



State of New Hampshire

Broadband Contract Program and Broadband Matching Grant Initiative

Capital Projects Fund

2023 Report

New Hampshire Counties

Legend

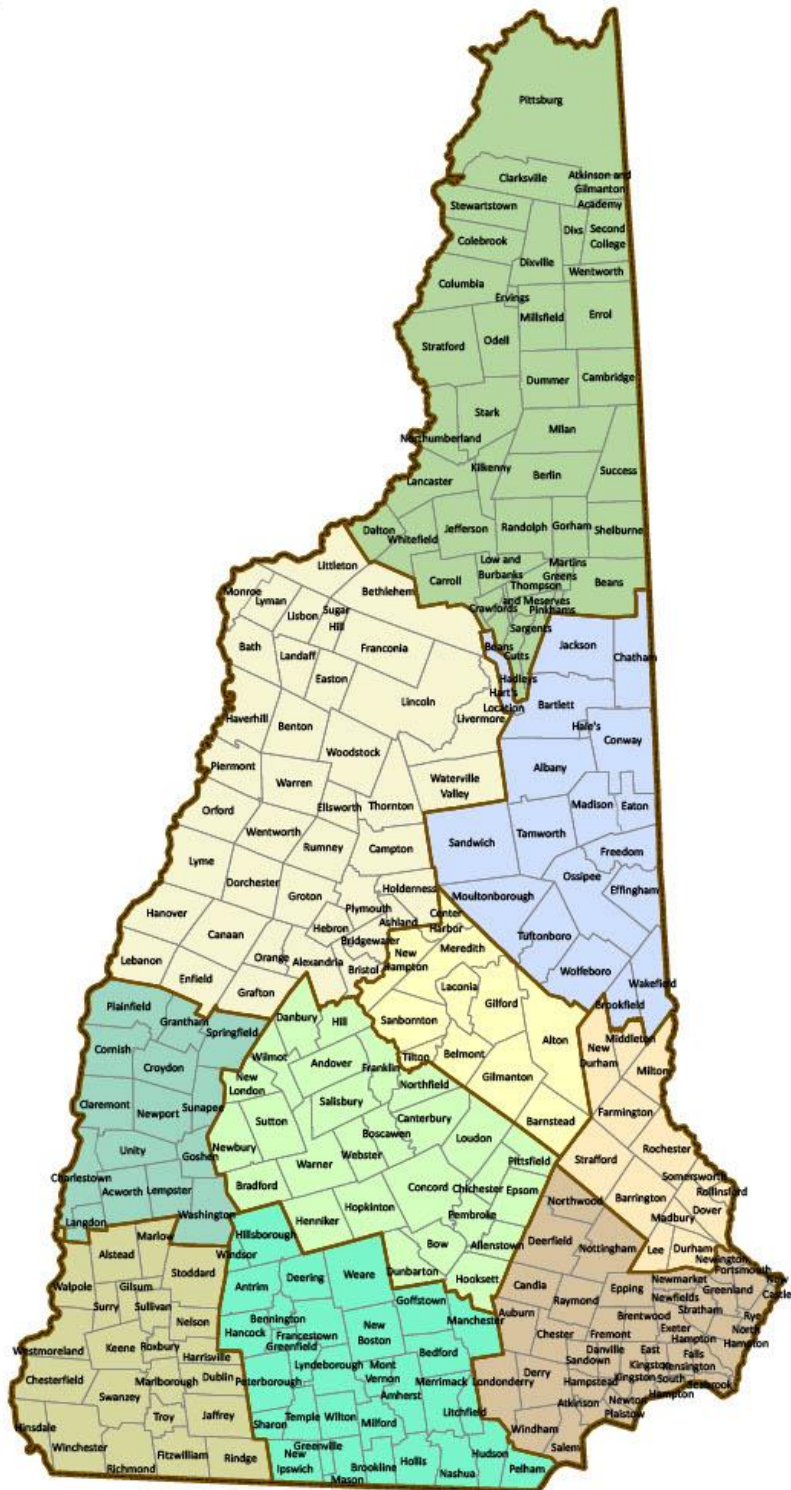
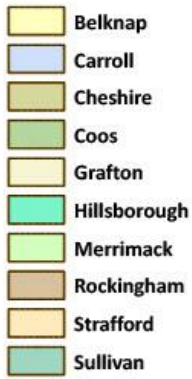


Figure 0. New Hampshire Counties. Source: NH Dept. of Administrative Services.

