



Oregon Business Development Department

The Oregon Broadband Office Must Continue to Take Aggressive Steps to Close the Digital Divide and Fully Meet its Statutory Duties

January 2023
Report 2023-02



Audit Highlights

Oregon Business Development Department

The Oregon Broadband Office Must Continue to Take Aggressive Steps to Close the Digital Divide and Fully Meet its Statutory Duties

Why this audit is important

- Oregon is set to receive between \$400 million and \$1 billion in federal funds to help close the broadband gap and help ensure all people of Oregon have access to this digital lifeline.
- Less than 50% of households with income in the bottom 20% use the internet at home, compared to 95% of households with income in the top 20%.
- Lack of broadband leaves many people unable to remote work, access education, health care, and other important services and information.
- In the 21st century economy, connectivity is vital to success in every industry. It is critical for education, health care, agriculture, small businesses, and economic growth.

What we found

1. We found the Broadband Office will likely be prepared to receive and facilitate upcoming federal infrastructure grant awards. However, it will require significant assistance from Business Oregon's staff, and use of federal monies specifically earmarked for broadband grant administration, to not only ensure Oregon receives all the grant money available to it, but that it is disbursed in an equitable way that addresses communities with the most critical needs first. ([pg. 16](#))
2. The Broadband Office does not have documented plans, policies, processes, and procedures to ensure the office's program administration is handled consistently and transparently. For example, there is no statewide plan to address the cost disparities in broadband access or for leveraging funding from the federal government. ([pg. 21](#))
3. The Broadband Office has not yet established a diversity, equity, and inclusion plan, or assigned responsibility for this effort, even though underrepresented communities are most adversely affected by a lack of broadband access. ([pg. 28](#))
4. Like other states, Oregon's broadband mapping relies on federal data with known inaccuracies. Additionally, Oregon lacks a formalized specific strategy focusing broadband implementation and grant efforts on the areas of Oregon most unserved and underserved by broadband. ([pg. 25](#))

What we recommend

We made 10 recommendations to the Oregon Broadband Office and Business Oregon. The office and Business Oregon agreed with all of our recommendations. The response can be found at the end of the report.



Introduction

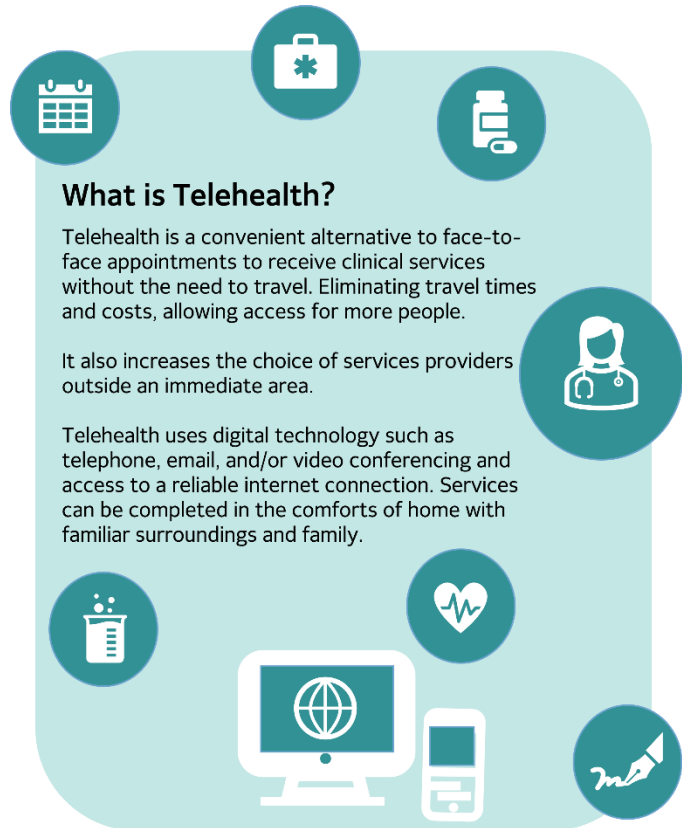
The COVID-19 pandemic fundamentally changed the way many people utilize [broadband](#). Oregon, like much of the United States, saw a rapid redeployment of the workforce to remote work, classrooms moving online, and medical providers switching to telehealth appointments, among other changes. This fundamental shift highlighted a need for reliable and fast broadband internet, yet left many people in Oregon behind.

A pre-COVID 2020 study of Oregon broadband conducted by the Strategic Networks Group estimated 1.7 million people in Oregon live in areas “unconnected, unserved, underserved, or have older technologies providing basic Broadband.”¹ After the pandemic led to lockdowns and the closure of schools and businesses, the consequences of this broadband gap became even more pronounced. Some families sought parking lots of libraries, schools, and other locations with open internet to attend class, complete homework, keep appointments, or obtain necessary services.

Some school districts drove school buses installed with wireless hotspots to residential areas to provide broadband access. Kids without broadband could login to their computers from home or a vehicle parked near the bus in order to virtually attend class and complete homework assignments.

In many cases, even these temporary measures to access broadband are not available for all people, causing inequities in access to education, medical services, social services, and more. [Tribal lands](#) and rural areas were hit particularly hard, leaving these residents without needed medical care and insufficient or nonexistent early warning systems for natural disasters such as fire or tsunamis, or 911 service.

As part of the new federal infrastructure bill passed in 2021,² Oregon can apply for and potentially receive between \$400 million and \$1 billion in the next several years to help close this broadband gap and ensure all people of Oregon have access to this digital lifeline. This funding will largely come in the form of grants to be administered through the Oregon Broadband Office. How well the Broadband Office is positioned to administer and monitor these grants will largely determine the success of this endeavor.



¹ [Oregon broadband best practice study](#) by Strategic Network Group

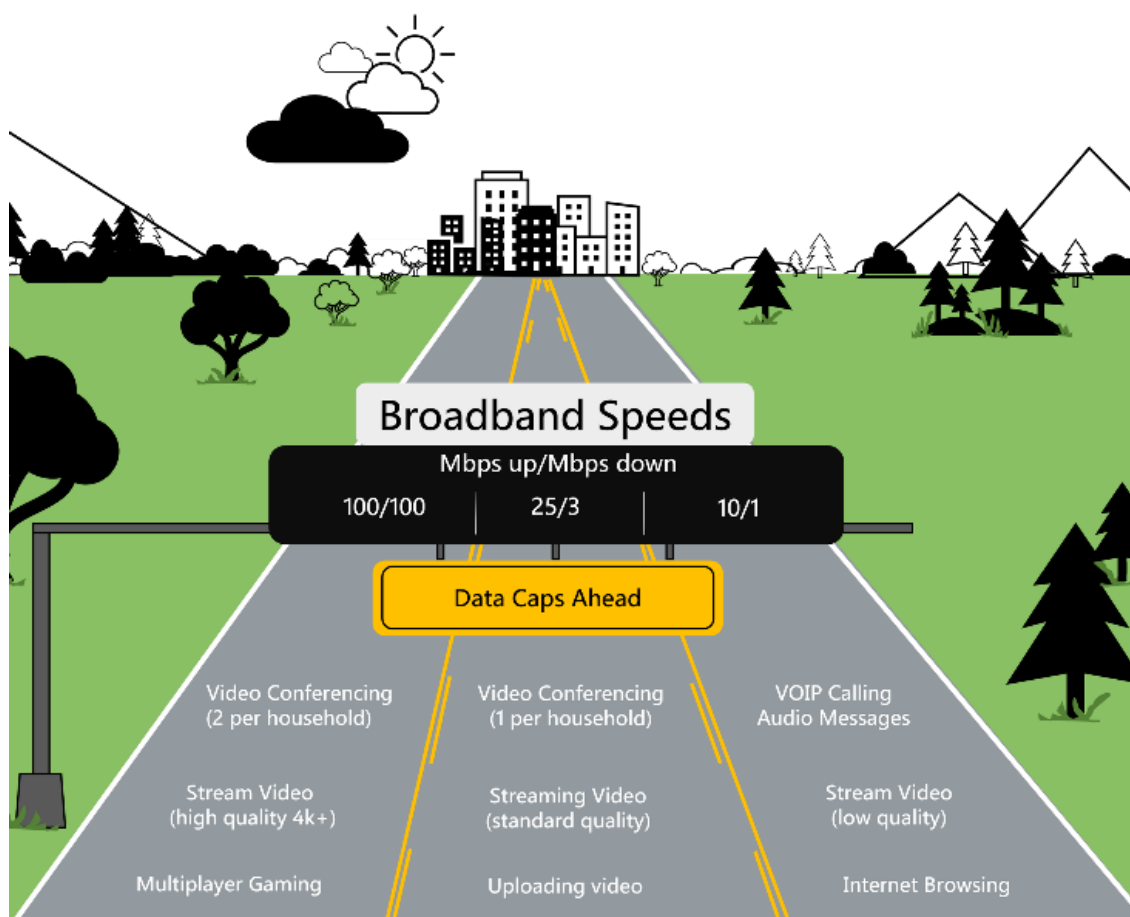
² [Infrastructure Investment and Jobs Act of 2021](#)

Broadband access is essential to fully participate in today's society

Broadband is a term for high-speed internet access that is always on and faster than traditional [dial-up](#) access.³ Broadband internet speed is measured in terms of megabits of data delivered per second (Mbps). The speed measurement is split into uploads and downloads, with uploads referring to data being sent and downloads referring to data being received.

Some broadband services, such as real-time video calling, are especially complex due to simultaneous uploading and downloading of large amounts of data and require a minimum speed threshold to be usable. For example, the Federal Communications Commission (FCC), which sets standards for broadband speeds, recommends a household have access to download speeds between five and 25 Mbps for a single student or telecommuter's general usage. More users, or more services being used at a time, require higher speeds.

Figure 1: As internet usage grows more complex, higher broadband speeds become necessary



The FCC states broadband must be delivered at a speed no less than 25 Mbps for downloads and three Mbps for uploads (25/3 Mbps). This standard was adopted by the FCC in 2015 and codified into Oregon law in 2018. However, many organizations and industry leaders believe this definition is outdated and no longer meets the needs of most households, businesses, and institutions such as schools, hospitals,

³ See [Appendix A](#) for a glossary of key terms used throughout this report.

and libraries. Any new broadband infrastructure investment needs to not only be able to meet the current needs of users, but should anticipate what the needs will be 10, 15, or even 30 years from now.

Opinions vary on what this anticipatory standard should be. Some states, such as Washington, have set new minimum requirements to 150 Mbps symmetrical, meaning the same speed for uploads and downloads. Other states, such as Michigan and Hawaii, have goals to lay high speed fiber-optic cable and associated infrastructure to support speeds of 1,000 Mbps symmetrical and beyond.

House Bill 4092, passed in 2022 by the Oregon Legislature, has given the [Oregon Broadband Advisory Council \(OBAC\)](#), which acts as the advisory body for the Oregon Broadband Office, the responsibility of determining, in consideration of federal requirements, the broadband speed standard for Oregon. Updating this standard is necessary because investing hundreds of millions of dollars on broadband infrastructure based on an outdated, seven-year-old standard would likely set Oregon significantly behind in closing the [digital divide](#).

Large swaths of Oregon lack access to basic broadband service, resulting in growing inequities

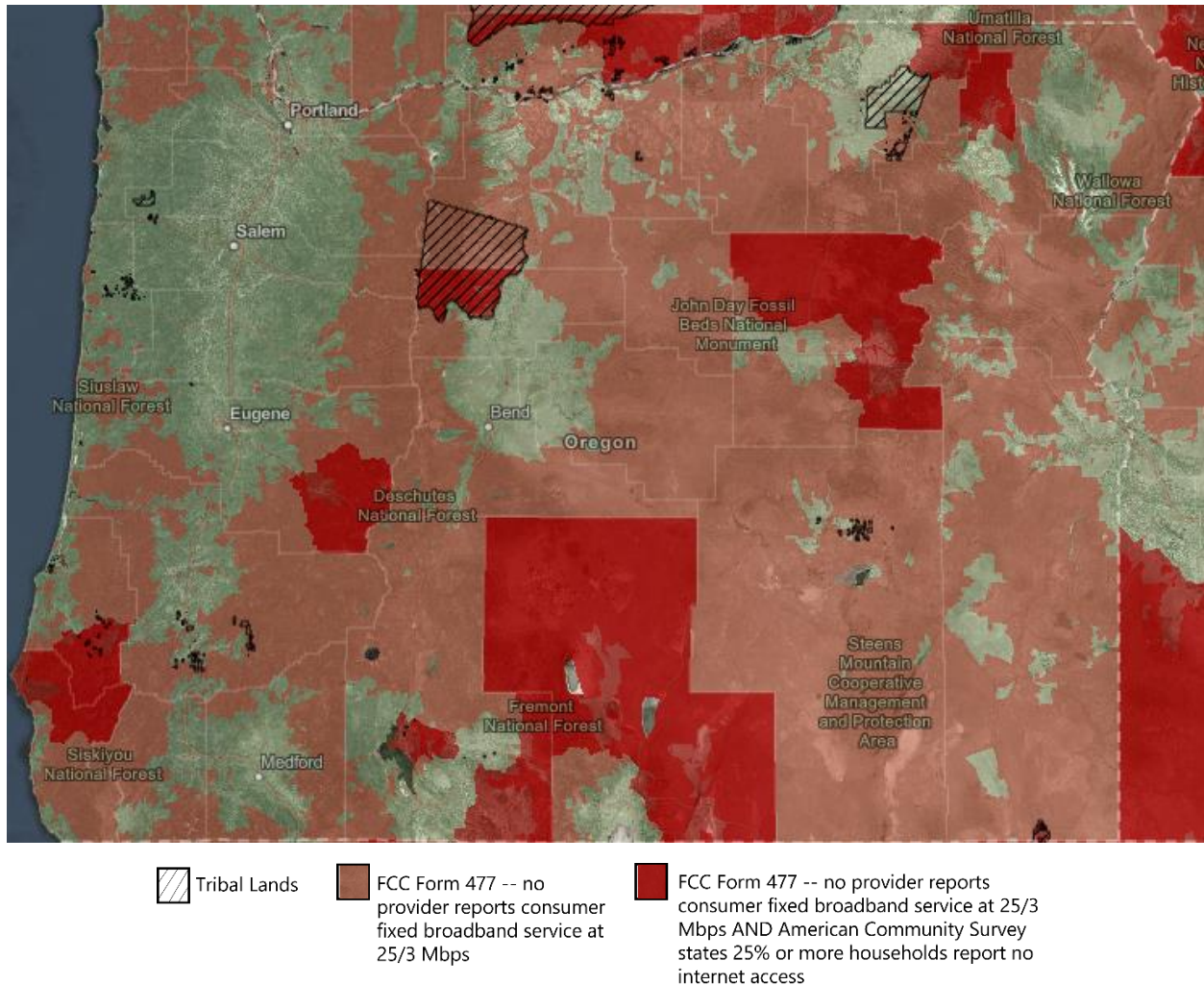
The goal of expanding broadband access to all Oregonians cannot be addressed without addressing broadband equity — targeting resources to close gaps and expand opportunity for unserved and underserved communities.

Poor broadband coverage in the state represents an infrastructure gap with serious socioeconomic consequences. Despite significant investment from the private sector and federal government in prior decades, large swaths of Oregon still lack access to basic broadband service of 25/3 Mbps. These areas include pockets of urban areas, developments just outside city lines, sovereign Tribal communities, and some entire rural communities.

