed workforce	
		Description of planned contractors and consultants, and certification that any future contracted resources will have the relevant and necessary skills	5.3.1 5.12.5.3
		Organizational chart and narrative description of Applicant's processes and structure	5.3.1 5.12.5.2
		Narrative description of the entity's experience, resources, and readiness in managing and carrying out this broadband project, referencing key personnel	5.12.5.3 5.12.6.3
		Certification of history of providing telecommunications or electric service	5.3.1 5.12.8.1
		Certification of FCC Form 477s and Broadband DATA Act submissions **OR** Qualified operating or financial reports and certification that submission is accurate	5.3.1 5.12.8.2 5.12.8.3
		Legal opinion from legal counsel attesting to preparation for compliance to all applicable laws for BEAD-funded projects	5.3.1 5.12.7
		Narrative description of processes in place to conduct funding activities in compliance with federal and state law, including procurement practices	5.12.7
		Ownership information, including ownership structure, corporate entity type, and other information, referencing and corresponding to other information provided	5.3.1 5.12.9
		Certification of history of compliance and of intention to comply with environmental and historic preservation requirements and BABA	5.6
		Certifications: Of cybersecurity risk management plan; that the plan reflects NIST framework and EO 14028; and that the plan will be	5.3.1

Phase	OBO provides	Subgrantee provides	
		Brief description	**Section**
		updated periodically; and that the plan will be submitted to OBO	
		Certifications: Of supply chain risk management plan; that supply chain plan reflects NISTIR 8276 and other guidance including NIST 800-161 and specifying the controls being implemented; and that the plan will be updated periodically; and that the plan will be submitted to OBO	5.3.1
		List of present or planned applications to federal or state broadband funding, and of every broadband deployment project the Applicant is undertaking or will undertake, with details on each project, using OBO template	5.3.1 5.12.10
		Materials on Fair Labor Practices and compliance (including certification of compliance with labor and employment laws; yearly recertification of labor and employment practices; discussions of workforce plans, commitments, and development; compliance with workplace safety and processes to monitor and support future compliance)	5.3.1 5.12.7 8.1
		Documentation of communications with and outreach to workers and worker representative labor organizations	5.12.7
		Certification of worker-led health and safety committees	5.3.1 5.12.7
		Certifications: Of awareness of letter of credit obligations; of qualifications and resources to obtain letter of commitment and letter of credit from financial institution for no less than 25% of award	5.12.2
Prequalification submission window closes			
	Reasonable curing		

Phase	OBO provides	Subgrantee provides	
		Brief description	Section
	Announcement of prequalification determinations		
NTIA approval of Initial Proposal Volume II			
Completion of Challenge Process			
NTIA Challenge Process Validation			
Scoring	Grant and application materials (Application, Program Guide, FAQ documents, District Grant Areas with Alternative Percentages, sample engineer certification)		
	Template for budget narrative, proposed budget, and business case analysis		
	Technical Specifications Template, Project Timeline Template		
	Website information (primary resources and third-party resources)		
	Online application workshop and workshop materials		
Scoring Phase submission window opens			
	Dedicated email address for questions and technical assistance	Detailed description of specific proposed project, including network design, descriptions of location and community, descriptions of technical specifications, timelines and milestones, and documentation of costs	5.12.6.5
	Continual updates to FAQ document as questions are received and answered	Budget narrative and proposed budget using OBO templates, specifying expenses, team responsible for each expense, and relation to project objective	5.12.4
		Business case analysis using OBO template, involving take rates, churn, revenue, cash flow, expenditures	5.12.4
		Descriptions of managerial capability connected to unique needs of specific proposed project	5.12.5

Phase	OBO provides	Subgrantee provides	
		Brief description	**Section**
		List of job categories, titles, and descriptions to complete the specific project; certifications or licenses necessary for the specific project; demonstration of completion of requirements to be qualified for the project	5.12.6.4
		Documentation of support and approval from tribal authorities, if proposed project will take place on any tribal lands	5.9
		Certification of the project by independent professional engineer	5.12.6.6
		Project-specific certification by Officer or Director: That it has financial resources to complete the project with reimbursement model; that it has financial resources to provide pledged matching funding; that it has financial resources to support all costs of the project, even if it exceeds the grant award and matching funds	5.12.1
		Letter of commitment from qualified financial institution describing the institution, stating that they stand ready to issue a letter of credit for the proposed project and specified amount, and stating that it has reviewed the model letter and is prepared to comply with terms	5.12.2
Scoring Phase submission window closes			
	Scoring, according to guidelines in 5.3.2 and 5.3.3		
	Curing, as necessary		
Negotiation	Counteroffers to negotiate pricing and proposal area boundaries, if needed	If not already provided, documentation of support and approval from tribal authorities if proposed project will take place on any tribal lands	5.9
	If necessary, second phase grant window for remaining needs		
	Curing, as necessary		
Negotiation Phase closes			