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Executive Summary

On March 13, 2020, Governor Christopher Sununu declared a State of Emergency for New Hampshire in response to the deadly COVID-19 virus. Three years later, 380,000 New Hampshire residents have tested positive for COVID-19 and 3,055 New Hampshire residents have lost their lives.¹ In the first week alone of the pandemic declaration, 29,379 new unemployment claims were filed, a 4,476% increase over the preceding week.² Due to the pandemic, New Hampshire residents were forced to shift their lives indoors and online. Granite Staters attended school remotely and accessed vital healthcare services through the phone. Vaccine services were rolled out through online booking platforms. The nation relied heavily upon information received through news outlets, televisions, and computers. New Hampshire's labor market was suddenly categorized as essential, virtual, or unemployed. The COVID-19 pandemic shed light on the criticality of reliable broadband access to facilitate work, education, healthcare, and the ability to socialize.³

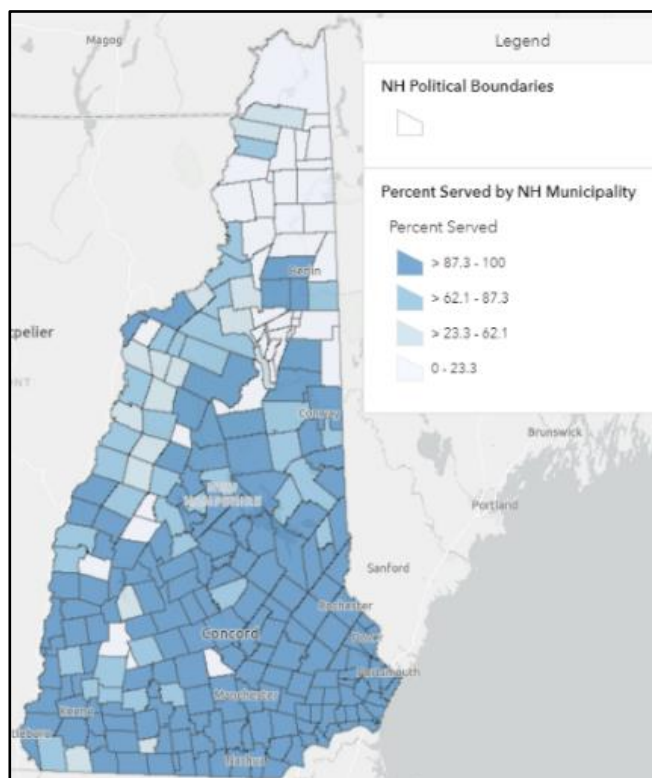


Figure 1. Served households ($\geq 100/\geq 20$ Mbps). Source: UNH Mapping Initiative.

To combat the challenges faced due to the pandemic, New Hampshire has leveraged The American Rescue Plan Act (ARPA) Coronavirus Capital Projects Fund (CPF) to support broadband infrastructure development and deployment across the Granite State. New Hampshire was allocated \$122 million in ARPA CPF funding, which will be used to fund reliable and affordable broadband infrastructure. This ARPA funding stream addresses challenges resulting from the global pandemic, especially in rural America, tribal communities, and low- and moderate-income communities, helping to ensure that all communities have access to the high-quality modern infrastructure, including broadband, needed to support critical services.⁴

¹ "New Hampshire Marks the End of the COVID-19 Public Health Emergency." *New Hampshire Department of Health and Human Services*, May 11, 2023, <https://www.dhhs.nh.gov/news-and-media/new-hampshire-marks-end-covid-19-public-health-emergency>.

² "The COVID-19 Crisis in New Hampshire: Initial Economic Impacts and Policy Responses." *New Hampshire Fiscal Policy Institute*, April 14, 2020, <https://nhfpi.org/resource/the-covid-19-crisis-in-new-hampshire-initial-economic-impacts-and-policy-responses/>.

³ CPF RFP

⁴ "Capital Projects Fund." *United States Department of Treasury*, <https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/capital-projects-fund>.

New Hampshire was one of the first States to receive approval for its broadband expansion program as part of ARPA CPF, receiving Treasury approval of the Broadband Contract Program plan in June 2022.⁵ The State created the Broadband Contract Program, overseen by the Department of Business and Economic Affairs (BEA), to offer internet service providers (ISPs) a financial incentive to bring service to unserved (<25/3 Mbps) and underserved (<100/20 Mbps) addresses in the State, where it may have been financially detrimental for providers to attempt to expand.⁶ Under this program, which has received \$90 million in CPF allocation, New Hampshire aims to connect 48,016 homes and businesses to high-speed internet. The first round will bring high-speed internet to 23,259 addresses across New Hampshire.⁷ The second round will connect an additional 24,757 addresses.⁸

BEA's objective for the Broadband Contract Program is two-fold: 1) fund broadband infrastructure that delivers reliable internet service that meets or exceeds 100/100 Mbps symmetrical speeds; 2) serve unserved and underserved locations, while keeping equity and inclusion at the forefront of this initiative.⁹ To serve these goals, ISPs are required to participate in the Federal Communications Commission's Affordable Connectivity Program (ACP).¹⁰

BEA, through the competitive bid process, awarded two contracts totaling \$90 million to the New Hampshire Electric Co-op (NHEC) and Consolidated Communications (CCI). The contracts aim to connect unserved and underserved addresses in 8 of 9 counties identified across the State.¹¹ These eight counties have the highest need for Broadband connection, containing over 96% of the total unserved