Historically, private investment focused more resources on relatively profitable service territories at the expense of more remote and less profitable areas. As any terrestrial [free market](#) broadband solution would likely operate at a loss in these areas, there is little incentive for Internet Service Providers (ISPs) move into these areas without partnering with government entities to lay the necessary infrastructure. While new technologies such as satellite internet may offer a way to reduce the infrastructure needs and cost, these services tend to have large monthly end user costs of over \$100 per month, as well as upfront equipment costs of almost \$600.

Industry experts have drawn comparisons between broadband infrastructure and electric power infrastructure. In the 1930s, 90% of homes in rural America did not have electricity. The Rural Electrification Act of 1936 provided federal loans for the installation of electrical distribution systems to serve isolated rural areas. Since then, electric cooperatives have been put in place with power grids, and offer poles, towers, conduit, and entry facilities into nearly all homes and businesses in their service territories, along with existing service organizations, systems, and staff. These same electric cooperatives offer a possible solution to broadband challenges, which need smart grid technologies for their own operations.

Figure 2: Large areas in rural Oregon do not have adequate broadband access



Source: BroadbandUSA Map showing Oregon

Broadband utilization barriers impact the disadvantaged and minorities most

Providing access to broadband is only part of the issue. Equally important to closing the digital divide is broadband utilization — a concept including access to tools necessary to tap into broadband, like computers and wireless routers, and fluency in using them. Compared to barriers to broadband access — such as population sparsity, geography, and lack of economic return on investment — barriers to utilization are more complex. These barriers also tend to impact certain groups more: income, education, disability status, age, race, and ethnicity all correlate with lower broadband adoption.

For instance, while 80% of white adults have a laptop or desktop computer, only 69% of Black adults and 67% of Hispanic adults do, according to a 2021 report from the Pew Research Center.⁴ Additionally, 80% of white adults have broadband access at home, compared to 71% of Black adults and 65% of Hispanic adults.

⁴ [Home broadband adoption, computer ownership vary by race, ethnicity in the U.S.](#) Pew Research Center. There were not enough respondents to report on Asian demographics.

The COVID-19 pandemic reinforced our reliance on broadband and the importance of closing the divide. Services such as education, health care, and social programs are becoming increasingly — or completely — available online; many jobs require broadband access and the ability to work remotely or even to apply online. The ability to access and use broadband can make significant differences in access to services and information critical to quality of life.

Unserved area

A geographic area within which there is no service provider offering residential wireline or wireless terrestrial broadband service at speed of at least **10 Mbps download/1 Mbps uploads (10/1)**.

Underserved area

A geographic area within which there is no service provider offering residential wireline or wireless terrestrial service at a speed of at least **25 Mbps downloads/3 Mbps uploads (25/3)**.

During the course of this audit, we interviewed numerous stakeholders in unserved and underserved areas. Their stories about education, government services, and disaster preparedness have been included throughout this report.

Tribal governments have been especially adversely impacted by lack of service

The nine federally recognized Tribes in Oregon have been among the most underserved communities in the state with regard to broadband infrastructure and connectivity. Each Tribe has a distinctive legal and political status that is separate from each other and from Oregon state government. Each Tribal sovereign has the inherent authority to govern its people and see to their health, safety, and welfare, decide requirements for citizenship, pass laws and regulations, tax and spend, create infrastructure, and provide governmental services to its citizen members.

There have been numerous obstacles Tribal governments face in Oregon, including financial, environmental, staffing, additional permitting requirements, and developing the right partnerships. Most prior broadband grants have required upfront matching funds from the grantee. For example, a \$5 million fiber construction project with a 25% matching funds requirement means Tribal governments would have had to contribute \$1.25 million to receive a grant; some Tribes may not have these matching funds available and therefore could not take advantage of the grant. Fortunately, upcoming National Telecommunications and Information Administration and U.S. Department of Agriculture grant programs will not require the upfront matching funds from Tribal governments.

Environmental factors are also a major hindrance in expanding broadband on Tribal lands. Some Tribal lands in Oregon are spread out among rural areas or, like the Coquille Indian Tribe, consist of roughly 40,000 noncontiguous land tracks, or other geographic features that make it challenging to build the necessary infrastructure. The lands of the Confederated Tribes of Warm Springs are spread over 644,000 acres with tall buttes, deep canyons, and dense forests. Because much of the land sits on solid rock, trench digging to lay fiber is more costly, at \$55 per foot. Meanwhile, in the Willamette Valley, where the soil is fairly soft, the cost to place fiber in the ground is about \$5 per foot.

Lack of skilled staff is also adversely impacting Tribal communities in Oregon. Tribal representatives have expressed their frustrations in being unable to fill open positions for Tribal owned and operated ISPs. One Tribal ISP manager stated they have had openings posted for over two years and in that time only received one application. Part of this issue is that some Tribes have a difficult time paying the going rate for the same job off Tribal lands. According to the manager: “The resources just are not available to pay a network engineer \$150,000 a year. The same is true for construction workers, drafters, tower-climbers, low-voltage technicians, and splicers.”

To help address the issue with finding readily employable staff, the Oregon Broadband Office, along with the University of Oregon’s Network Startup Research Center, the Tribal Digital Village Network, Link Oregon, the Burns Paiute Tribe, and the First Nations Development Institute, have recently funded the Oregon Tribal Broadband Boot Camp that was hosted on the University of Oregon campus in August 2022. This included about 50 Tribal members from around Oregon and the Northwest with a focus on learning the technical expertise of establishing and improving internet infrastructure in Tribal communities.

A significant challenge, according to Tribal governments, is finding and developing the right partnerships, while upholding Tribal sovereignty and keeping their lands whole. One leader with the Coquille Indian Tribe told auditors Tribes have been reluctant to form relationships with third-party ISPs. Their goal is to have more Tribally controlled ISPs, which would provide local jobs and offer additional revenue streams for Tribal governments.

A top priority of the Oregon Broadband Office is to develop positive and productive relationships with the nine federally recognized Tribes of Oregon, but much work is left to be done. It will likely take innovative solutions, such as giving appropriate due deference to Tribal grant applications, allowing in-kind services in exchange for providing up-front capital for infrastructure, and other non-traditional approaches that respect Tribal sovereignty and traditions, while providing affordable internet service to the Tribal communities in Oregon.

States differ in their approaches to broadband deployment strategies

Each U.S. state is unique due to terrain, population, population density, land mass and other factors, and each state has approached implementing broadband in different ways. Some are more prepared, proactive, and successful than others. As of June 2021, 30 states (including Oregon) have an office or similar state-led organization dedicated to broadband efforts. These offices are normally nested within an existing government framework.

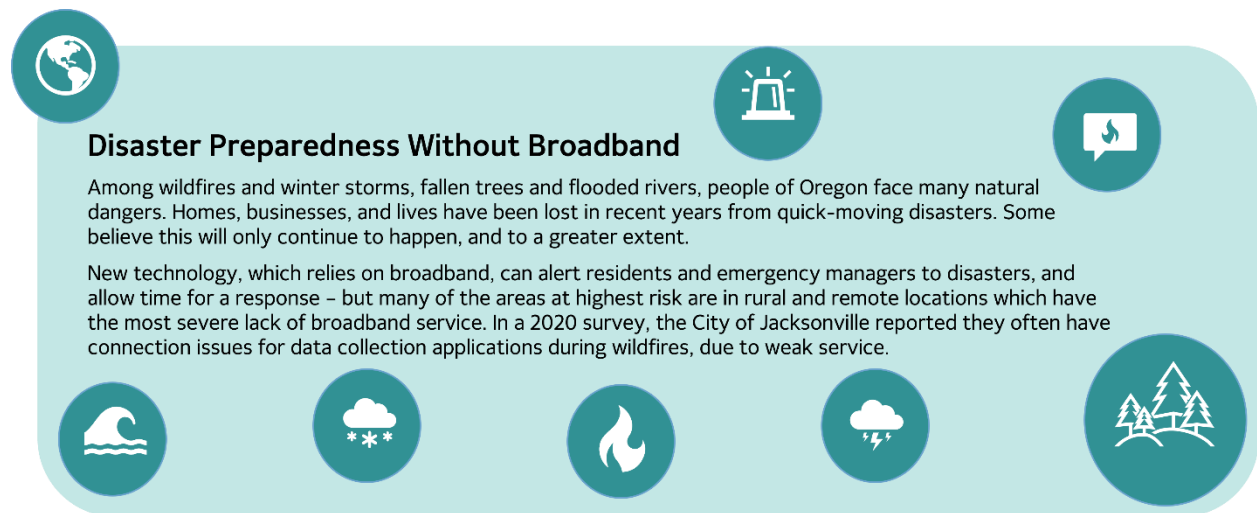
Idaho’s Broadband Team is an office of one that was created by a 2019 executive order. The office also receives support from the state’s Department of Commerce, including grant reviews and details, which are then published on its website for stakeholders to review. While Idaho’s broadband manager is working to hire some additional staff, the office relies on consultants for strategic planning and oversight as leaders believe the wages to secure such talent are likely out of reach for their office.

According to Pew Charitable Trusts, California is advancing [digital equity](#) through grants to community-based organizations to help low-income households adopt broadband. It is also performing survey work to identify root causes of and solutions for the digital divide. California has also developed a program that is designed to integrate technology into teaching and learning. This “School2Home” program hopes

to close the achievement gap in middle schools in low-income neighborhoods. Additionally, California is making efforts to promote state and national public policy for broadband to achieve digital equity.

Maine and North Carolina were also early setting up their digital inclusion efforts. Minnesota invested \$54 million in funds, including state grant dollars matched in local monies into its broadband infrastructure to help meet the goal of ensuring every Minnesotan has high-speed broadband access by 2022. In July 2021, Virginia's Governor announced \$700 million of American Rescue Plan funds will be used to invest in broadband to fast-track a goal of reaching equitable internet access by 2028.

Washington State conducted a statewide survey and mapped results to track speeds and availability; this effort helps inform its goal of high-speed internet access for all by 2024 and 150 Mbps for all by 2028. In late 2021, the Washington Broadband Office established an internal Office of Digital Equity, led by the former Tribal liaison from Washington's Commerce Department.



Disaster Preparedness Without Broadband

Among wildfires and winter storms, fallen trees and flooded rivers, people of Oregon face many natural dangers. Homes, businesses, and lives have been lost in recent years from quick-moving disasters. Some believe this will only continue to happen, and to a greater extent.

New technology, which relies on broadband, can alert residents and emergency managers to disasters, and allow time for a response – but many of the areas at highest risk are in rural and remote locations which have the most severe lack of broadband service. In a 2020 survey, the City of Jacksonville reported they often have connection issues for data collection applications during wildfires, due to weak service.

The Oregon Broadband Office operates within Business Oregon

The Oregon Business Development Department, known as Business Oregon, is the state's economic development agency. Business Oregon has primary offices in Salem and Portland, along with staff located in 12 regions across the state. The agency's 2021-23 legislatively adopted budget totaled \$2.16 billion with 167.04 Full Time Equivalent staff (FTE).

The mission of the agency is to invest in Oregon businesses, communities, and people to promote a globally competitive, diverse, and inclusive economy. Business Oregon is focused on five priorities: innovating Oregon's economy; growing small and middle-market companies; cultivating rural and economic stability; advancing economic opportunity for underrepresented people; and ensuring an inclusive, transparent, and fiscally healthy agency.

In late 2018, the OBAC recommended to the Legislature that Oregon establish a broadband office; the Oregon Broadband Office was subsequently established by Executive Order 18-31.⁵ The order set nine

⁵ [Executive Order 18-31 \(2018\)](#) Establishing the Oregon Broadband Office

responsibilities for the office, which were then expanded to 14 with the passage of House Bill 2173 in 2019.⁶

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.
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 stakeholders representing a wide variety of interests, including but not limited to elected officials, government officials, health care providers, educators, business and agricultural community leaders and other 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 statewide broadband map as a platform for data collection to track the availability of broadband services and to measure progress, and 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 OBAC.

The Oregon Broadband Office is nested within Business Oregon's Program and Incentives Division. The office is statutorily required to coordinate broadband efforts to help ensure the implementation of statewide broadband strategies and has a 2021-23 budget of approximately \$162.29 million, which includes \$120 million from the American Rescue Plan Act (ARPA) Capital Projects Funds, with a total of 7.04 FTE staff, several of which were added in September 2022.

⁶ [House Bill 2173 \(2019\)](#) Codifying the Oregon Broadband Office

The Broadband Office must facilitate and coordinate with numerous other organizations to achieve its mission

Oregon covers a large territory with many remote and rural areas, mountain ranges, lakes, and forests. The Broadband Office coordinates with state and federal agencies overseeing the land, Tribal and local governments, public companies, and many others to achieve its mission and bring broadband to all areas of Oregon.

Oregon's broadband stakeholders are many: 4.2 million people, including 241 Oregon cities, 36 counties, nine Confederated Tribes, 197 school districts, and more than 300 internet service providers (ISPs). While most of the Oregon federal infrastructure will be coordinated through the Broadband Office, the office also works with many partners in the broadband industry to ensure grant monies are fully and appropriately utilized. Public and private partnerships and cooperative broadband solutions are essential to the success of broadband implementation.

Prior to the office's creation, state broadband efforts were coordinated by the [OBAC](#). The Council, established by the Governor in 2009 to encourage cooperation among stakeholders, now consists of 13 members including representatives from Oregon's cities, counties, telecommunications service providers, the nine federally recognized Tribes, the Public Utility Commission, the State House of Representatives, and the State Senate. From 2011 to 2020, the Council provided a report to the Legislature every two years on the affordability and accessibility of broadband throughout the state.

The Council now coordinates efforts with the Oregon Broadband Office as well as other state agencies as needed. House Bill 4092 in 2022 updated the statutes to state the Council should advise the office on the development and implementation of Oregon's broadband strategy. The legislation also directed the Council to review and update goals regarding broadband service speeds and establish a grant review committee for each grant cycle.

[Link Oregon](#) is a nonprofit organization which provides high-speed, fiber-optic broadband connectivity to Oregon's public and nonprofit sectors. It is a consortium of the State of Oregon through its Office of Enterprise Information Services and the state's research universities: Oregon State University, Oregon Health & Science University, Portland State University, and the University of Oregon. Link Oregon's purpose is laying fiberoptic cables throughout the state to connect public and nonprofit learning centers — in particular, schools, Tribal governments and communities, remote state offices, libraries, and public health organizations. Link Oregon worked with Oregon's Enterprise Information Services to establish an initial five ring 100GB network backbone that was completed in 2021.

[The Oregon Public Utility Commission \(OPUC\)](#) is an agency led by three Governor-appointed commissioners. It oversees and regulates the investor-owned utilities in the state of Oregon (such as Portland General Electric and CenturyLink). Broadband is not a regulated utility, but the OPUC administers the [Lifeline](#) subsidy program, which provides a subsidy to lower the cost of broadband internet to qualified applicants, and the Universal Service Fund, a fund dedicated to reducing telecommunications costs in rural areas. Senate Bill 1603 (2020) created the Broadband Fund within Business Oregon and directs the OPUC to annually deposit unused Universal Service funds (up to \$5

million) into the Broadband Fund until 2030.⁷ The OPUC also administers Oregon's Residential Service Protection Fund, which provides subsidies for phone and broadband bills to low-income Oregonians.

There are over 300 [ISPs](#) in Oregon offering broadband services. This includes service delivered over copper, cable, and fiber lines as well as wireless connections. Major industry groups include the Oregon Telecommunications Association and the Oregon Cable Telecommunications Association, which participate in rulemaking and state government committee meetings on behalf of their members.