Phase	OBO provides	Subgrantee provides	
		Brief description	**Section**
Finalization	Announcement of provisional determinations, subject to NTIA approval	Irrevocable standby letter of credit from financial institution	5.12.2
	Submission of Final Proposal to NTIA	Bankruptcy opinion letter from legal counsel confirming proceeds from letter of credit are not "property"	5.12.2

Appendix D: List of ACP-participating broadband providers

The following table lists ISPs in the state (including mobile service providers) that participate in the ACP.[126] The table also indicates providers that offer a plan that provides service at effectively no cost with the application of the ACP subsidy ("$0 with ACP"). An asterisk after the provider's name indicates that the provider also offers Lifeline.

Table 17: Broadband providers participating in the ACP

ACP Broadband Provider Name	Type of Service	$0 with ACP
Access Wireless*	Mobile Internet	Yes
AFNET, LLC	Mobile Internet	
Airtalk Wireless	Mobile Internet	
Althea - Hawk Networks, Inc.	Home Internet	
Alyrica Networks Inc	Home Internet	
Angel Mobile	Mobile Internet	
Anthem Broadband	Home Internet	
Assurance Wireless*	Mobile Internet	Yes
Astound Broadband powered by Wave	Home Internet	Yes
Astound Broadband powered by Wave	Mobile Internet	Yes
AT&T Mobility LLC*	Mobile Internet	Yes
Beacon Broadband, Inc.	Home Internet	
Beaver Creek Cooperative Telephone Company*	Home Internet	
blazinghog	Mobile Internet	
Boomerang Wireless, LLC*	Mobile Internet	
Boost Mobile	Mobile Internet	
Cal-Ore Communications	Home Internet	
Canby Telephone Association	Home Internet	
Canby Telephone Association*	Home Internet	
Casco Communications, Inc.	Home Internet	
CenturyLink or Quantum Fiber	Home Internet	
Cintex Wireless, LLC	Mobile Internet	Yes
Clear Creek Communications*	Home Internet	
Clear Wireless, LLC	Mobile Internet	
Clear Wireless, LLC	Home Internet	
Colton Telephone Company*	Home Internet	

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[126] Based on data provided by service providers to the USAC, available at "Companies Near Me," USAC, https://cnm.universalservice.org/ (accessed October 31, 2023). Data last updated by USAC on October 22, 2023; see, https://opendata.usac.org/Lifeline/Lifeline-Companies-Near-Me/kjtb-4uf7 (accessed October 31, 2023).

ACP Broadband Provider Name	Type of Service	$0 with ACP
Columbia iConnect	Home Internet	
Comcast Xfinity	Mobile Internet	Yes
Comcast Xfinity	Home Internet	Yes
Connect Us Wireless	Mobile Internet	Yes
CresComm Broadband	Home Internet	Yes
Cricket Wireless	Mobile Internet	Yes
CTC Telecom	Mobile Internet	
Culture Wireless	Home Internet	
Culture Wireless	Mobile Internet	
Culture Wireless Group, LLC	Mobile Internet	
Dailytel Inc.	Mobile Internet	
Datavision Communications, LLC*	Home Internet	
Digital Aid, LLC	Mobile Internet	
Douglas Services, Inc.	Home Internet	
E4 Connect, Inc.*	Home Internet	
EARTHLINK, LLC	Home Internet	
Eastern Oregon Telecom	Home Internet	
Easy Wireless	Mobile Internet	Yes
ECOMOBILE, INC.	Home Internet	
ECOMOBILE, INC.	Mobile Internet	
Emerald Broadband, LLC	Home Internet	
Excess Telecom, Inc.	Mobile Internet	Yes
Farmers Mutual Telephone Company	Home Internet	
FastMesh LLC	Home Internet	
Fidelity Cablevision, LLC	Home Internet	
Figgers Communication Inc.	Home Internet	
Freemo	Mobile Internet	
Global Connection Inc. of America	Mobile Internet	Yes
GO MD USA LLC	Mobile Internet	
Go Technology Management, LLC	Mobile Internet	
Gorge Networks LLC	Home Internet	
Helio Broadband	Home Internet	
Helix Telephone*	Home Internet	
Hello Mobile Telecom LLC	Mobile Internet	Yes
Home Telephone*	Home Internet	
Hood River Electric Co-op	Home Internet	
Hoop Wireless, LLC	Mobile Internet	Yes
Hughes Network Systems, LLC	Home Internet	
humanIT	Mobile Internet	
Hunter Communications	Home Internet	
Hyak	Home Internet	