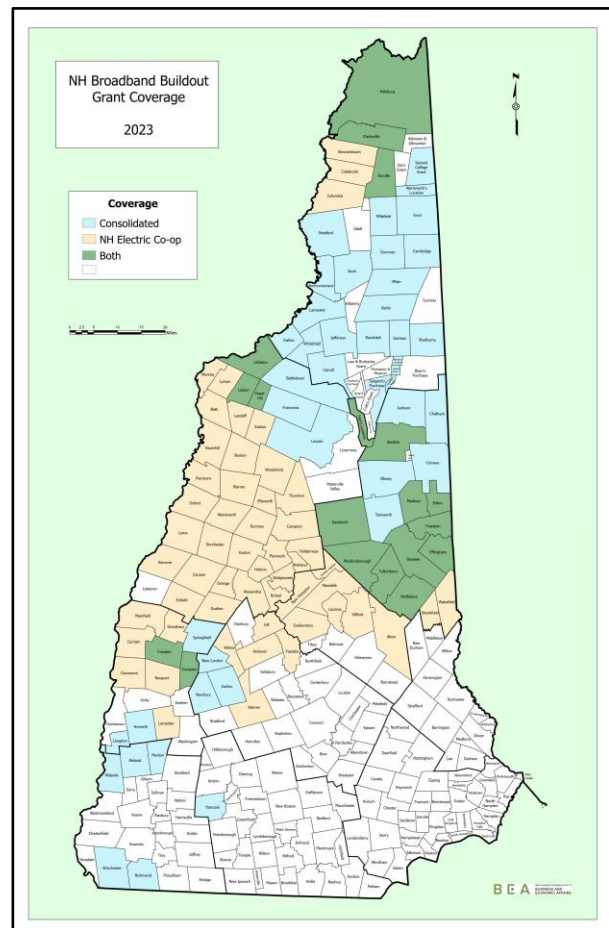


Figure 2. NH Broadband Buildout Grant Coverage.
Source: BEA.

⁵ "New Hampshire First State to Implement Broadband Expansion." *New Hampshire Governor Christopher Sununu*, June 7, 2022, <https://www.governor.nh.gov/news-and-media/new-hampshire-first-state-implement-broadband-expansion>.

⁶ Taglang, Kevin. "An Update on Affordable Connectivity Program Enrollment." *Benton Institute for Broadband and Society*, August 5, 2022, <https://www.benton.org/blog/update-affordable-connectivity-program-enrollment>.

⁷ NHEC CPF RFP Response

⁸ CCI CPF RFP Response

⁹ CPF RFP

¹⁰ CPF RFP

¹¹ ARPA CPF Annual Performance Report, Figure 2, page 5

and underserved households in New Hampshire.¹² Of the 548,026 households in New Hampshire, 7.5% have no internet subscription of any type, and 17% have no broadband access at all.¹³ To-date, NHEC and CCI have identified 48,016 locations to be serviced through this program and have already passed 3,892 addresses.¹⁴ NHEC is laying 15 miles/week of fiber-optical cable, which it expects to increase to 25-30 miles/week by late Summer 2023.¹⁵ CCI is currently engaged in make-ready engineering and construction efforts, with the first completed passing expected in Fall 2023.¹⁶

BEA sourced vendors that aligned with the State's goal of supporting unserved properties, providing download and upload speeds of 100 Mbps, engaging with strong Broadband networks affiliated with New Hampshire stakeholders, and ensuring equitable costs. NHEC and CCI have committed to using their own funds, independent of the Broadband Contract Program, to increase the number of last mile connections.¹⁷ Once complete, New Hampshire will be among the most connected states in the nation, projecting 50,000 new locations connected, expediting economic recovery and sustainability across the State.¹⁸

"New Hampshire has been leading the way when it comes to bringing high-speed broadband to all regions of the State and working towards 100 percent accessibility as quickly as possible," said New Hampshire Commissioner of Business and Economic Affairs Taylor Caswell.¹⁹ "Ensuring [New Hampshire] residents and businesses, regardless of location, can access the digital economy is a top priority for [BEA's] team."²⁰ The State is incredibly proud of the work that has established New Hampshire as a national leader in this historic broadband expansion effort. Commissioner Caswell noted that "[New Hampshire] knows how critical access to reliable high-speed broadband is not only to New Hampshire small businesses today, but to support the jobs of tomorrow."²¹

¹² "NH Broadband Mapping Initiative." *University of New Hampshire*, <https://broadbandnh.sr.unh.edu/portal/apps/experiencebuilder/experience/?id=31b1aeb597249239e588ae26ca759b>.

¹³ American Community Survey 1-Year Estimates, United States Census Bureau, S2801

¹⁴ NHEC CPF RFP Response

¹⁵ NHEC CPF RFP Response

¹⁶ Q2 CPF Project & Expenditure Report

¹⁷ CPF RFP

¹⁸ BEA

¹⁹ New Hampshire Governor's Office

²⁰ New Hampshire Governor's Office

²¹ New Hampshire Governor's Office

Uses of Funds

New Hampshire has a strong track record of delivering effective broadband investment and impact. Prior to ARPA CPF, the State invested \$13 million from the Coronavirus Aid, Relief, and Economic Security (CARES) Act into broadband expansion, clearly demonstrating a prioritization of broadband infrastructure both during and beyond COVID-19, providing residents and businesses with confidence in the continuation of broadband services.²² Governor Christopher T. Sununu noted that “in 2020, New Hampshire took the bold step of allocating CARES Act Funds to broadband expansion – instituting 16 projects that benefitted over 4,500 households.”²³ New Hampshire’s CARES Act projects range from mental health, public safety, and IT infrastructure initiatives. Since the inception of the CARES Act investment, the State received constructive feedback from countless individuals that either did not have access to internet service or experienced speeds so slow that they are unable to effectively learn, work, or maintain their health from home.²⁴ BEA’s strategy for ARPA CPF funds