In addition, cooperatives and telephone companies are potential service providers and partners in exploring, developing, and funding broadband solutions for the rural areas they serve. For example, Warm Springs Telecom was developed as a cooperative solution to bring broadband to 400 unserved individuals and businesses not being served by the larger providers.

[Oregon State University \(OSU\)](#) is promoting broadband access and digital inclusion by the creation and support for Link Oregon as a high-quality statewide middle-mile network that helps improve connectivity for K-12 and higher education, the State of Oregon, local governments, libraries, and other public organizations. OSU is also providing mapping and geographic analysis capabilities that support development of a state broadband map through the Institute for Natural Resources.

Additionally, they are building on OSU Extension, an outreach and engagement program and statewide presence, to engage with Oregon's federally recognized Tribes and other underserved communities about their broadband needs as well as to promote Oregon's participation in the FCC's Affordable Connectivity Program. OSU has appointed a new Executive Director for Digital Extension and Inclusion who will look for additional opportunities to address digital inclusion as part of the university's plans for its engagement and outreach mission.

[The State Library of Oregon](#) assists libraries in Oregon in their efforts to close the digital divide and ensure equitable access to technology for all people in Oregon. It does this by supporting projects that increase broadband, connectivity, and technology access through libraries and encouraging libraries' digital inclusion and skills training efforts in their communities. State Library programs supporting broadband included targeted grants, consultation, and broadband advocacy.

[The Oregon Department of Education \(ODE\)](#) is supporting broadband in Oregon by providing state E-Rate coordination and assisting school districts and education service districts in navigating the federal E-Rate discount program that allows eligible schools to receive 20-90% discount rates based on poverty and rural or urban status. ODE also created the Connecting Oregon Schools Fund Program in which \$17.5 million in lottery bond funding will be utilized for state match grants, alongside the E-Rate program, to connect Oregon Schools to high-speed broadband starting in fiscal year 2023. Additionally, ODE participates in national associations advocating for robust broadband in each state, including the Schools, Health & Libraries Broadband Coalition, the State E-Rate Coordinator's Alliance, and the State Educational Technology Directors Association.

[Broadband Action Teams](#) are semi-formal groups formed by stakeholders and concerned members of the community who are interested in improving broadband in their communities and represent the ground level of advocacy for improving local service. These teams are focused on increasing

⁷ [Senate Bill 1603 \(2020\)](#) Creation of a fund dedicated to broadband projects and a list of how those projects should be prioritized

involvement and support for broadband improvement from local stakeholders, such as city and county officials or large institutions, which can help with organizing and funding. While the groups are informal, bi-weekly meetings of 12 to 16 teams throughout the state have been organized by team coordinators and are attended by representatives from the Oregon Broadband Office, Link Oregon, and other major players in broadband. These action teams have three main goals: Improve knowledge of broadband issues and opportunities across the region; advocate for rural communities at the State and local level; and liaise with other regional teams around Oregon.

State and federal legislation has created opportunities for improving broadband infrastructure

Several broadband-related bills have passed the Oregon Legislature since 2019. Major legislative actions include the establishment of the Oregon Broadband Office (House Bill 2173, 2019); the creation of a fund dedicated to broadband projects and a list of how those projects should be prioritized (Senate Bill 1603, 2020); and a revision of the OBAC's structure and responsibilities in anticipation of upcoming federal broadband infrastructure funding (House Bill 4092, 2022).⁸ A Policy Option Package submitted for the 21-23 planning years was also approved for the Broadband Office to staff five personnel, up from the office's original single staff member.

Bills targeting specific barriers to installing broadband infrastructure have also been passed. In 2021, House Bill 2654 allowed electric cooperatives to use existing easements allowing installation for electric services to be used for broadband services.⁹ House Bill 2411, also in 2021, created a mechanism for the Broadband Office to notify interested providers when ODOT's trenching work resulted in an opportunity to install broadband conduit without having to dig themselves.¹⁰

At the federal level, as part of a larger push for infrastructure spending, Congress passed two major bills in 2021 to provide funding for infrastructure to all 50 states at a level never seen before. ARPA and the Broadband Equity, Access, and Deployment (BEAD) Program will each deliver hundreds of millions of dollars to states for their broadband programs. States shall propose plans and programs that must first be approved by the federal government. Once approved, the funds will be administered by the states themselves, so long as they are in alignment with the rules and requirements.

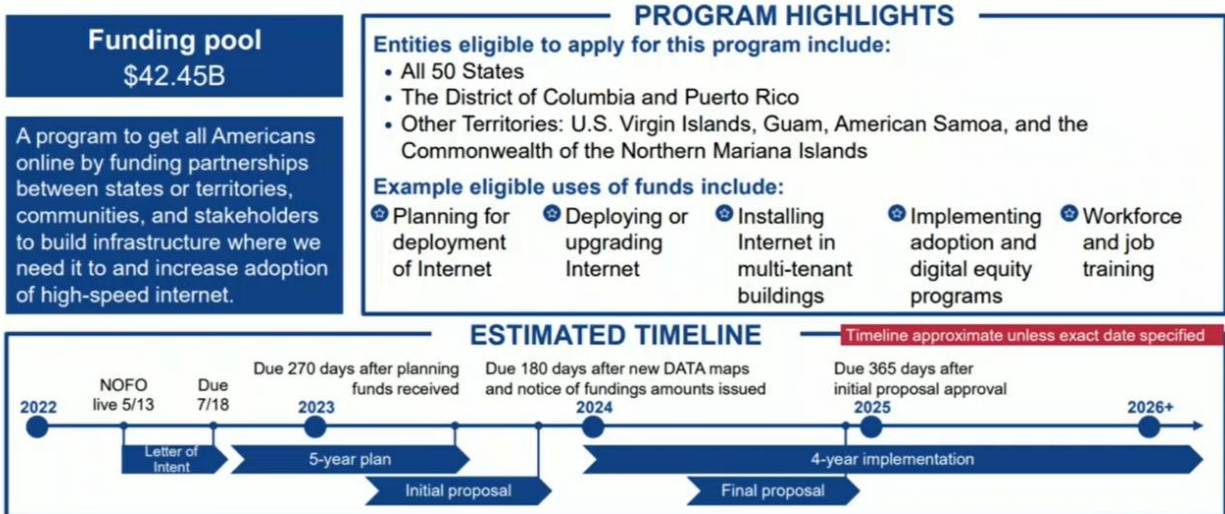
ARPA funds, including \$10 billion among all states, territories, and Tribal governments, have just begun to be delivered to states who have submitted their plans for spending. Louisiana, New Hampshire, Virginia, and West Virginia received awards in June 2022 totaling \$500 million to deliver speeds of 100 Mbps to rural and poorly connected areas. Oregon's Broadband Office has spent the spring and summer of 2022 drafting rules to guide stakeholders in submitting their own applications for funding, which were due to the U.S. Treasury department no later than September 24, 2022.

⁸ [House Bill 4092 \(2022\)](#) Modifying composition of OBAC and setting additional directives for the Broadband Office

⁹ [House Bill 2654 \(2021\)](#) Authorizes electric cooperative to use or allow for use of electric easement in broadband services

¹⁰ [House Bill 2411 \(2021\)](#) Process for allowing telecommunications providers to coordinate with ODOT for broadband

Figure 3: The federal spending timeline spans from 2022 to 2026 and beyond
BEAD program will provide ~\$42.45B for infrastructure planning and implementation



Source: National Telecommunications and Information Administration, via Oregon Broadband Office

The BEAD program provides an initial allocation of \$100 million to all states, with further funding to be determined after review of the state’s application and plan for providing broadband access to the unserved and underserved. It requires states to prioritize projects which focus on (in order): unserved areas, underserved areas, and connecting community anchor institutions. Notably, BEAD defines unserved areas more broadly than the FCC, stating an unserved location is one which either has no access to broadband, or no access to broadband that is reliably above 25/3 Mbps to support real-time applications.

The same act that funded BEAD also provides millions of dollars for the Digital Equity Act, giving states money to spend on planning and programs to address the digital divide within their own communities. The Broadband Office submitted Oregon’s application for the planning portion of this money in July 2022.

Audit Results

The focus of this audit was two-fold. Our first objective was to determine whether the Broadband Office has sufficient resources to effectively facilitate upcoming federal infrastructure grant awards and if the office has a cogent strategy and funding plan to close the broadband digital divide.

We determined the Broadband Office will likely be prepared to receive and facilitate this grant funding. However, it will require significant assistance from Business Oregon's staff, and use of federal monies specifically earmarked for broadband grant administration, to not only ensure Oregon receives all the grant money available to it, but that it is disbursed in an equitable way that addresses communities with the most critical needs first.

Our second objective was to determine whether the Broadband Office has the necessary staffing and resources to promote access to affordable, [high-speed broadband](#) services for all Oregonians in order to improve their quality of life and to enhance the state's economy. We found insufficient strategic planning, either missing or immature fundamental operational internal controls and processes, and inadequate staffing and resources is significantly impacting the office's ability to achieve its statutory obligations and risks hindering its ability to close Oregon's substantial digital divide.

Specifically, due to competing priorities with limited staff, we found the Broadband Office has not established governance documentation such as policies, processes, and procedures, and has only recently established draft program rules. In addition, necessary external partnerships have not been fully established, and digital equity has not been a strategic focus in broadband implementation efforts.

The office is also using inaccurate data for measurement in critical areas, including using a federally required state broadband access map that relies on inaccurate FCC data. The office is also not utilizing additional informative data from broadband grants and project to inform strategy and decisions, or to augment the broadband map. Additionally, Key Performance Measurements (KPMs) are not aligned with statutory requirements of the Oregon Broadband Office.

Government Services Without Broadband

Government services such as applications for licenses and information about service eligibility are increasingly available online. This improves access to those with broadband but leaves those who must engage in person with government services at a disadvantage. A person with access to the DMV website saves time commuting and waiting compared to an offline visitor, who may have to schedule around work and childcare availability.

Services themselves are also impacted by a lack of broadband. DHS caseworkers report being unavailable to their clients for hours as they travel among rural locations that have no broadband or cellular service. Community-based providers often deliver care in homes and small offices that are outside of major population centers with adequate broadband, leaving people with disabilities unable to access telehealth appointments or information needed for their care.

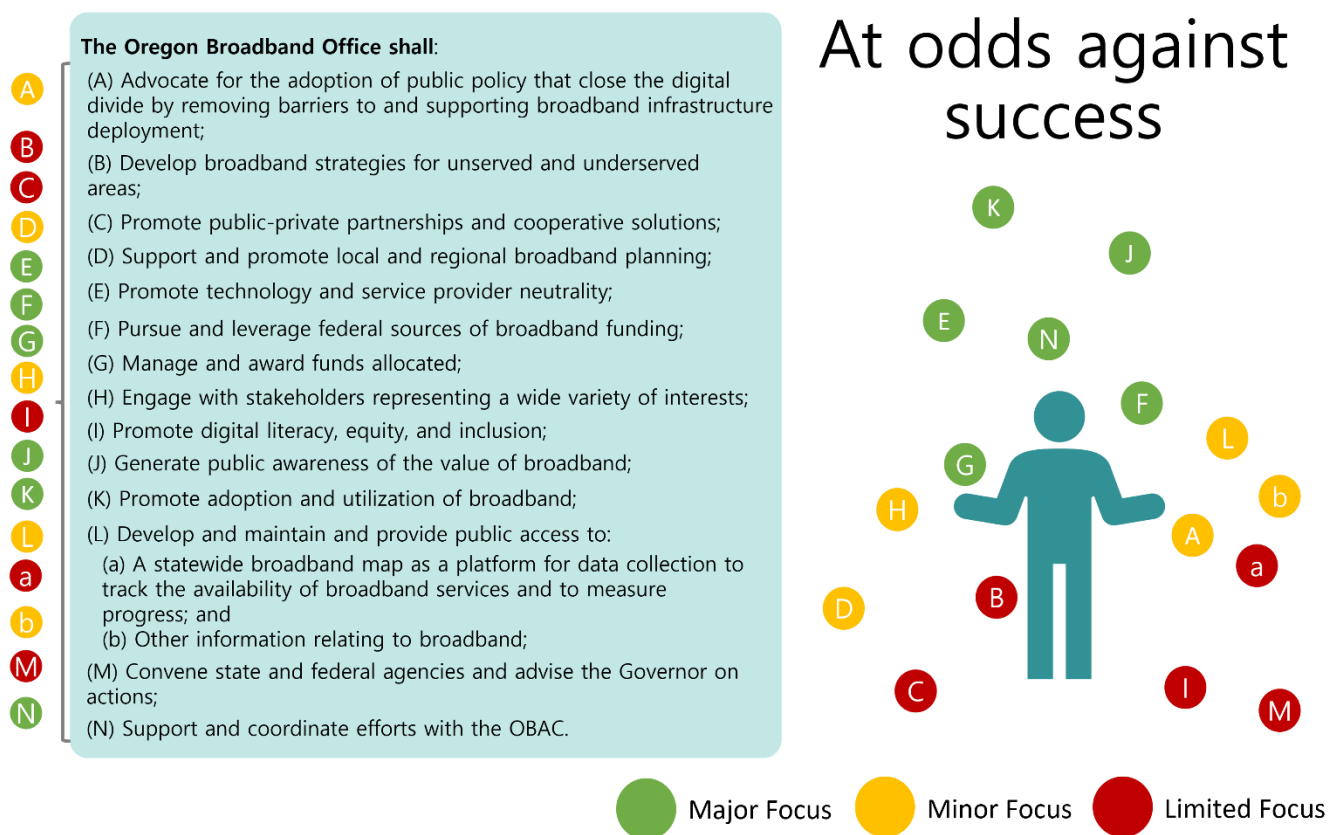
The infographic is surrounded by icons representing various services: a clipboard with a checklist, a stethoscope, a hand holding a heart, a person icon, a tooth, a shopping bag, a computer monitor with a globe, a smartphone with a building icon, and a hand holding a pen.

The Broadband Office has not been able to fulfill its statutory requirements to close Oregon’s digital divide due in large part to lack of staffing, which has limited the office’s ability to establish foundational policies and procedures

We determined a lack of staffing and an informal office structure lacking appropriate control environments, information and communication strategies, and monitoring and reporting activities has made it very difficult to assess and accurately measure the Broadband Office’s progress in fulfilling its mission and its statutory obligations.

The Broadband Office was minimally staffed at time of establishment. Specifically, Executive Order 18-31 established the office with one Technical Specialist. The Broadband Office has subsequently submitted two Policy Options Packages to increase the support for the office and received legislative approval for some additional staffing resources in 2021. Public policy updates may have been withheld or not submitted due to lack of staffing, ultimately leaving the Broadband Office without the resources needed to complete its statutory obligations and mission. See [Appendix C](#) for a timeline of the Broadband Office’s history and activities, as provided by the Broadband Office.