ACP Broadband Provider Name	Type of Service	$0 with ACP
IDT Domestic Telecom, Inc.	Mobile Internet	
IJ Wireless	Mobile Internet	
IJ Wireless	Home Internet	
Illinois Valley Data Center, LLC	Home Internet	
Infiniti Mobile	Mobile Internet	Yes
Insight Mobile, Inc.	Mobile Internet	
Integrated Path Communications, LLC	Home Internet	Yes
InterConnection	Mobile Internet	
K20 Wireless	Mobile Internet	Yes
Lane Fi	Home Internet	
Life Wireless	Mobile Internet	
Lingo	Home Internet	
LTE Wireless	Mobile Internet	
Maxsip Tel	Mobile Internet	
Maxsip Telecom Corporation	Home Internet	
Metro by T-Mobile	Mobile Internet	Yes
Metro by T-Mobile	Home Internet	Yes
MINET	Home Internet	
Molalla Telephone Company*	Home Internet	
Monitor Cooperative Telephone Company*	Home Internet	
Monroe Telephone Company*	Home Internet	
National Wireless	Mobile Internet	
Native Network, Inc.	Home Internet	
NewPhone Wireless, LLC	Mobile Internet	Yes
North American Local, LLC	Mobile Internet	Yes
North-State Telephone*	Home Internet	
Oregon Telephone Corporation*	Home Internet	
Oregon-Idaho Utilities, Inc.*	Home Internet	
PCs for People	Mobile Internet	Yes
PDTFast	Home Internet	
Peeringhub Inc	Home Internet	Yes
Pendleton Fiber	Home Internet	
Pine Telephone System Inc.*	Home Internet	
Pioneer Telephone Cooperative*	Home Internet	
PocketiNet Communications, Inc.	Home Internet	
PTC	Home Internet	
Public Wireless, LLC	Home Internet	
Q Link Wireless LLC	Mobile Internet	Yes
Red Pocket & FreedomPop	Mobile Internet	
Reliance Connects	Home Internet	
Reliance Connects*	Home Internet	

ACP Broadband Provider Name	Type of Service	$0 with ACP
Rogue Mobile Inc.	Mobile Internet	Yes
Roome Telecommunications Inc*	Home Internet	
RTI*	Home Internet	Yes
Rural4G	Mobile Internet	Yes
SafetyNet Wireless	Mobile Internet	Yes
SandyNet	Home Internet	
Sano Health LLC	Mobile Internet	Yes
Sarver Wireless	Mobile Internet	Yes
SCTC*	Home Internet	
Selectel Wireless	Mobile Internet	Yes
Sherwood Broadband	Home Internet	Yes
Skybeam, LLC	Home Internet	
SMTA, SMT-Net*	Home Internet	
Snapfon	Mobile Internet	Yes
Sparklight	Home Internet	
Spectrum (Charter Communications Operating, LLC)	Home Internet	Yes
Spot On Networks, LLC	Home Internet	
Straight Talk, Total By Verizon, Simple Mobile, Walmart Family Mobile, TracFone, Net10, Page Plus & Go Smart	Mobile Internet	
SWA Connect, LLC	Home Internet	
Tablet Mobile	Mobile Internet	
TDS	Home Internet	
TDS Telecommunications Corporation	Home Internet	
Telispire, Affinity Cellular, Club Cellular, Flex Cellular	Mobile Internet	Yes
Tone Communication Services LLC	Mobile Internet	
Torch Wireless	Mobile Internet	
TruConnect Communications, Inc.	Mobile Internet	Yes
Twigby	Mobile Internet	
U2 CONNECT NOW	Home Internet	
United States Cellular Corporation*	Home Internet	
United States Cellular Corporation*	Mobile Internet	
Unity Wireless Inc.	Mobile Internet	Yes
Uprise Fiber	Home Internet	
Upward Mobile LLC	Mobile Internet	
Verizon Wireless	Home Internet	
Verizon Wireless	Mobile Internet	
Via Wireless, LLC	Mobile Internet	
Viasat	Home Internet	
VOLT MOBILE INC.	Mobile Internet	Yes

ACP Broadband Provider Name	Type of Service	$0 with ACP
VOLT MOBILE INC.	Home Internet	Yes
Warm Springs Telecom*	Home Internet	
Whoop Connect Inc.	Mobile Internet	Yes
Wrazzle, Inc.	Mobile Internet	
Yellowknife Wireless	Home Internet	
Ziply Fiber	Home Internet	Yes
Ziply Fiber*	Home Internet	
Ztar Mobile, Inc	Mobile Internet	

Appendix E: Proposed scoring rubric

The final and expanded proposed scoring rubric will be included in this appendix in the version of this Initial Proposal that is submitted to NTIA. It will fulfill NTIA's full guidance and take the NTIA scoring rubric template as a model. See Scoring rubric for more details.