was informed by the successes and challenges experienced as part of the CARES Act project, as vocalized by ISPs, municipalities, and individuals. Due to the long-lasting effects of the COVID-19 pandemic, reliable internet connectivity at home has proven to be a necessity in New Hampshire now more than ever, as it enables individuals to work, learn, and maintain their health remotely. Households lacking connection speeds that support multiple users being online simultaneously (100/20 Mbps), or lacking connection at all, have been disproportionately impacted by the transition to a more remote lifestyle due to the COVID-19 pandemic.²⁵ Prioritizing bringing service to these households, through infrastructure and more affordable service offerings, support bridging the digital divide and mitigating risks of increased hardship, whether they be economic, education, or health related.

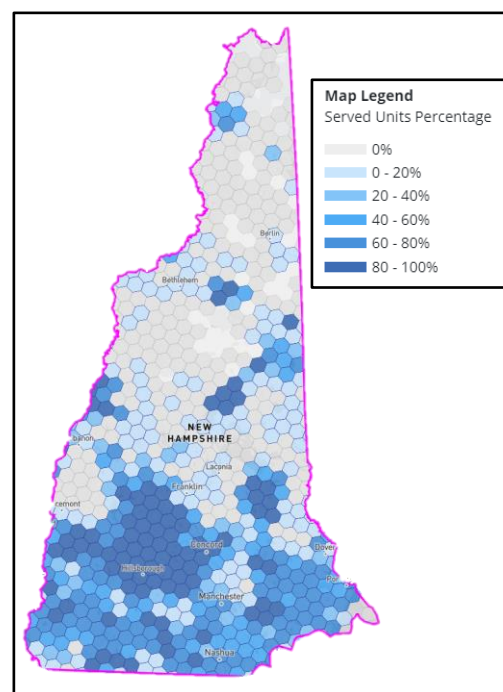


Figure 3. Fiber-served households ($\geq 100/20$ Mbps). Source: FCC.

²² New Hampshire Office of the Governor. “New Hampshire First State to Implement Broadband Expansion.” [Press Release], June 7, 2022, <https://www.governor.nh.gov/news-and-media/new-hampshire-first-state-implement-broadband-expansion>.

²³ New Hampshire Office of the Governor. “New Hampshire First State to Implement Broadband Expansion.” [Press Release], June 7, 2022, <https://www.governor.nh.gov/news-and-media/new-hampshire-first-state-implement-broadband-expansion>.

²⁴ State of New Hampshire Governor’s Office for Emergency Relief and Recovery. “CARES Act Transparency: An overview of CARES Act Coronavirus Relief Funds (CRF) related transparency resource.” <https://www.goferr.nh.gov/transparency/cares-act-transparency>.

²⁵ CPF RFP

The intention of the State's CPF program is to incentivize ISPs to bring service to hard-to-reach places. BEA is aware of the unique geography and demography that makes up the Granite State and has taken these nuances into account as broadband is deployed. "47% of the State's population (617,000 people) live in the State's Rural communities, where the population density averages 47 people per square mile – one tenth of the density in the Metro areas."²⁶ Due to the mountainous geography of northern New Hampshire, specifically the White Mountains, many New Hampshire residents live in areas with unique landscape and weather-related barriers like snow, low temperatures, and dangerous terrain. This results in an increase in the cost of building out the infrastructure necessary to

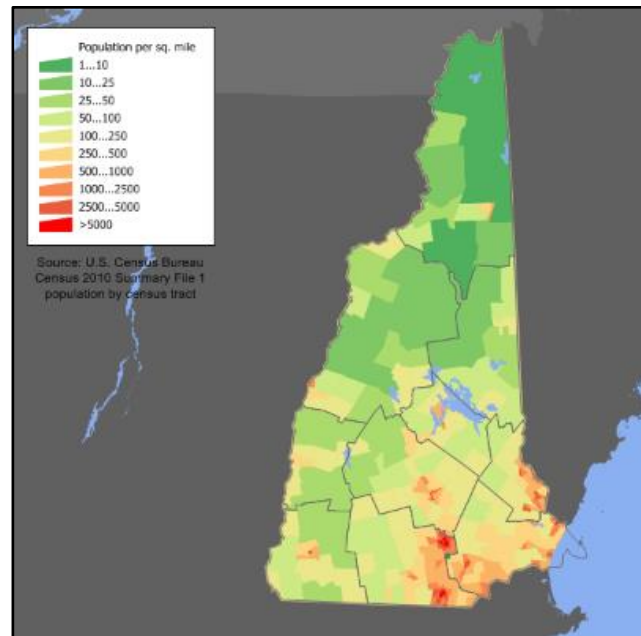


Figure 4. NH Population Density. Source: U.S. Census Bureau.