Figure 4: Oregon Broadband Office is struggling to meet its statutory obligations



Source: OAD analysis of Oregon Broadband Office statutory obligation efforts (House Bill 2173¹¹)

¹¹ [House Bill 2173 \(2019\)](#) Codifying the Oregon Broadband Office – statutory obligations

Lack of resources has hampered the work of the Broadband Office

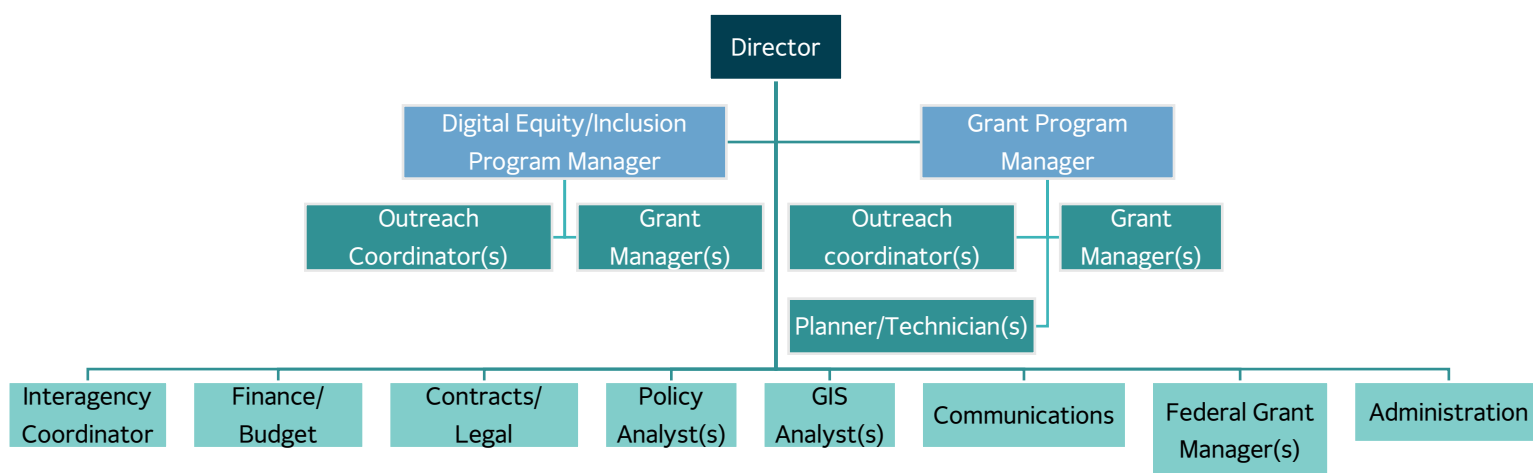
The Legislature expanded the Broadband Office’s statutory responsibilities from nine to 14 in 2019 but did not include additional resources to perform these responsibilities. Despite the significant work needed to meet these requirements, and Business Oregon’s request in 2019 to establish the office with four positions, as well as the heightened need for access as a result of the COVID-19 pandemic, the Broadband Office was staffed by one person until the beginning of 2022. The office only received approval to increase its staffing from one to five in July 2021. The office received approval for an additional eight positions in September 2022, after our original audit fieldwork had completed. These positions were added to administer upcoming federal grants.

With the assistance of Business Oregon, and in coordination with OBAC and the PUC, the office initially focused its efforts on incoming federal funds from programs such as the CARES Act. The Broadband Office supported local and regional broadband planning and managed and awarded grant funds for broadband projects. There were times, however, when those efforts were limited by being under-resourced. Several Broadband Office reports to the Legislature included warnings that Broadband Office’s plans and ability to perform its statutory responsibilities — including a Broadband Outreach Program to match stakeholders with available funding resources, and a Digital Literacy, Security, and Inclusion Program — were “subject to available resources.”

The Legislature has increased the Broadband Office’s authorized positions from one to 12, but most of these were only added in September 2022. This increase in staffing still lags behind other some states. For example, the Wisconsin broadband office has dedicated 18 staff members to its broadband responsibilities, not including support from other state teams. The Vermont broadband office has 20 staff members.

In response to upcoming federal infrastructure grant requirements, Pew Research developed a State Broadband Office Staffing Framework that shows what will likely be needed to successfully manage upcoming federal grants.

Figure 5: Pew Research has a framework model for staffing a broadband office



While Pew notes that in some states, specific roles and positions listed above can be covered or supported by other offices, based on this best practice framework, the office's increase in staff positions may be insufficient to address the needs of the Oregon Broadband Office. Broadband Office management indicated the additional staff's time will be largely devoted to facilitating the upcoming federal infrastructure grants, leaving other important foundational needs — changes to the office's governance structure, strategic planning development, and other key performance measures — on the back burner.

Oregon's Broadband Office prioritized identifying and distributing federal broadband funds in order to meet deadlines rather than focusing on establishing foundational management and operational safeguards

While the current Broadband Office leadership is well regarded by most stakeholders and federal colleagues, Oregon entered the largest broadband grant cycle in the state's history without some critical foundational elements, such as a draft of program rules or metrics to measure success or guide objectives.

The OBO Demonstrated Success Under Duress

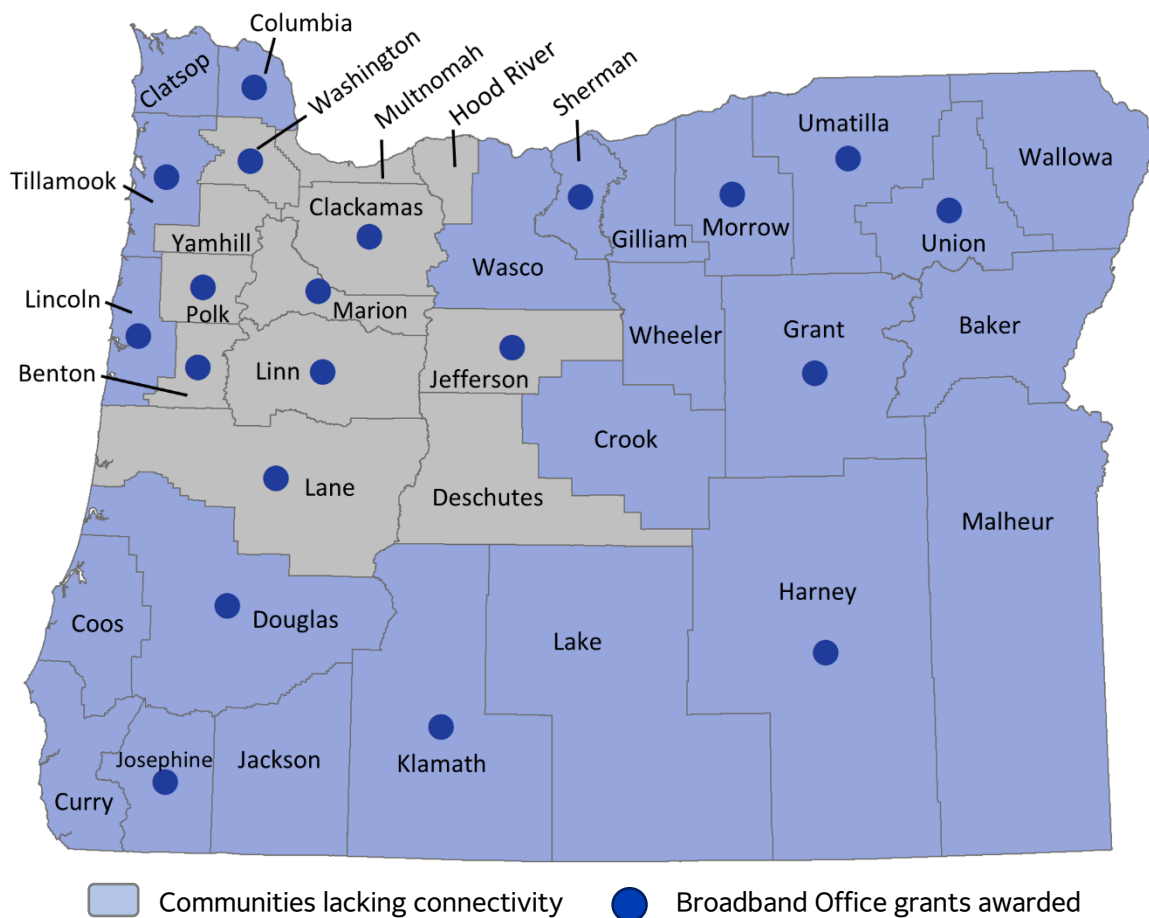
After the CARES Act was passed, and grants were made available in June 2020, the Broadband Office had only a matter of weeks to not only stand up the program, but also to solicit projects and applications, review applications, and make grant award determinations. The associated projects all had to be completed by December 2020.

As a result of these unprecedented efforts, OBO was able to issue \$10 million in grants for 28 projects across 24 counties. Recipients include Oregon cities, counties, sovereign Tribal lands, cooperatives, school districts, and private sector internet service providers.

Some grant funding has already been distributed. Funding from the Coronavirus Aid, Relief, and Economic Security Act, also known as the CARES Act, was delivered to projects that would expand broadband in rural areas through an existing mechanism: the Rural Broadband Capacity Program. The program was targeted to grants for planning, engineering, infrastructure deployment, and for matching funds to leverage grants and loans from federal and private funding programs. By June 2020, applications for this program were requested for projects which would improve broadband access for telehealth and K-12 distance learning in unserved and underserved areas. A panel made up of Business Oregon and OBAC representatives reviewed these applications for approval, and while they wanted to ensure appropriate geographic distribution, they had to prioritize projects that were ready to begin.

A review of the evidence from this program shows money was administered effectively and within the guidelines set by Oregon legislators. However, due to the emergency timeline, we found grants were not always awarded to areas with the greatest need, but to areas most prepared to receive and make use of the funds.

Figure 6: Broadband grants were not always awarded to the areas most lacking connectivity



Source: OAD analysis of distressed communities and recent awards given

The newer federal funding programs, ARPA and BEAD, each have their own sets of rules. Some of these rules include requirements for receiving organizations to submit updated strategic plans, targeted digital equity and inclusion plans, analysis and data of unserved and underserved areas, and minimum speeds to be met. Oregon House Bill 4092 (2022) also directs the Broadband Office to create reports required by the federal legislation in order to receive funding, including a five-year strategic plan for broadband and a digital equity plan.

However, the Broadband Office's initial lack of staffing and ongoing insufficient staffing means many basic operations — developing administrative rules, policies, and defining staff roles — was largely set aside in order to gear up for a highly intensive grant cycle. The Broadband Office understandably prioritized drafting rules required for federal grants in coordination with stakeholders, but this process was initiated very late. Other states had already submitted their rules and been awarded federal funding.

While the office has now drafted rules for legislation passed in 2022, directives in legislation from 2019 and 2020 — bills which established the Broadband Office itself and the state's Broadband Fund — continue to operate with only statute to guide activities.

Only position descriptions and management communications govern the work, with no formal policies or metrics to guide staff, and limited program specific strategic planning to set goals and objectives to measure outcomes.

Progress is being made, but limited staff and a lack of documentation and prioritization hampered Oregon's effort to effectively engage stakeholders

According to best practices, all efforts performed to engage stakeholders and make a case for broadband investment should be transparent. Best practices also note to identify, plan, manage, and monitor stakeholder engagement. A communications plan should be established to support these efforts, and should include how regular communications with stakeholders are to be performed. Such communications may include recurring meetings, newsletters, and other communication channels to notify all stakeholders of critical information.

The Broadband Office publishes what grants or funding is available, but does not publish its budgeting processes, awardees, project status, and people served and excluded and does not have an established communications plan. Some other states offer straightforward and transparent communications about their broadband efforts. Idaho established a way to communicate to its stakeholders through its website and the customer contact software solution used.

With the additional staffing resources, the Broadband Office began engaging community stakeholders through open listening sessions to receive input in preparation for the upcoming federal funding opportunities; to set rules for these programs; and to engage key stakeholders such as the Tribal governments, local communities, and those with barriers to access or acceptance. However, they still lack a defined way to identify, plan, manage and monitor stakeholder engagement.

Additionally, the Broadband Office fields questions via phone and email from stakeholders. Typical questions are about activities underway or available funding for establishing broadband to certain locations. The Oregon Broadband Office website serves as a portal to the state's broadband activities, initiatives, and resources.¹² It is the Broadband Office's key tool for promotion and information distribution. The Broadband Office publishes information about its current priorities and the status of current federal grants available.

Despite these efforts, many stakeholders — including service providers and community representatives — told auditors they still did not understand or know:

- The status of grants funding already awarded,
- The addresses served by a program,
- The ISPs or partners involved in the program,
- The status of implementation,
- How to challenge an award,
- Where to find public Wi-Fi, or
- The award application requirements.

¹² broadband.oregon.gov

Calls and inquiries will only increase and continue as new federal funding requires engagement with the local state Broadband Office or designated responsible person.

The Broadband Office has not developed an adequate strategic plan, future focus, nor formally established partnerships

The Broadband Office does not have adequate plans, policies, processes, and procedures to ensure consistency and transparency. In addition, the Broadband Office is lacking established, relevant markers for success, such as short-term and long-term goals to bring broadband to all people of Oregon and is not currently monitoring for effectiveness or any needed updates to improve program efficiency.

Aspirational planning and lack of internal controls does not allow for developing and attaining concrete broadband goals

All state agencies are limited by the resources available. Strategic planning and establishing internal controls require time and effort but are necessary for identifying and navigating resource challenges as well as setting clear expectations and ensuring transparency for external stakeholders.

The Broadband Office published a strategic plan in January of 2020, prior to the COVID-19 pandemic.¹³ The plan is high-level and notes: “This plan is aspirational and designed to carry out the mission and directives charged to the Broadband Office. The scope of activities the Broadband Office will ultimately undertake will be enabled, or limited, by the resources available.”

The plan does not contain specific and realistic approaches, strategies, or appropriate KPMs for how these aspirations will be measured, reported, and achieved; nor does it identify what resources would be needed to undertake the scope of activities.

Additionally, we found the office lacks several high-level broadband access strategies and plans necessary to identify and address risks and opportunities. For example, there is no statewide plan to address the cost disparities in broadband access and transport.¹⁴ There is no documented statewide strategy for leveraging funding from the federal government. Oregon also lacks a documented plan for broadband infrastructure to address the problem of the unserved and underserved and all components of the network infrastructure: [long-haul](#), [middle-mile](#), and [last mile](#).

Furthermore, the Broadband Office does not have KPMs that are specifically aligned with its statutory responsibilities and office mission. The current KPMs are set for Business Oregon at the higher agency level and are not specifically related to the office’s assigned responsibilities on closing the digital divide. As shown in Figure 6, the markers for the office’s success have to do with managing broadband grants, applicants, partnerships, and funding. Higher level agency measurements for infrastructure and community development depend upon the type of project being funded and are not necessarily specific to broadband projects.







The success of the program is measured by its ability to efficiently and effectively deliver intended benefits. In the case of the Oregon Broadband Office, success is the delivery of affordable, reliable,

¹³ [Oregon Broadband Office 2020 Strategic Plan](#)

¹⁴ [Middle-Mile Broadband Report](#)

high-speed broadband to all people of Oregon. While some of the Broadband Office responsibilities are generally in line with overall Business Oregon KPMs, there is no measurement or reporting on whether the office is meeting its statutory requirements or how well it is achieving its mission.

Figure 7: Business Oregon KPMs do not always align with the Broadband Office's responsibilities

Current Business Oregon KPM Measurements	vs	Broadband Office Statutory Responsibilities
Number of community capital projects assist for planning (infrastructure, community, and organizational)		Support and promote local and regional broadband funding Manage and award funds allocated to the Business Oregon for use by the Office for broadband projects
Number of community capital construction financing projects that address public health and safety issues		
Number of community capital construction financing projects that assist with future economic development		
		Advocate for the adoption of public policies that close the digital divide by removing barriers to broadband infrastructure deployment
		Promote P3 and cooperative broadband solutions;
		Engage with stakeholder to make a case for broadband investment
		Promote digital literacy, equity, and inclusion
		Develop and maintain a broadband map to track the availability of broadband service and to measure progress and other information relating to broadband

In addition to proper planning, agencies and programs need to initiate, document, and follow internal policies, processes, and procedures as control activities to ensure consistency in implementation and communication. Planning, monitoring, and continuous improvement processes should all be performed to fulfill the responsibilities and requirements of a program. The Broadband Office has not developed any office-specific internal control policies, processes, or procedures.

The onset of the pandemic and rapid redeployment of the workforce to telework and school has added a new urgency for the Broadband Office to act strategically to achieve its mission. With the increase in staffing, it is more important than ever for the office to develop policies and procedures and documented, measurable goals to monitor outcomes and move Oregon forward in bringing broadband to Oregonians who need it.

Oregon's broadband public policy lacks an aggressive focus on the future

In two legislative reports from the OBAC in 2018 and 2020, the Council stated: "Oregon's broadband public policy needs to be focused on the future, be more aggressive, be more financially supportive, be more specific, and have a renewed sense of urgency."¹⁵ The COVID-19 pandemic has only heightened the urgency of this need. Yet the Broadband Office has not introduced the recommended changes to

¹⁵ [2018 Oregon Broadband Report](#) and [2020 Oregon Broadband Report](#).

Oregon public policy nor proposed legislation to ensure all Oregonians have access to affordable, reliable, high-speed internet.

These OBAC reports also identified eight key broadband challenges and opportunities facing Oregon. They include: [digital inclusion](#), cybersecurity, education, public safety, agriculture, local community broadband planning, federal funding programs, and network interconnection; see [Appendix B](#) for a more detailed description of these recommendations.

To address these challenges and opportunities, the Council suggested the Oregon Legislature:

- Provide and expand state funding for grant, loan, and loan guarantee programs for broadband infrastructure in unserved and underserved geographic areas, for technical assistance and for matching funds to leverage federal funding programs;
- Provide support to low adopter underserved populations and community anchor institutions;
- Promote and support scalable broadband infrastructure deployment;
- Reduce barriers to broadband infrastructure deployment;
- Promote and support digital inclusion and cyber security initiatives;
- Require broadband infrastructure components be included for all state funded infrastructure projects including roads, bridges, water, and wastewater projects;
- Encourage public-private partnerships in broadband infrastructure leveraging limited state resources; and
- Remain technology and provider neutral.

We concur with the Council’s assessment of the broadband challenges and note their recommendations are largely aligned with the Broadband Office’s statutory obligations.

Other states face similar barriers to broadband as Oregon and made proactive decisions to set broadband initiatives into public policy. Some of these include set targets, some in legislation, for getting broadband to all their residents; standard minimums for speed; and legislative policies for funding and governance.

Recommendations to the Broadband Office by multiple stakeholders also suggest moving beyond the FCC standard to what is called a “future ready” standard. The Broadband Office has identified this as a need in its 2020 strategic plan: “Broadband infrastructure will always be a work in progress as technologies and applications change over time. What constitutes broadband, e.g., transmission speeds of millions, billions, or trillions of bits per second will continue to be a moving target. Oregon needs to promote public policies which support and remove barriers to the deployment of broadband infrastructure.”

150 symmetrical speeds

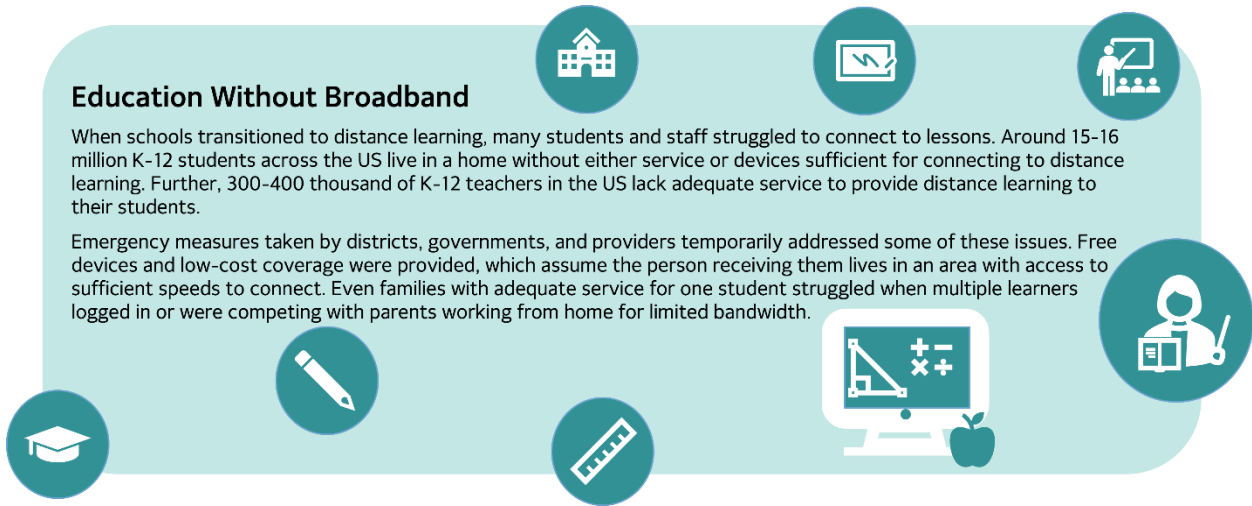
Washington State established in legislation a minimum speed for basic broadband of 150 symmetrical Mbps. Proactively being “Future Ready.”

Oregon codified its broadband speed into law with the passage of House Bill 4023 in 2018. It set the Oregon broadband speed standard as the same as the FCC’s 2015 broadband speed of 25 Mbps download/3 Mbps upload. Many stakeholders note this broadband speed is not fast enough to handle today’s technology needs.

Education Without Broadband

When schools transitioned to distance learning, many students and staff struggled to connect to lessons. Around 15-16 million K-12 students across the US live in a home without either service or devices sufficient for connecting to distance learning. Further, 300-400 thousand of K-12 teachers in the US lack adequate service to provide distance learning to their students.

Emergency measures taken by districts, governments, and providers temporarily addressed some of these issues. Free devices and low-cost coverage were provided, which assume the person receiving them lives in an area with access to sufficient speeds to connect. Even families with adequate service for one student struggled when multiple learners logged in or were competing with parents working from home for limited bandwidth.



The Broadband Office has an opportunity to formalize and better leverage the potential of public, private partnerships to expand broadband access

Public and private partnerships (P3s) between governmental, public sector, and private sector organizations are often needed to improve broadband infrastructure. The Broadband Office is statutorily required to promote private sector, public sector, and cooperative broadband solutions, but has not established documented, detailed plans, milestones, a list of potential partnerships, or timelines on how to initiate and promote these partnerships.

Public, Private Partnerships (P3s)

P3s can be effective in identifying needs, defining solutions, distributing costs, and sharing risks through mutually beneficial relationships.

The office does identify two programs in its strategic plan that would begin to address partnerships but has thus far only launched one: the Rural Broadband Capacity Improvement Program. This program awarded \$10 million in grants to 28 awardees in Oregon. However, it is unclear as to what role and impact the Broadband Office had in promoting these partnerships or the awards granted.

Other states — such as Michigan, Nevada, Oklahoma, Utah, and Maine — facilitate public and private partnerships through setting short- and long-term goals, roadmaps, designating Tribes as a top priority, and by developing partnership models that specifically define what percent of funding is public or private. States like Illinois and Washington have developed unique P3 partnerships. The city of Chicago used stakeholders to fund internet connectivity for four years. Washington State has metrics based on a five-year approach, including partners, and an initiative for P3s for 596 drive-in Wi-Fi hotspot locations.

The Broadband Office has the responsibility to be innovative with its efforts to close the digital divide, but stakeholders seeking more information cannot easily access program information or current partnerships. One stakeholder noted a lack of partnership planning creates a risk: "Needed collaborative relationships are not in place and projects may not succeed because of distrust or just a lack of experience between collaborators."

The areas in Oregon without affordable, reliable, high-speed broadband or where it is considered by the industry as cost-prohibitive highlights the need for such partnerships. A service provider may not see any cost benefit in bringing broadband to eight unserved households due to the cost per household of doing so, but this need can likely be addressed by a P3 partnership.

Implementing a P3 program alone may not be enough to bring a successful private and public partnership to fruition. Additional follow through, including communicating and publicizing the efforts of the program and the partnership, could more timely identify issues and solutions to ensure P3 goals are realized, and more Oregonians have broadband access.

Employment Without Broadband

Working from home went from a luxury to a necessity for many in the workforce during the COVID-19 pandemic. Some found the speeds sufficient for household use were not enough to support multiple workers or distance learners at the same time. Others found themselves upgrading to faster – and more expensive – service plans to support multi-user video conferences if their providers had faster service available.

Aside from the pandemic, job seekers are disadvantaged by not having adequate broadband. Searching for and applying to jobs often requires online access. Interviews for positions increasingly require technology for video pre-screening, excluding those without the equipment or technical knowledge from easy access to positions.

The infographic features several icons: a mail icon, a person with a checkmark, a person at a computer, a group of people in a meeting, a person with a headset, a person with a magnifying glass, a person with a laptop, and a person with a smartphone.

Efforts to close the digital divide are hampered by poor data quality and a lack of transparency

Closing Oregon's digital divide requires a detailed assessment identifying current broadband gaps, challenges and capacity needs, and a measurable plan on how to focus resources in a prioritized, comprehensive, and transparent manner. However, the Oregon Broadband Office lacks the data needed to perform this comprehensive assessment and does not share the information with other stakeholders in a way that facilitates effectively moving toward closing the state's the digital divide.

Both federal and Oregon broadband maps are based on misleading data, giving a false picture of coverage

Per statute, the Broadband Office is to develop, maintain, and provide public access to a statewide map. This map is intended to serve as a platform for data collection to track the availability of broadband services and to measure progress as well as other information relating to broadband, such as lessons learned, partnerships, and grants available. The data from this map helps identify unserved and underserved communities most in need of funding for high-speed internet infrastructure investments.

The current Oregon Broadband Map, launched in 2019, can be accessed through the Broadband Office website.¹⁶ The map's data layers include the state's anchor institutions (schools, universities, libraries, local government, health care facilities, and public safety facilities), service providers, broadband technologies, service speeds, service availability as reported to the FCC by providers, and population density. The map sources information from a number of places: provider and service data are self-reported by providers and collected by the FCC, while the geographic data comes from the U.S. Census.

"You cannot manage what you do not measure. But for too long, the FCC has lacked the data it needs about precisely where service is and is not throughout the country."

- FCC Chairwoman Jessica Rosenworcel

The map is divided by census block, the smallest geographic area for which the Census collects and tabulates data. However, this still may not be sufficiently granular to give an accurate picture of broadband coverage. If a single home in a census block can get broadband, the entire block is considered served, despite how many other homes without broadband access may exist. In rural areas, these blocks may stretch miles. The flawed maps present a big problem as the government tries to distribute broadband funding. If a census block is considered covered by the FCC map, it is not eligible for federal assistance.

This flaw in the map has been widely known for several years by the FCC, other states, and broadband stakeholders. To a great extent, this flaw is not something the Oregon Broadband Office can control. However, some states have performed additional work on top of the data provided by the FCC to increase the accuracy of their own maps. For example, Idaho, Virginia, Georgia, Pennsylvania, Alabama, and Hawaii publish additional known broadband data to their maps, such as access, literacy and technical assistance, Wi-Fi hotspot locations, outlining new approved broadband projects, pricing, and household survey for availability and speed testing. The FCC announced in recent years some of the progress it has made to improve the data and hopes to release updated data with the goal of increasing the accuracy of broadband maps.

Disparities in data: Microsoft vs the FCC statistics

In a 2018 letter to the Joint Committee on Information Technology, OBAC noted only 60% of Oregonians accessed the internet at broadband speeds, according to Microsoft. Rural counties fared worse. Wallowa County was said to have 92% coverage, as reported by the FCC, when the actual usage number was 6% according to Microsoft, a difference of 86% of the county population.

In Oregon, a partnership of local economic development districts and nonprofits not affiliated with the Broadband Office has launched a crowd-sourcing effort called Faster Internet Oregon that invites Oregonians to test and report their home broadband speeds or self-report a lack of access, in the hopes of providing a more accurate picture of where gaps exist.

¹⁶ [The Oregon Broadband Mapping Project.](#)

Yet the Oregon Broadband Office has done little to address the problem. The FCC data is the base requirement for broadband mapping, but the office, unlike broadband offices in several other states, has not added to or improved upon the existing data. For example, the office does not have a full-time GIS staff person dedicated specifically to the broadband mapping effort. Until recently, there was also no dedicated funding for maintaining the map. In the course of conducting this audit, the Broadband Office had secured a \$500,000 grant for funding specifically to keep the map current.

The FCC has recently finished gathering data from service providers to create newly revised broadband availability maps. As of September 2022, they were accepting challenges from state, local, and Tribal governments to this data in order to improve the accuracy of the maps. Since the FCC has asked that challenges be submitted as early as possible to ensure the accuracy of these maps, many broadband stakeholders throughout the state will need to participate to ensure Oregon's data accurately reflects the availability of service.

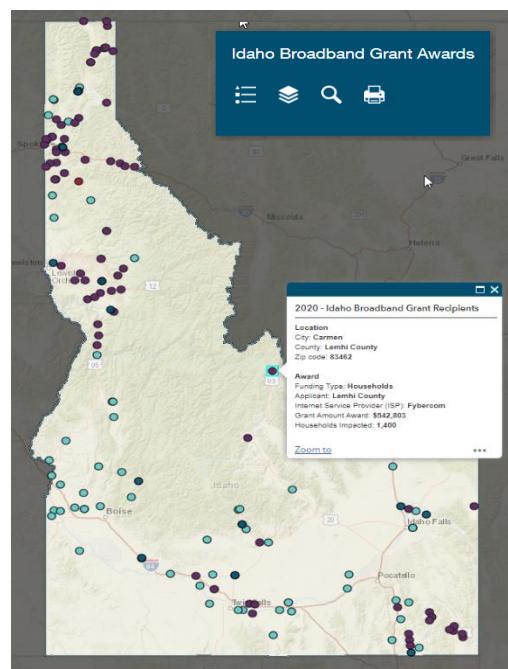
Without an accurate picture of Oregon's current broadband infrastructure deployment and utilization status, it is difficult for the Broadband Office to identify the areas in most need of service and strategically target its efforts. Stakeholders have expressed a concern that Oregon may not be focusing its broadband implementation efforts in the right locations. Furthermore, inaccurate and incomplete data can negatively impact who is eligible to apply for and access broadband funds. Using various sources of data to understand actual broadband coverage in the state can allow stakeholders to validate or refute the current FCC mapping data.

Broadband data collected by Business Oregon is not effectively utilized

Broadband service providers generally consider data showing which addresses are served at what levels of service to be proprietary information and guard it against disclosure. The Broadband Office can only access data providers are required to provide to the FCC, as well as any given voluntarily. However, auditors identified other data, associated with broadband grants and projects, that could be better leveraged to give a more accurate picture of broadband coverage in the state.

Business Oregon receives both quantitative and qualitative data on broadband projects throughout the state. The Broadband Office is required to gather information from stakeholders to develop strategic and focused business cases for state broadband investments. Much of this data comes from grant applications for funding administered by Business Oregon and the Broadband Office, including a narrative of "lessons learned" during a project by the grant recipient. Not all grant-funded projects have the same reporting requirements, but all are potentially useful to the Broadband Office and stakeholders planning their own projects.

Figure 8: Idaho broadband grants map



Source: [Idaho broadband grant map](#)

Business Oregon does not analyze this data or otherwise examine it outside of confirming its compliance with grant requirements. As such, Business Oregon is missing an opportunity to analyze and share the data with key stakeholders, including legislators and potential P3 partners, as well as the public to provide transparency into which projects are submitted for funding and which ones are funded, and where they are located.