provide broadband access and a decrease in the number of subscribing customers. "Rural areas have lower median incomes than urban areas, as the majority of the nation's persistent poverty counties are rural. In addition, many rural areas have older populations. Insufficient housing supply makes it difficult for senior households to move from single family homes to accommodations that better meet their needs. All three of these factors—rurality, income, and age—are associated with lower broadband adoption."²⁷ "As a result, ISPs do not see a favorable return on investment for deploying infrastructure in these locations."²⁸ The State believes strongly that any household or business experiencing speeds consistently slower than 100/20 Mbps does not have the capacity to achieve the goals of CPF: to successfully learn, work, and maintain health virtually.²⁹

²⁶ Gong, Lily, Colby Humphrey, and Jake Varn. "How State Broadband Offices Are Using Initial Dollars from Capital Projects Fund." *The Pew Charitable Trusts*, May 23, 2023, <https://www.pewtrusts.org/en/research-and-analysis/articles/2023/05/23/how-state-broadband-offices-are-using-initial-dollars-from-capital-projects-fund>.

²⁷ Wert, Kelly and Anna Read. "Broadband Access Still a Challenge in Rural Affordable Housing." *The Pew Charitable Trusts*, December 8, 2022, <https://www.pewtrusts.org/en/research-and-analysis/articles/2022/12/08/broadband-access-still-a-challenge-in-rural-affordable-housing#:~:text=Housing%20in%20rural%20areas%2C%20including,to%20subscribe%20to%20the%20service>.

²⁸ Wert, Kelly and Anna Read. "Broadband Access Still a Challenge in Rural Affordable Housing." *The Pew Charitable Trusts*, December 8, 2022, <https://www.pewtrusts.org/en/research-and-analysis/articles/2022/12/08/broadband-access-still-a-challenge-in-rural-affordable-housing#:~:text=Housing%20in%20rural%20areas%2C%20including,to%20subscribe%20to%20the%20service>.

²⁹ CPF RFP

Progress Spotlight: New Hampshire Broadband Impact

Impact Statement

The \$122 million ARPA Coronavirus Capital Projects Fund is focused on the buildout of unserved and underserved locations. The inauguration of New Hampshire as the nation's first approved ARPA CPF broadband plan attests to the strength of the State's initiative to invest in ARPA goals.

Scope of Work

The Broadband Infrastructure Contract scope, valued at \$90 million, serves 48,016 locations across New Hampshire. This amounts to \$1,874 in ARPA CPF funds per passing.

Progress Update

- 54 miles of fiber have been strung through Campton, Hebron, Holderness, Plymouth, and Rumney. Work will continue in Grafton County to serve other locations.
- Preparation for deployment is now complete in Belknap, Carrol, Cheshire, Coos, Grafton, Hillsborough, Merrimack, and Sullivan Counties.
- As deployments and testings are completed, in-home installations will begin.³⁰

NHEC and CCI have commenced infrastructure builds, focusing attention on key milestones that include project planning activities (pole make-ready), construction activities (laying/stringing fiber), and installation activities. NHEC has engaged in make-ready engineering and construction, as well as initial construction activities on last mile broadband infrastructure.³¹ NHEC is providing a low-cost option sufficient for a household with multiple users to simultaneously telework and engage in remote learning.³² Once CCI starts building, they expect to deploy approximately 76 miles of fiber per month for grant funded locations.³³

NHEC and CCI both participate in the FCC's Affordable Connectivity Program (ACP) and Lifeline, which provide a \$30 per month and \$9.25 per month discount, respectively, on all residential products with a minimum price of \$1.³⁴

Progress Spotlight: NHEC Supply Chain Challenges

NHEC has been proactive in responding to the unforeseeable challenges that arise due to supply chain shifts. Securing labor and materials as early as possible is critical to meeting the challenge, which is why NHEC started making plans as soon as ARPA legislation passed. NHEC then began construction in Acworth and Sandwich with CARES Act funds soon after CPF Guidance was issued. This enabled NHEC to start securing commitments for materials and labor before supply constraints became more serious.³⁵

³⁰ CCI CPF RFP Response

³¹ Q2 CPF Project & Expenditure Report

³² NHEC

³³ CCI

³⁴ NHEC and CCI

³⁵ NHEC CPF RFP Response

Another important way NHEC has dealt with supply chain and material shortages has been by engaging Conexon, the largest builder of rural fiber internet systems in the United States, as their construction manager. Because of Conexon's large volume of fiber internet construction in recent years (50,000 miles per year), it has the strong business relationships necessary to assure an available supply of fiber, electronics, and other necessary components of broadband networks.³⁶

Progress Spotlight: NHEC Accessibility Initiative

The CPF award will enable NHEC to continue providing low rates for internet services to rural areas where construction of fiber infrastructure and maintenance of fiber services is most costly. NHEC has joined the FCC's Affordable Connectivity Program (ACP) and will offer ACP, Lifeline, and other low-income benefits to all eligible subscribers served by this grant. To market ACP, NHEC has published information about the program on their public-facing website. In addition, a user-friendly eligibility link is currently on the website and soon to be promoted through direct mail and in customer welcome packets. To promote FCC's Lifeline program, NHEC is seeking approval for Lifeline offerings where applicable and is researching how to best deploy other opportunities to eligible subscribers. NHEC is not charging for the service drops or requiring contracts to incentivize signing up.³⁷