House Bill 4092 (2022) requires the OBAC to issue an annual report on the status of projects based on information reported by Business Oregon and the Broadband Office. The office could use this information to regularly update the broadband map, thereby providing real-time updates for people who want to know when broadband will be improved in their area. For example, Idaho's state Broadband Office uses data collected from grants to build a map accessible through its website where the public can click through to review active government-funded broadband projects, including their projected completion date.

Information on how previous projects were conducted, and lessons learned from them, can also be useful to communities and stakeholders on how to approach their own infrastructure projects and how they can prepare and position themselves to receive grants.

Oregon strives to be inclusive, but a lack of effective strategic planning and focused activities means patterns of broadband inequity still exist

Per statute, Business Oregon and the Broadband Office are responsible for ensuring efforts to deploy broadband are equitable — specifically, broadband investment and deployment strategies address unserved and underserved areas, and promote [digital literacy](#), equity, and inclusion.

Digital Equity

Ensuring all individuals and communities have the information technology capacity needed for full participation in our society, democracy, and economy. Digital Equity is necessary for civic and cultural participation, employment, lifelong learning, and access to essential services.

To help with this endeavor, the Broadband Office, with the financial assistance of Business Oregon and the preparatory assistance of the OBAC, paid for and provided content for a best practice study on broadband to be performed for the state of Oregon. The study, released in 2020, recommends the office approach broadband as an essential service and ensure sufficient digital infrastructure to enable universal, affordable, and reliable broadband. According to the study: "Oregon has a short time — five years or less — to solve its broadband gaps, or risk passing the point where many of its rural areas can remain vital, attractive places where businesses and communities can thrive."

That same year, the Broadband Office released its strategic plan, which addressed equity in two ways. First, the plan promised a Digital Literacy, Security, and Inclusion Program would be developed. The second was the development of the Rural Broadband Capacity Improvement Program. This program successfully administered funds for rural broadband projects and eliminated some minor barriers in the unserved areas of Oregon. This is a positive outcome from the office's initial efforts focused on broadband equity.

However, there is still much work to be done. One requirement for the upcoming federal BEAD funding is the development of a Digital Equity and Inclusion Plan.¹⁷ The Broadband Office has not yet established this plan, nor has it assigned responsibility to any staff for this effort.

Digital Inclusion

Digital Inclusion refers the activities necessary to ensure all individuals and communities, including the more disadvantaged, have access to and use of information and communication technologies.

The impacts of a lack of equity planning are manifested through the way funding for broadband infrastructure is distributed, even for strategies designed to specifically address equity. Business Oregon leadership noted the projects funded through the Rural Development Opportunity Fund were limited to projects that were the most prepared, due to requirements the funds be spent before the end of 2020.

The best prepared projects are not always in locations that are the most in need. As preparedness is often a function of existing broadband expertise and available resources to pay for such expertise, disadvantaged communities are the least likely to have “shovel ready” projects available to them. It is for this very reason why these communities will require additional resources and support to achieve broadband equity.

The recent staffing additions have helped the office to make progress in this area. In 2022, the Broadband Office completed the first round of public listening and rulemaking sessions to assist the office in engaging its stakeholders and working toward inclusion. With the assistance of community and state resources, including Link Oregon, the OBAC, and local Broadband Action Teams, the Broadband Office is moving activities along. Discussions between multiple stakeholders, including ISPs, municipalities, minority and disadvantaged groups, and Tribal representatives are happening as of July 2022.

The Broadband Office lacks a transparent and proactive approach to stakeholder outreach and relations

As part of its statutory obligations, the Broadband Office is directed to support local and regional broadband planning, and to “develop, maintain, and provide access to” other information related to broadband. Besides being in statute, this kind of coordination is recommended in reports outlining best practices for programs providing grants to rural areas for broadband. The office does communicate with a broad array of Oregon’s broadband stakeholders, but without documented strategies and policies for engaging with the public, as well as measures to determine the effectiveness of such outreach, the Office risks perceptions of or actual disparate communications and interactions with various stakeholders, such as Tribal governments, which should be engaged with strategically from a government-to-government protocol perspective.

Auditors interviewed several stakeholders, many of whom were happy with the support provided to them by Broadband Office personnel. The instances they described were a mix of positive, including meetings upon request, and assistance provided to specific projects when help is needed; and negative,

¹⁷ [House Bill 4092 \(2022\)](#) Modifying composition of OBAC and setting additional directives for the Broadband Office

with unclear expectations on how communication would be received or returned, even with established relationships inside the office. Broadband staff state when they are reached by email or phone with questions about broadband, they respond to inquiries in a hierarchy determined by management based on the level of urgency. However, this process is not documented.

The Broadband Office and Broadband Council websites provide information about upcoming meetings, recent legislation, service availability, and office priorities. However, a visitor needing help with or wanting to improve their broadband service is not able to find information about community broadband teams or providers, resources for consumer assistance such as Oregon's Lifeline or the federal Affordable Connectivity Program, education resources to understand broadband infrastructure, or a Frequently Asked Questions (FAQs) page. In comparison, an Idaho resident who visits their state broadband website will find an interactive site allowing users to view the status of current and completed broadband projects throughout the state, provide feedback or proposals for projects to address broadband needs, and view publicly available wi-fi hotspots via the Idaho Commission for Libraries.

The informal handling of inquiries and lack of published information is partially due to the fact the Broadband Office does not have any written policies on public engagement for staff, outside of position descriptions which highlight engaging with stakeholders. Lacking those resources, communities are less prepared to initiate broadband projects or grant applications than they would otherwise be with more proactive support from the Broadband Office. Unserved and underserved stakeholders do not have a clear path to initiate the planning that would improve their service, despite the Broadband Office's obligation to make sure they have that support. Each new stakeholder begins their journey to engaging with the broadband process from a different point, requiring self-guidance and a reliance on networks they may not be aware of or are not necessarily accessible to all.

Recommendations

To address insufficient staffing, ad-hoc processes, and lack of internal controls, we recommend the Broadband Office, with the assistance of Business Oregon:

1. Determine an appropriate number of staffing and resources to assign to the Broadband Office's mission while awaiting the next opportunity to request a permanent staffing increase from the Legislature.
2. Address internal control issues by defining and documenting broadband policies, processes, and procedures, as well as personnel roles and responsibilities, to address and monitor current gaps in broadband and Oregon's specific broadband barriers.
3. For each funding source, establish program plans for broadband implementation, stakeholder engagement, and public private partnerships to include:
 - a. Goals, roadmaps, and timelines;
 - b. Stakeholder communication;
 - c. Measurement and reporting regarding the effectiveness of these plans; and
 - d. Plan of actions for continuous improvement of efforts.
4. Establish Key Performance Measures that are in line with both the mission and the statutory requirements of the office, and a mechanism for reporting on how well the office is meeting them.

To address digital inequities, poor data quality, and lack of transparency, we recommend the Broadband Office, with the assistance of Business Oregon and, as appropriate, the Oregon Broadband Advisory Council:

5. Establish a digital equity and inclusion position to support the Broadband Office's digital equity and inclusion efforts. These efforts should include:
 - a. Developing a strategic plan focusing on broadband implementation and grant efforts for areas of Oregon most unserved and underserved by broadband;
 - b. Lobbying for and promoting low-cost ISP options for low-income households; and
 - c. Coordinating with community anchor institutions to ensure literacy and technical skills are developed for new users of broadband.
6. Work with the FCC and other relevant entities to develop and publish a more accurate broadband map to provide more meaningful information to entities regarding the true state of broadband speeds and the availability of services. This may include:
 - a. Developing a process for local and Tribal governments, individuals, and ISPs to submit, review and challenge data that is inaccurate in the Broadband Data Collection process;
 - b. Supplementing the required FCC broadband data used for mapping with data that more accurately reflects people's access and internet speeds; and
 - c. Providing information to the public regarding unserved and underserved areas in Oregon, including public wi-fi locations, and ISP territories.

7. Be innovative in leading Oregon's broadband efforts by being more aggressive and assertive in promoting public policy to address known issues and barriers to bringing broadband internet to all people of Oregon. This should include:
 - a. Proposing updated future-ready broadband speed minimum standards.
 - b. Exploring innovative solutions, such as giving appropriate due deference to grant applications from Tribal governments, allowing in-kind services in exchange for providing up-front capital for infrastructure with Tribal partners that respects Tribal government sovereignty and traditions, while providing affordable internet service to the Tribal communities in Oregon.
8. Establish a regular review process to analyze data received from future grant cycles and use this data to improve transparency regarding Oregon's broadband challenges and successes for stakeholders.
9. Partner with broadband stakeholders, such as other state agencies, service providers, and broadband action teams, to develop and publish materials to help educate and onboard individuals who wish to understand or help to improve broadband in their region in order to be transparent, including:
 - a. List of public private partnerships;
 - b. Grant opportunities and grant awardee information;
 - c. Rules, guidelines, and Frequently Asked Questions for stakeholders; and
 - d. Broadband development project cost and status.
10. Use data to continually assess broadband needs as the broadband landscape changes, develops, and grows; and to inform decisions around broadband implementation efforts, including grant awards and broadband project planning.

Objective, Scope, and Methodology

Objectives

- Determine whether the Broadband Office has sufficient resources to effectively facilitate upcoming federal infrastructure grant awards and funding to close the broadband digital divide.
- Determine whether the Broadband Office has the necessary staffing and resources to promote access to affordable, high-speed broadband services for all Oregonians in order to improve the economy and quality of life.

Scope

Our scope was to evaluate broadband efforts by the Oregon Broadband Office, including processes, documented procedures, and internal controls that were in place from December 2021 through June 2022.

Methodology

We reviewed the Oregon broadband implementation efforts and included interviews to gain an understanding of the current broadband environment, testing to ensure accuracy of our understanding, and observations, surveys, or other means of gaining information to assess the progress of the broadband efforts.

For criteria, we used the Government Accountability Office Green Book; Control Objectives for Information and Related Technologies 2019; Broadband Office statutes; industry best practices, including the Pew Charitable Trusts and Pew Research, other states' best practices, and Strategic Networks Group (SNG) Best Practice Study; and where applicable, state laws, statutes, and public policy related to the implementation of broadband in Oregon.

Our inspection and observation included:

- Research of other states' broadband implementation best practices
- Oregon Broadband Office statute, policies, and procedures
- Council reports to the Legislature and outcomes of those reports
- Training and training records
- Planning records
- Council monthly meeting minutes and documentation
- External assessments
- Annual conference attendance
- Prior findings and recommendations
- Funding and budgeting documentation
- Staffing, positions, and requests for future positions
- Survey of engaged stakeholders
- Interviews with Tribal representatives

Internal control review

We determined the following internal controls were relevant to our audit objective.¹⁸

- Control Environment
 - We considered whether management has established an organizational structure, assign responsibility, and delegate authority to achieve the entity's objective.
 - We considered whether management demonstrated a commitment to recruit, develop, and retain competent individuals.
 - We considered whether management evaluates performance and holds individuals accountable for their internal control responsibilities.
- Risk Assessment
 - We considered whether management defines objectives clearly to enable the identification of risks and define risk tolerances.
 - We considered whether management identifies, analyzes, and responds to risks related to achieving the defined objectives.
 - We considered whether management considers the potential for fraud when identifying, analyzing, and responding to risks.
 - We considered whether management identifies, analyzes, and responds to significant changes that could impact the internal control system.
- Control activities
 - We considered whether has designed control activities to achieve objectives and respond to risks.
 - We considered whether management has implemented control activities through policies.
- Information and communication
 - We considered whether management uses quality information to achieve the entity's objectives.
 - We considered whether internally communicates the necessary quality information to achieve the entity's objectives.
 - We considered whether externally communicates the necessary quality information to achieve the entity's objectives.
- Monitoring activities
 - We considered whether has established and operates monitoring activities to monitor the internal control system and evaluate the results.
 - We considered whether management remediates identified internal control deficiencies on a timely basis.

Deficiencies with these internal controls were documented in the results section of this report.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives.

¹⁸ Auditors relied on standards for internal controls from the U.S. Government Accountability Office, report [GAO-14-704G](#).

We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

We sincerely appreciate the courtesies and cooperation extended by officials and employees of Business Oregon, OBAC members, the Oregon Broadband Office, and other participating agencies during the course of this audit.

Audit team

Teresa Furnish, CISA, Deputy Director
Erika Ungern, CISSP, CISA, Audit Manager
Matt Owens, MBA CISA, Principal Auditor
Sheila Faulkner, Staff Auditor
Jeff Watson, Staff Auditor

About the Secretary of State Audits Division

The Oregon Constitution provides that the Secretary of State shall be, by virtue of the office, Auditor of Public Accounts. The Audits Division performs this duty. The division reports to the elected Secretary of State and is independent of other agencies within the Executive, Legislative, and Judicial branches of Oregon government. The division has constitutional authority to audit all state officers, agencies, boards, and commissions as well as administer municipal audit law.

Appendix A: Key Terms in This Report

State definition of broadband

"Broadband" means wide bandwidth communications transmission over coaxial cable, optic fiber, radio, or twisted pair with an ability to simultaneously transport multiple signals and traffic types at a minimum transmission speed established by the State CIO by rule, but in no event less than 25 Mbps for downloads and 3 Mbps for uploads, commonly understood written format: 25Mbps/3Mbps.

High-speed broadband

Broadband is a general term used to represent a wide range of telecommunications technologies and services, which utilize a faster data transmission rate than that available over standard voice grade telephone line, which is 56 Kbps and usually less. Broadband is also widely referred to as "high-speed" internet service.

Dial-Up

Dial-up refers to an Internet connection that is established using a modem. The modem connects the computer to standard phone lines, which serve as the data transfer medium. When a user initiates a dial-up connection, the modem dials a phone number of an Internet Service Provider that is designated to receive dial-up calls. The ISP then establishes the connection, which usually takes about ten seconds and is accompanied by several beeping and buzzing sounds.

Digital divide

The digital divide is the gap between those who have affordable access, skills, and support to effectively engage online and those who do not. As technology constantly evolves, the digital divide prevents equal participation and opportunity in all parts of life, disproportionately affecting people of color, Tribal communities, households with low incomes, people with disabilities, people in rural areas, and older adults.

Many areas of the United States—particularly rural areas—have either limited or no access to broadband infrastructure. Several factors contribute to the digital divide, including terrain, population density, demography, and market factors. Additionally, there are citizens in areas with high broadband penetration who are unable to access it due to socioeconomic factors. Ensuring access to broadband is not the only barrier to closing the digital divide. Other challenges include increasing the adoption of broadband (where it is available) and training for digital literacy.

The digital divide is not just related to population density, but also to factors of income, age, ethnicity, and education. Less than 50% of the bottom 20% use the internet at home, compared to 95% of households with income in the top 20%.

Digital equity

Digital equity ensures all individuals and communities have the information technology capacity needed for full participation in our society, democracy, and economy. It is necessary for civic and cultural participation, employment, lifelong learning, and access to essential services.

Digital equity is a condition in which all individuals and communities have the information technology capacity needed for full participation in society, democracy, and the economy. Steps taken to achieve this are known as digital inclusion, which the National Digital Inclusion Alliance (NDIA) defines as including access to affordable, robust broadband internet service; internet-enabled devices that meet the needs of the user; digital literacy training; quality technical support; and applications and online content designed to enable and encourage self-sufficiency, participation, and collaboration.