In order to establish an effective and compliant use of funds, BEA has followed Treasury's reporting guidelines to track quantitative and qualitative metrics. BEA has implemented a series of contractor data request tools, including a monitoring form to ensure goals are met. Through these tools, BEA maintains ongoing oversight and visibility into the status of project milestones, project finances and financial management practices, and community engagement and participation. These tools enable BEA to collect the data necessary to measure the success of its programs. On a quarterly basis, the State anticipates providing project reporting materials to Treasury as requested and defined by CPF guidance. Because the State had not drawn down funds until April 2023, there have been no Performance & Expenditure reports yet for this program, though it will submit its first report in July 2023.

Progress Spotlight: CCI Community Mapping

CCI used New Hampshire's 2015 Broadband study and Federal NTIA maps to select the largest areas of greatest need in the State. CCI then made use of community data, publicly available provider data, and third-party tools to identify unserved residents across the State. The result of this comprehensive research approach was the identification of 24,757 unserved and underserved addresses in 36 municipalities across 6 counties.³⁸

³⁶ NHEC CPF RFP Response

³⁷ NHEC

³⁸ CCI CPF RFP Response

Promoting Equitable Outcomes and Addressing Critical Need

The State places a priority on providing equitable services and outcomes, which is the impetus behind BEA using CPF funds to deliver broadband to the State's unserved and underserved homes and businesses. These CPF funds will ensure NHEC and CCI invest in the infrastructure that is needed to bring broadband to the State's most rural communities, where households have been disproportionately impacted by the pandemic. NHEC and CCI are required to participate in the Federal Affordable Connectivity Program (ACP), providing eligible locations a pathway for being able to afford to adopt high-quality services, helping to reduce barriers to broadband adoption beyond the lack of availability. Generally, households are eligible for the Affordable Connectivity Program if their annual income is at or below 200% of the Federal Poverty Guidelines.³⁹ In addition, CPF rules require recipients to adhere to objectives of equity, affordability, and accessibility. In order to meet these goals, BEA considered whether broadband infrastructure would be long-standing, evaluated whether networks would be affordable to the target market, and encouraged ISPs to ensure that each household in target markets had access to at least one low-cost option capable of supporting multiple users.⁴⁰

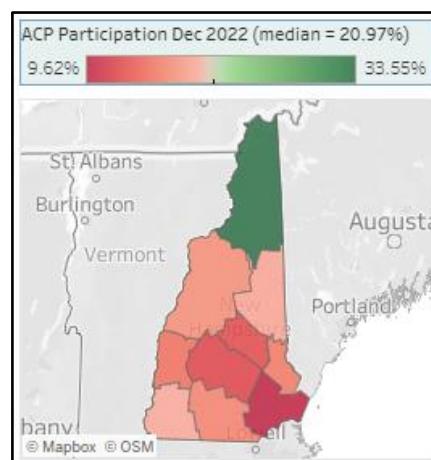


Figure 5. ACP participation (Dec 22).
Source: Universal Service
Administrative Company.

Case Study: Grafton County Broadband Access

NHEC sought to introduce reliable broadband access to Grafton County, a county located in the White Mountains that has zero broadband connections and only utilizes Digital Subscriber Lines (DSL). The transition from DSL to Broadband allowed this rural region to move away from telephone line infrastructure, one in which speeds were determined by proximity to a telephone company. Grafton County is NHEC's largest geographical undertaking to date – spanning more than 320 route miles. When completed, it will make high-speed broadband accessible to 4,700 addresses.⁴¹

³⁹ Taglang, Kevin. "An Update on Affordable Connectivity Program Enrollment." *Benton Institute for Broadband and Society*, August 5, 2022, <https://www.benton.org/blog/update-affordable-connectivity-program-enrollment>.

⁴⁰ Weinschenk, Carl. "New Hampshire Gets \$66M in Capital Projects Fund Broadband Grants." *Telecompetitor*, September 9, 2022, <https://www.telecompetitor.com/new-hampshire-gets-66m-in-capital-projects-fund-broadbandgrants/>.

⁴¹ NHEC

For New Hampshire, the need for digital connectivity is vital and urgent. Nearly 15% of Granite Staters do not have an internet subscription.⁴² About 21,000 households of the estimated 163,000 households that are eligible in New Hampshire are enrolled in the Affordable Connectivity Program.⁴³ Of households earning less than \$20,000 annually, 27.5% lack any type of internet subscription.⁴⁴ Moreover, only 30% of New Hampshire has access to fiber-optic service and only about 7% have access to 1-gig service.⁴⁵ In terms of equity, BEA adheres to the idea that digital equity can only be effective when there is available and accessible high-quality, high-speed broadband internet.⁴⁶ Any future programs or initiatives to address gaps in digital literacy can only be effective if the connection is fast, secure, and reliable.⁴⁷ The State is confident that the investment in reliable and widespread broadband infrastructure will provide the foundation for continued impact in the future. See the following Case Studies for examples of how the CPF-funded projects will help the State achieve these goals.