The NDIA explains that the mission of digital or internet inclusion incorporates [five elements](#) [noted below in inclusion section] of Information and Communication Technologies (ICTs). Everyone needs access to these elements to be truly included in an equitable digital society:

1. Affordable, robust broadband access;
2. Internet-connected devices, such as laptops, phones, or computers to use for their unique needs;
3. Access to education on digital technology and best use practices;
4. Tech support; and
5. Apps and online resources that help users participate, collaborate, and work independently.

Since technology advances every day, true digital equity methods must adapt in step. Those who support digital equity initiatives understand that barriers to digital inclusion exist and seek out intentional solutions to overcome them.

Digital inclusion

Digital inclusion is the effort made to provide the information technology capacity needed for full participation in society, democracy, and the economy. This includes access to affordable, robust, broadband internet service; internet enabled devices that meet the needs of the user; digital literacy resources; quality technical support; and applications and online content designed to enable and encourage self-sufficiency, participation, and collaboration.

NDIA -- Indicators of a strong Digital Inclusion Ecosystem -- Existence of programs and policies addressing all aspects of the digital divide:

1. Affordable and subsidized broadband service options that meet the community's needs;
2. Affordable and subsidized device ownership programs that meet the community's needs;
3. Multilingual digital literacy and digital skill trainings that meet the community's needs;
4. Hardware and software technical support; and
5. Digital navigation services to guide residents to the above services.

Collaboration: Entities providing local digital inclusion services, policymakers, advocates, social service providers and community leaders co-create solutions in partnership with the community.

Digital literacy

NDIA recommends the American Library Association's definition of Digital Literacy via their Digital Literacy Taskforce:

Digital Literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills.

A Digitally Literate Person:

1. Possesses the variety of skills – technical and cognitive – required to find, understand, evaluate, create, and communicate digital information in a wide variety of formats;
2. Is able to use diverse technologies appropriately and effectively to retrieve information, interpret results, and judge the quality of that information;
3. Understands the relationship between technology, life-long learning, personal privacy, and stewardship of information;
4. Uses these skills and the appropriate technology to communicate and collaborate with peers, colleagues, family, and on occasion, the general public; and
5. Uses these skills to actively participate in civic society and contribute to a vibrant, informed, and engaged community.

It also means knowing and understanding the dangers and precautions which the use of technology requires. Digital literacy also equips students and teachers to identify and protect themselves against online threats and limit unwanted access to and use of personal information. It increases the consumers' understanding of the potential benefits of digital technologies, and it builds motivation for mastering skills required to harness the internet for their educational and personal development. Many ISPs are including free digital literacy training.

Libraries are a great place to provide security and privacy education for the general public.

Free market

An economic system in which prices and wages are determined by unrestricted competition between businesses, without government regulation or fear of monopolies.

Future ready

Internet service where the fastest advertised service is capable of speeds greater than or equal to 100 Mbps download and 100 Mbps upload (100/100).

Last mile

The last mile or last kilometer is a phrase widely used in the telecommunications, cable television and internet industries to refer to the final leg of the telecommunications networks that deliver telecommunication services to retail end-users (customers). More specifically, the last mile describes the portion of the telecommunications network chain that physically reaches the end-user's premises. Examples are the copper wire subscriber lines connecting landline telephones to the local telephone

exchange; coaxial cable service drops carrying cable television signals from utility poles to subscribers' homes, and cell towers linking local cell phones to the cellular network. The word "mile" is used metaphorically; the length of the last mile link may be more or less than a mile. Because the last mile of a network to the user is conversely the first mile from the user's premises to the outside world when the user is sending data, the term first mile is also alternatively used.

Lifeline subsidy program

Lifeline is a federal program dedicated to making phone and internet service more affordable for low-income households. This benefit provides eligible consumers with a monthly discount of up to \$9.25. Consumers living on Tribal lands are eligible for an enhanced discount of up to \$34.25 per month.

Long-haul

In telecommunication, a long-haul line is a transmission line in a long-distance communications network such as carrier systems, microwave radio relay links, geosynchronous satellite links, underground cables, aerial cables and open wire, and Submarine communications cables.

Middle-mile

In the broadband Internet industry, the "middle mile" is the segment of a telecommunications network linking a network operator's core network to the local network plant, typically situated in the incumbent telco's central office that provides access to the local loop, or in the case of cable television operators, the local cable modem termination system. This includes both the backhaul network to the nearest aggregation point, and any other parts of the network needed to connect the aggregation point to the nearest point of presence on the operator's core network.

Rural

As defined by the U.S. Census Bureau, "Any population, housing, or territory NOT in an urban area." There are two types of urban areas: "Urbanized Areas" population of 50,000 or more – "Urban Clusters" – population of at least 2,500 and less than 50,000 – and "Nonmetro" does not mean rural.

Tribal lands

As defined by the FCC, "Any federally recognized Indian tribe's reservation, pueblo, or colony, including former reservations in Oklahoma. Alaska Native regions. Indian Allotments. Hawaiian Homelands – areas held in trust for Native Hawaiians by the state of Hawaii. Off-reservation Tribal trust lands.

*Organizations which serve primarily Indigenous people will also be considered."

Underserved

State definition based on FCC's definition, "Underserved area" means, based on the most recent broadband deployment data published by the Federal Communications Commission, other federal agencies or the State of Oregon, a geographic area within one or more census blocks, within which there is no service provider offering residential wireline or wireless broadband service at a speed of at least 25 megabits per second for downloads and three megabits per second for uploads.

Unserved

State definition based on FCCs definition, “Unserved area” means, based on the most recent broadband deployment data published by the Federal Communications Commission, other federal agencies or the State of Oregon, a geographic area within one or more census blocks, within which there is no service provider offering residential wireline or wireless broadband service at a speed of at least 10 megabits per second for downloads and one megabit per second for uploads.

Appendix B

The OBAC recommended these items to the Legislature in its 2020 Oregon Broadband report.¹⁹ They identified eight key broadband challenges and opportunities facing Oregon:

1. **Digital Inclusion:** Oregon needs funded state-level strategies and programs to ensure all individuals and communities have access to affordable state of the art broadband communications services, and the skills, knowledge and technical support needed to use them.
2. **Cyber Security:** The security of data and communications systems continues to be a critical risk exposure for government, public organizations, private sector businesses, and for individuals which is widely unrecognized and under managed.
3. **Education:** Oregon's K-20 education institutions are positioned to realize significant economic, work force and community development benefits for the state through the utilization of broadband networks and applications. State level support and technical assistance is needed.
4. **Public Safety:** Oregon's first responders are at a transition point for migration to new broadband Internet Protocol technologies. Support is needed for Oregon's 911 centers and first responders to migrate from legacy systems to Next Generation 911 and to interoperable wireless broadband communications systems.
5. **Agriculture:** Agriculture is emerging as an important application and may become the largest driver for broadband infrastructure deployment in rural areas of the state. State level engagement, support and technical assistance is needed.
6. **Local Community Broadband Planning:** Local community engagement in broadband development, adoption and utilization continues to be a low cost high-return "game-changing" activity which needs to be promoted and supported.
7. **Federal Funding Programs:** Federal broadband programs are a key source of available financing to be leveraged for new infrastructure. State support in the form of technical assistance and matching funds is needed for eligible applicants.
8. **Network Interconnection:** Oregon needs to develop strategies to improve the state's connectivity to national and global networks, improve network resilience and support the growth of network enabled data centers and e-commerce businesses.

¹⁹ [2020 Oregon Broadband Report](#)

Appendix C

Business Oregon Broadband Timeline:

2009

- Broadband Map is created.
- Oregon Broadband Advisory Council (OBAC) is created.

2014

- Broadband in Oregon report is issued by OBAC.

2016

- Broadband in Oregon report is issued by the OBAC.
- Strategies for Broadband Infrastructure Deployment, Adoption, and Utilization in Rural Cities and Counties is issued by the OBAC.

2018 – OBAC makes the case for a broadband office; by executive order, the Oregon Broadband Office is established at the end of the year

- Broadband in Oregon report is issued by OBAC.
- Local Broadband Champions report is issued by OBAC.
- Broadband Pilot program funds planning projects across the state.
- In December, Governor Brown issues Executive Oregon No. 18-31 that establishes the Oregon Broadband Office.

2019 – One person office, data collection and development of best practice report and strategic plan begins

- Broadband Office is codified by HB 2173. The office is staffed with one person and limited funds.
- New broadband map is launched.
- Business Oregon Infrastructure Summit is launched.

2020 – One person office, COVID-19 pandemic impacts are broad across the state and department; the Oregon Broadband Office goes fully remote and creates and implements a pandemic response program

- Oregon Broadband Office Strategic Plan is issued by Business Oregon.
- Oregon Statewide Broadband Assessment and Best Practice Study is issued by Business Oregon.
- CARES Act is approved and signed into law by the President.
- Oregon's Emergency Board allocates \$10 million for broadband from the CARES Act.
- Rural Broadband Capacity Program is launched.
- Sole Oregon Broadband Office staff member retires.
- SB 1603 passes and establishes an Oregon Broadband Fund.
- Broadband in Oregon report is issued by OBAC.

2021 – One person office, funding and staff are sought to add capacity and to meet statutory responsibilities; COVID-19 pandemic impacts continue

- Business Oregon hires new manager of the Oregon Broadband Office.
- Request for Information on broadband projects issued to help inform the state's legislature on the next budget.

- American Rescue Plan Act is approved and signed by the President.
- Issued a Call for Projects, evaluated and selected four projects and then applied for a Broadband Infrastructure Program Grant with four partners.
- Oregon Broadband Office is accepted into the PEW Charitable Trusts Broadband Education and Training Initiative program.
- 2021-23 budget is approved with five full-time employees; funding for projects is only spending limitation (not actual funds).
- Recruitment/hiring/onboarding (8/2021-7/2022) of three positions; one additional position is dedicated to contracts.
- ARPA Capital Projects application is initiated by Department of Administrative Services.
- Oregon Broadband Office sends monthly e-newsletters to 700+ registrants.
- Business Oregon dedicates a priority webpage to the Oregon Broadband Office.
- Applied jointly for an ARPA State Planning Grant (half of the grant was for a broadband mapping program for application and planning).
- Organized the 25th Oregon Connections Telecommunications Conference.
- The bipartisan Infrastructure Investment and Jobs Act is approved and signed by the President.
- The Oregon Public Utilities Commission authorized \$1.5 million to be transferred to the Broadband Fund.

2022 – Four Person Office, Begin Community Engagement and Develop Rules and Programs; Apply for Three Federal Grants; COVID-19 Pandemic Impacts to Office Operations Normalize

- HB 4092 is signed by the Governor which remakes OBAC, assigns federal planning requirements of the state to Oregon Broadband Office.
- Program development begins with engagement (technical working group and community listening sessions), Broadband Fund rules and two program handbooks are drafted, and a 30+ day public comment period is provided.
- New OBAC recruitment efforts are led by the office and appointed by the Governor.
- Oregon Broadband Office works with partners to plan the first Oregon Tribal Broadband Bootcamp.
- Applied for a State Digital Equity Planning Grant and received award announcement.
- Applied for a BEAD Planning Grant and received award announcement.
- Submitted grant and program plan to US Treasury for ARPA Capital Projects.
- Received approval for an additional eight full-time employees and spending limitations to implement federal grants.
- Worked with the Secretary of State's office on its audit of the Oregon Broadband Office and the official response to the audit.
- Prepared Request for Proposal for BEAD and Digital Equity Planning Grants.
- Worked with FCC to communicate Broadband Deployment Program data reporting requirements, bulk data uploads, and challenge opportunities.
- Infrastructure Summit meets for the first time in person since the pandemic began.

January 4, 2023



Kip Memmott, Director
Secretary of State, Audits Division
255 Capitol St. NE, Suite 180
Salem, OR 97310

Dear Mr. Memmott,

This letter provides a written response to the Audits Division's final draft audit report titled The Oregon Broadband Office Must Continue to Take Aggressive Steps to Close the Digital Divide and Fully Meet its Statutory Duties.

This audit provides Business Oregon the opportunity to share the successes of the Oregon Broadband Office (OBO). Any organization's vision requires skill, dedication, funding, and time to implement. We liken this to building a structure. In this case, the Oregon Broadband Office is a digital structure. As stated best in OBO's Strategic Plan *"The scope of activities that the Office will ultimately undertake will be enabled, or limited, by the resources available."*

Framing the foundation: 2019 was the first year for the Broadband Office. With one employee, the initial focus was on collecting data and updating the broadband map. The Broadband Office was codified by HB 2173. In 2020, the data that was collected in the previous year informed the production of two key documents: "Oregon Statewide Broadband Assessment and Best Practice Study" and "Oregon Broadband Office Strategic Plan." As COVID-19 pandemic impacts were felt broadly across the state and our department, the Oregon Broadband Office went fully remote and created and implemented a pandemic response program called the "Rural Broadband Capacity Program."

Pouring the foundation: 2021 was dedicated to making the case that the state should fund positions and programs necessary to closing the digital divide. The turning point began in the summer of 2021 when the state's budget included funding for five new broadband positions and new program spending limitation authorized staff to apply for the American Rescue Plan Act (ARPA) Capital Projects grant. Additionally, projects from the Rural Broadband Capacity Program resulted in awarded contracts to 33 projects in July 2020, including 26 infrastructure construction projects totaling \$8,653,582 and seven emergency response projects totaling \$1,340,924. Grants were awarded across 24 counties to tribes, school districts, internet service providers, telephone companies, and city and county governments, impacting an estimated 12,975 locations including households, businesses, schools, and public safety facilities. Funded infrastructure included Fiber-to-the-Home buildouts, hybrid fiber/wireless systems, construction of several new mobile wireless towers, delivery of over 2,000 hotspots for students, and the construction or expansion of several fixed wireless networks.

Framing the walls and roof: Year 2022, the Oregon Broadband Office now has four staff members who begin community engagement, develop rules and programs, and apply for three federal grants. COVID-19 pandemic impacts to office operations normalize.

HB 4092 was signed by the Governor, which recreated the Oregon Broadband Advisory Council and assigned federal planning requirements of the state to the OBO. Program development began with community engagement (technical working group and community listening and outreach sessions). Broadband Fund rules and two program handbooks were drafted, and a 30+ day public comment period was provided. Additionally, the office recruited new positions on the Oregon Broadband Advisory Council, which were ultimately appointed by the Governor.

The Oregon Broadband Office worked with partners to plan the first Oregon Tribal Broadband Bootcamp. The OBO applied to the National Telecommunications and Information Administration for a State Digital Equity Planning Grant and received award announcement in November 2022. OBO applied for a Broadband Equity, Access, and Deployment (BEAD) Planning Grant and received the award announcement in November 2022. The OBO submitted a grant and program plan to US Treasury for ARPA Capital Projects. The Oregon Legislature approved eight new, full-time employees and spending limitations to implement federal grants. The OBO prepared a Request for Proposal for BEAD and Digital Equity Planning Grants. The office worked with the Federal Communications Commission (FCC) to communicate Broadband Deployment Program data reporting requirements, bulk data uploads, and challenge opportunities.

Dry-In and finishing touches: At the start of 2023, the office is solidly on track to begin providing grants and support for communities in need of broadband access, affordability, and adoption. Two programs are planned to launch in the year: a Broadband Technical Assistance Program and an ARPA Capital Projects: Broadband Deployment Program. To build on those efforts, the Office will be activating a robust community outreach and engagement effort, as well as a data collection initiative to inform required plans that will lead to generational federal funds for broadband access and adoption in the following years.