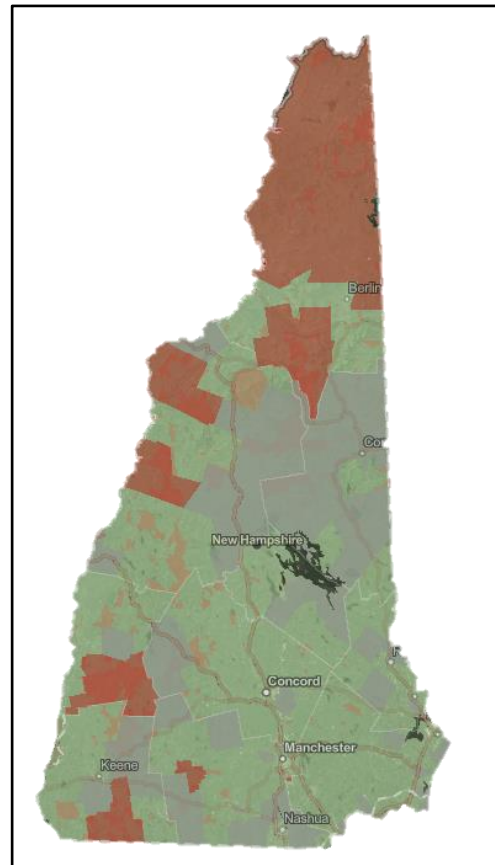


Figure 6. Areas receiving less than 25/3 Mbps indicated in red. Source: NTIA Indicators of Broadband Need.

⁴² Taglang, Kevin. "An Update on Affordable Connectivity Program Enrollment." *Benton Institute for Broadband and Society*, August 5, 2022, <https://www.benton.org/blog/update-affordable-connectivity-program-enrollment>.

⁴³ Taglang, Kevin. "An Update on Affordable Connectivity Program Enrollment." *Benton Institute for Broadband and Society*, August 5, 2022, <https://www.benton.org/blog/update-affordable-connectivity-program-enrollment>.

⁴⁴ American Community Survey 1-Year Estimates, United States Census Bureau, S2801

⁴⁵ Taglang, Kevin. "An Update on Affordable Connectivity Program Enrollment." *Benton Institute for Broadband and Society*, August 5, 2022, <https://www.benton.org/blog/update-affordable-connectivity-program-enrollment>.

⁴⁶ Taglang, Kevin. "Broadband is the Future of New Hampshire." *Benton Institute for Broadband and Society*, June 10, 2022, <https://www.benton.org/blog/broadband-future-new-hampshire#:~:text=According%20to%20U.S.%20News%20%26%20World,access%20to%201%2Dgig%20service>.

⁴⁷ CPF RFP

Case Study: Digital Connectivity during the COVID-19 Pandemic

In response to the COVID-19 emergency declaration, Granite Staters had to shelter at home and shift activities to the virtual world. For Professor Bob Nadeau at Plymouth State University, business had to continue as usual with college classes picking up online within a week of students leaving campus. Due to this drastic turn around, Nadeau, a resident of Plymouth New Hampshire, was forced to drive into downtown Plymouth to find a connection strong enough to host online meetings with students. His fiancée, who works in advertising, often worked from her car in a McDonald's parking lot. Nadeau's situation was not a unique circumstance, as people across New Hampshire were forced to take inconvenient steps to mitigate their lack of digital connectivity. "Nadeau finally got access to high-speed internet in May 2023 through NHEC's CPF expansion of the electric utility's rural fiber-optic network."⁴⁸ The simple connection to internet improved his quality of life drastically, allowing him to excel in his career and improve student's lives from the comfort and safety of his home. Nadeau lives on a gravel road in a wooded area that has long lacked reliable access to the internet. Until recently, he paid two internet service providers and received spotty coverage, at best."⁴⁹ Nadeau long endured the trek to gain access to internet, yet it never impacted the degree of education he was providing.

"To reflect on the situation northern New Hampshire faced as a result of a lack of broadband access, Alyssa Clemens Roberts, President and CEO of NHEC, hosted a virtual event that discussed these challenges. She shared that the pandemic highlighted the urgent need to expand broadband services to rural communities. 'Our members told us they needed access to high-speed internet because they could no longer do the things that we all took for granted, like going to school, going to work, seeing a doctor, and visiting with family and friends,' she said. 'Without high-speed internet, our rural members were just as disadvantaged as they were 85 years ago without electricity.'"⁵⁰

Case Study: Student Engagement and Virtual Learning

The rapid transition to remote learning, a platform that relies solely on internet access, proved detrimental to Granite Staters in rural regions. Prior to any concept of virtual learning or sheltering at home, New Hampshire residents in rural regions lacked reliable access to the internet. When classrooms shifted to the virtual sphere, students were forced to seek out any internet connection resource they could find, settling for fast-food parking lots and school-bus hot spots. "According to a survey conducted by The New Hampshire Department of Education, 44% reported sometimes experiencing disruptions to their teaching due to technical issues, and 27% likewise experienced

⁴⁸ Moske, Nina. "'Keeping up with everybody else' – Broadband extended to more rural areas." *Concord Monitor*, May 23, 2023, <https://www.concordmonitor.com/New-Hampshire-Broadband-51061874>.