Below is our detailed response to each recommendation in the audit.

RECOMMENDATION 1		
Determine an appropriate number of staffing and resources to assign to the Broadband Office's mission while awaiting the next opportunity to request a permanent staffing increase from the Legislature.		
Agree or Disagree with Recommendation	Target date to complete implementation activities	Name and phone number of specific point of contact for implementation
Agree	1/2024	Chris Cummings 503-991-9722

Narrative for Recommendation 1

Completed: OBO has been aggressive in its efforts to increase staffing and resources and that is why it requested and received approval to add eight full-time employees and spending limitation for consultants to implement three federal grants at the September 23, 2022, E-Board.

In progress: OBO applied for the BEAD State Planning Grant in August 2022 and received an award announcement in November 2022 that the state will get \$5M. The first deliverable from this grant that OBO will submit will be a 5-Year Action Plan. A requirement of the plan is an analysis of

current and planned staffing and consultants. Information from this plan will inform future staffing asks.

RECOMMENDATION 2 Address internal control issues by defining and documenting broadband policies, processes, and procedures, as well as personnel roles and responsibilities, to address and monitor current gaps in broadband and Oregon's specific broadband barriers.		
Agree or Disagree with Recommendation	Target date to complete implementation activities	Name and phone number of specific point of contact for implementation
Agree	1/2024	Nick Batz 971-930-2399

Narrative for Recommendation 2

In progress: To build on Business Oregon's existing 28 agency policies and four agency procedures, OBO is preparing standard operating procedures. OBO applied for the BEAD State Planning Grant in August 2022 and received an award announcement in November 2022 that the state will get \$5M. The first deliverable from this grant that OBO will submit will be a 5-Year Action Plan. Requirements of the plan include an analysis of current and planned staffing and consultants (roles).

Additionally, the office is conducting a review of existing programs and activities, and a needs and gap assessment. For existing programs, the review will provide details of the existing broadband program including current program activities, entity-wide plans and goals for broadband availability, and experience awarding broadband deployment grants. Regarding needs and gap analysis, the review will need to include funding that the state already has in place, data collection and local planning, and broadband funding sources.

RECOMMENDATION 3 For each funding source, establish program plans for broadband implementation, stakeholder engagement, and public private partnerships to include: a. Goals, roadmaps, and timelines; b. Stakeholder communication; c. Measurement and reporting regarding the effectiveness of these plans; and d. Plan of actions for continuous improvement of efforts.		
Agree or Disagree with Recommendation	Target date to complete implementation activities	Name and phone number of specific point of contact for implementation
Agree	12/2024	Daniel Holbrook 503-877-7006

Narrative for Recommendation 3

In progress: [a-d] In September 2022, the OBO announced the release of draft rules for Broadband Programs and new draft program handbooks for Broadband Technical Assistance and ARPA

Capital Projects – Broadband Deployment programs. All draft documents are available at the office’s website. For the Broadband Technical Assistance Program, the Oregon Broadband Office developed draft program rules and a draft program handbook. There is \$1.5 million in place and this program is expected to be ready by Spring 2023. Additionally, the office developed and released a draft handbook and proposal scorecard for the pending ARPA: Capital Projects – Broadband Deployment Program. The draft handbook was created and submitted for purposes of Oregon’s federal grant application for ARPA: Capital Project Funds. The funds have not yet been received by the state but are expected in 2023.

Each handbook provides proposed details regarding applications for grant assistance. These details include criteria, process, scoring, and other program information. The handbooks are intended to provide greater clarity for both applicants and program administrators. The Broadband Office expects to formally adopt the handbooks as rules. However, before the ARPA: Capital Projects – Broadband Deployment Program handbook can be adopted, the Broadband Office is looking for further feedback and authorization from the U.S. Treasury regarding its application and from the Oregon Legislature regarding potential statutory modifications to the Broadband Fund. The Broadband Office’s goal for ARPA: Capital Projects Funds is to ensure Oregon receives its maximum possible allocation of funds.

Start in Fall 2023: Develop programs for the Digital Equity implementation grant and the Broadband, Equity, Access, and Deployment program. These activities are due 180 days after issuance of their Notice of Available Amounts for the BEAD program and acceptance of a State Digital Equity Plan.

RECOMMENDATION 4		
Establish Key Performance Measures that are in line with both the mission and the statutory requirements of the office, and a mechanism for reporting on how well the office is meeting them.		
Agree or Disagree with Recommendation	Target date to complete implementation activities	Name and phone number of specific point of contact for implementation
Agree	07/2025	Nathan Buehler 503-689-3559

Narrative for Recommendation 4

Key Performance Measures (KPM) for Business Oregon do not cover every section and program within the agency. These KPMs are legislatively established and take legislative action to change. We commit to working with the legislature and the Legislative Fiscal Office on the most appropriate way to track Oregon Broadband Office success. Regardless of establishing additional Business Oregon Key Performance measures, the Oregon Broadband Office is committed to establishing clear, measurable metrics to gauge the outcomes of its work. These metrics will be associated with each funding mechanism to match that mechanism’s intent, scale, and timeline.

RECOMMENDATION 5

<p>Establish a digital equity and inclusion position to support the Broadband Office's digital equity and inclusion efforts. These efforts should include:</p> <ul style="list-style-type: none"> a. Developing a strategic plan focusing on broadband implementation and grant efforts for areas of Oregon most unserved and underserved by broadband; b. Lobbying for and promoting low-cost ISP options for low-income households; and c. Coordinating with community anchor institutions to ensure literacy and technical skills are developed for new users of broadband. 		
Agree or Disagree with Recommendation	Target date to complete implementation activities	Name and phone number of specific point of contact for implementation
Agree	7/2024	Daniel Holbrook 503-877-7006

Narrative for Recommendation 5

Completed: The OBO has been aggressive in its efforts to increase staffing and resources. The Office requested and received approval from the September 2022 Emergency Board to add eight full-time employees and spending limitation for consultants to implement three federal grants. One of those positions is for a Digital Equity Coordinator and spending limitation to hire a consultant to prepare a state digital equity plan.

In progress: [a-c] The OBO is currently recruiting for the Digital Equity Coordinator position. Additionally, it is in the Request for Proposal process to select a consultant to prepare a state digital equity plan. Furthermore, for the ARPA: Capital Projects – Broadband Deployment Program, a draft handbook was created and requires participation in the federal Affordable Connectivity Program.

<p>RECOMMENDATION 6</p> <p>Work with the FCC and other relevant entities to develop and publish a more accurate broadband map to provide more meaningful information to entities regarding the true state of broadband speeds and the availability of services. This may include:</p> <ul style="list-style-type: none"> a. Developing a process for local and Tribal governments, individuals, and ISPs to submit, review and challenge data that is inaccurate in the Broadband Data Collection process; b. Supplementing the required FCC broadband data used for mapping with data that more accurately reflects people's access and internet speeds; and c. Providing information to the public regarding unserved and underserved areas in Oregon, including public wi-fi locations, and ISP territories. 		
Agree or Disagree with Recommendation	Target date to complete implementation activities	Name and phone number of specific point of contact for implementation
Agree	12/2024	Nick Batz 971-930-2399

Narrative for Recommendation 6

In progress: [a-c] The FCC's National Broadband Availability Map was released to the public on November 18, 2022. It provides an opportunity for individuals and governments to challenge location and broadband availability data provided by broadband internet providers. NTIA has stated that the last date to challenge data is January 13, 2023, to best influence BEAD allocation for states. In response to this action, the Broadband Office started a campaign to engage and inform Oregon communities, associations, and individuals. The Office's [website](#) was updated with instructions and a toolkit on how to challenge the map, E-blasts were sent out to 700+ subscribers, a social media campaign began, advertising was placed, and media outreach conducted. Furthermore, materials were translated into five additional languages. The OBO needs everyone's help to make sure the FCC has the most accurate picture of broadband availability needs in Oregon. The mapping effort per the FCC will be an ongoing effort.

The OBO applied for the BEAD State Planning Grant in August 2022 and received an award announcement in November 2022 that the state will get \$5M. The first deliverable from this grant that OBO will submit will be a 5-Year Action Plan. Requirements of the plan include an analysis of broadband deployment. The following details are required and relate to the audit recommendation: state owned structures, utilities and land that could be used at low or no-cost for broadband deployment; existing rights of way, conduit or dark fiber, current or future capital projects that would allow providers to lay new fiber at lower costs. It also includes listing public Wi-Fi and networks, public access points, cellular connectivity, and open access middle-mile networks.

As a part of a Statewide Planning Grant from US Economic Development Administration, the OBO in consultation with State Enterprise Information Services (EIS) has contracted with Oregon State University to design a Business Oregon Broadband Grant Application Portal and Map, which will publicly track the availability of broadband service, intake grant applicant information, and display proposed and awarded broadband deployment projects. The map of broadband service availability will use the latest data reported by service providers to the Federal Communications Commission (FCC) in addition to other publicly available datasets. A beta version of the map will be released in the first quarter of 2023. Business Oregon is in the process of recruiting a GIS Analyst to lead mapping and data collection efforts.

RECOMMENDATION 7

Be innovative in leading Oregon's broadband efforts by being more aggressive and assertive in promoting public policy to address known issues and barriers to bringing broadband internet to all people of Oregon. This should include:

- a. Proposing updated future-ready broadband speed minimum standards.
- b. Exploring innovative solutions, such as giving appropriate due deference to grant applications from Tribal governments, allowing in-kind services in exchange for providing up-front capital for infrastructure with Tribal partners that respects Tribal government sovereignty and traditions, while providing affordable internet service to the Tribal communities in Oregon.

Agree or Disagree with Recommendation	Target date to complete implementation activities	Name and phone number of specific point of contact for implementation
Agree	12/2024	Daniel Holbrook

		503-877-7006
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Narrative for Recommendation 7

Completed [a] In September 2022, the OBO announced the release of draft rules for Broadband Programs and new draft handbook and proposal scorecard for a pending ARPA: Capital Projects – Broadband Deployment Program. The draft handbook was created and submitted for purposes of Oregon’s federal grant application for ARPA Capital Project Funds. The program defines an eligible project as “one that offers reliable 100/100 Mbps that lack at least 100/20 Mbps reliable service.”. Per the Oregon Broadband Statewide Assessment and Best Practices Study in 2020, Future Ready is defined as “...the fastest advertised service is capable of speeds greater than or equal to 100 Mbps download and 100 Mbps upload”.

The funds have not yet been received by the state but are expected in 2023. This handbook provides proposed details regarding applications for grant assistance. These details include criteria, process, scoring, and other program information. The handbooks are intended to provide greater clarity for both applicants and program administrators. The Broadband Office expects to adopt the handbooks as rules. However, before the ARPA: Capital Projects – Broadband Deployment Program handbook can be adopted, the Broadband Office is looking for further feedback and authorization from the U.S. Treasury regarding its application and from the Oregon Legislature potential statutory modifications to the Broadband Fund. The Broadband Office’s goal is to ensure Oregon’s receipt of the full allocation of ARPA: Capital Projects Funds.

In progress: [b] The OBO applied for the Broadband, Equity, Access, and Deployment State Planning Grant in August 2022 and received an award announcement in November 2022 that the state will get \$5M. The first deliverable from this grant that OBO will submit will be a 5-Year Action Plan. Requirements of the plan include setting goals and objectives for this plan which will inform both the initial and final proposals.

RECOMMENDATION 8		
Establish a regular review process to analyze data received from future grant cycles and use this data to improve transparency regarding Oregon’s broadband challenges and successes for stakeholders.		
Agree or Disagree with Recommendation	Target date to complete implementation activities	Name and phone number of specific point of contact for implementation
Agree	1/2024	Nick Batz 971-930-2399

Narrative for Recommendation 8

Completed: Draft Broadband Program rules include a provision that require reporting requirements so that the office will have data.

In progress: The OBO applied for the Broadband, Equity, Access, and Deployment State Planning Grant in August 2022 and received an award announcement in November 2022 that the state will be awarded \$5M. The required deliverables from this grant will be to submit a 5-Year Action Plan, Initial Proposal and Final Proposal. Since the goal of the grant is to connect all Oregonians, it is

unclear if this will include one or multi-application cycles. If it is one cycle, this recommendation may be moot.

The mapping project previously mentioned applies to this recommendation as well, that OBO in consultation with State Enterprise Information Services (EIS) has contracted with Oregon State University to design a Business Oregon Broadband Grant Application Portal and Map will aid in project transparency, being able to publicly track the availability of broadband service, grant applicant information, and display proposed and awarded broadband deployment projects.

RECOMMENDATION 9

Partner with broadband stakeholders, such as other state agencies, service providers, and broadband action teams, to develop and publish materials to help educate and onboard individuals who wish to understand or help to improve broadband in their region in order to be transparent, including:

- a. List of public private partnerships;
- b. Grant opportunities and grant awardee information;
- c. Rules, guidelines, and Frequently Asked Questions for stakeholders; and
- d. Broadband development project cost and status.

Agree or Disagree with Recommendation	Target date to complete implementation activities	Name and phone number of specific point of contact for implementation
Agree	1/2024	Daniel Holbrook 503-877-7006

Narrative for Recommendation 9

Completed: [a-d] The Office posted materials on its website regarding broadband program development, including: relevant state laws, speed testing, the OBO's strategic plan, the Statewide Broadband Assessment and Best Practice Study, the FCC's Broadband Data Collection and Map, both state and federal funding programs, Affordable Connectivity Program, and Undersea Cables, draft Broadband Program rules, draft Broadband Technical Assistance Handbook, Draft American Rescue Plan Act: Capital Projects – Broadband Deployment Program Handbook, and broadband projects funded with Cares Act of 2020. Additionally, the OBO sends out monthly E-blasts to over 700+ interested parties, which include grant and engagement opportunities.

In progress: [a] The OBO will solicit information to create a public private partnership list and also look for resources to help educate and onboard individuals who wish to understand or help to improve broadband and post on the website.

RECOMMENDATION 10

Use data to continually assess broadband needs as the broadband landscape changes, develops, and grows; and to inform decisions around broadband implementation efforts, including grant awards and broadband project planning.

Agree or Disagree with Recommendation	Target date to complete implementation activities	Name and phone number of specific point of contact for implementation
Agree	1/2024	Nick Batz 971-930-2399

Narrative for Recommendation 10

In progress: The OBO applied for the Broadband, Equity, Access, and Deployment State Planning Grant in August 2022 and received an award announcement in November 2022 that the state will get \$5M. The state is currently reviewing responses to a Requests for Proposal which states, "The successful proposer will develop and execute an overarching strategy for community engagement, facilitate meetings, collect and analyze data, and then develop the deliverable products" and "The expected responsibilities include the design of a model for data collection, specifically as it relates to identifying current broadband service and adoption. The data collection responsibilities will include measures to ensure that all communities are represented in the model, specifically including traditionally underrepresented groups."

In closing, Business Oregon believes broadband access is a necessary part of 21st century infrastructure for Oregon communities to prosper. We have been committed to quickly scaling the office, advocating for resources, and taking advantage of every funding opportunity. We appreciate the work of the Secretary of State's Audit division to check-in in the midst of this work. Thank you for the opportunity to work with your office on this audit and the accompanying agency response. Please contact me with any questions.

Sincerely,



Sophorn Cheang
Director
Business Oregon
Cell: (503) 910-0524

cc: Erika Ungern, Audit Division, Secretary of State
Matthew Owens, Audit Division, Secretary of State



Secretary of State
Shemia Fagan



Audits Director
Kip Memmott

This report is intended to promote the best possible
management of public resources.
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