⁴⁹ Moske, Nina. "'Keeping up with everybody else' – Broadband extended to more rural areas." *Concord Monitor*, May 23, 2023, <https://www.concordmonitor.com/New-Hampshire-Broadband-51061874>.

⁵⁰ Moske, Nina. "'Keeping up with everybody else' – Broadband extended to more rural areas." *Concord Monitor*, May 23, 2023, <https://www.concordmonitor.com/New-Hampshire-Broadband-51061874>.

limited access to a reliable internet connection.”⁵¹ The strain to seek out ways to log onto class each day effected student engagement levels and performance in class.

In order to shed light on the criticality of this issue, New Hampshire leveraged the Digital Distress Indicator (DDI). “This tool utilizes a 0-100 scale, calculated by the U.S. Census Bureau’s American Community Survey, to estimate the percent of households that have only a cell phone data plan, or no internet at all, combined with the percent of households that have only a mobile phone, or no internet-ready devices at all.”⁵² The higher the score, the higher the digital distress levels within a household. New Hampshire’s North Country regions received the highest scores, indicating the highest levels of digital distress. “The Dummer School District in Coos County, for example, had a DDI of 100, the highest level of digital distress in the State.”⁵³

Despite these DDI scores, students in New Hampshire have proven to be resilient throughout the challenges of virtual learning. BEA understands the vital need for reliable broadband, and is focused on providing affordable, accessible, and high-quality services to all populations across New Hampshire. With this goal at the forefront of CPF broadband development, New Hampshire aims to foster student growth and success across the State.

Case Study: Veterans and Disabilities

In 2022, 90,997 Veterans resided in New Hampshire, making up 15.3% of the population.⁵⁴ Nearly half of New Hampshire’s Veterans are age 65 and over and twice as likely as nonveterans to have a disability. Among these veterans with a disability, 93 percent have a service-related disability.⁵⁵ A large population of veterans who suffer from a disability reside in rural regions of New Hampshire and lack access to basic services. “These demographic factors combined create an important need for robust broadband access among the Veteran population, which experience lower rates of access to and adoption of broadband services.”⁵⁶ Broadband access, especially during the COVID-19 emergency period, supports Veterans through health-monitoring, securing post-deployment employment, and social interaction when forced to stay home from vital community anchor institutions. CCI and NHEC seek to support all subscribers in all populations, including New Hampshire’s Veterans.

⁵¹ Duggan, Emily. “Remote Learning and Broadband Challenges Across the State.” *NH PBS*, <https://nhpbs.org/statewherein/?resource=3410>.

⁵² Duggan, Emily. “Remote Learning and Broadband Challenges Across the State.” *NH PBS*, <https://nhpbs.org/statewherein/?resource=3410>.

⁵³ Duggan, Emily. “Remote Learning and Broadband Challenges Across the State.” *NH PBS*, <https://nhpbs.org/statewherein/?resource=3410>.

⁵⁴ U.S. Census Bureau

⁵⁵ U.S. Census Bureau

⁵⁶ U.S. Census Bureau

Case Study: Senior Citizen Population

In New Hampshire, senior citizens make up 20.2% of the State's population.⁵⁷ During the COVID-19 pandemic, New Hampshire struggled with the dual responsibility of protecting the health of at-risk senior citizens and ensuring strong mental health and wellbeing. "Social isolation among older adults was prevalent prior to the outbreak; however, the pandemic increased the prevalence and severity, impacting cognition and general health."⁵⁸ In addition, the lack of access to high-speed broadband increased the feeling of isolation for senior citizens. The solution to this challenge was simple for New Hampshire government officials: Increase internet access and provide technological support to mitigate social isolation, improve telehealth capabilities, and increase health monitoring initiatives.⁵⁹

New Hampshire's COVID-19 Emerging Issues Task Force shared initial findings from investigating access to broadband and technology across the State. The Task Force communicated the following initiatives to develop quality telehealth services and alleviate social isolation:⁶⁰

- Availability – Access to high-speed broadband across different geographic and residential locations is key for senior citizens, who are often geographically limited.
- Affordability – All members of the community must have access to broadband, despite economic status. Senior citizens require the support of family members and friends to remain connected. Those community members that live below the poverty-line and within rural locations require affordable broadband access in order to participate in and support the community.
- Education – Digital literacy has become a fundamental competency that must be shared. Senior citizens may require education on how to access internet services and platforms like email, zoom, and telehealth services.

Labor

BEA's priority is to ensure the strong labor practices of NHEC and CCI align with New Hampshire's values and Treasury's standards. In the last 18 months, CCI has built 3,800 miles of fiber in New Hampshire, serving nearly 250,000 homes and small businesses. Their strong workforce has also successfully maintained CCI's fiber network in New Hampshire since its inception. CCI will use this established network to build out broadband infrastructure to reach the locations it outlined when it received CPF funds. CCI's workforce will be more than sufficient to build the network by the end of 2024 and to operate and maintain the network in the future.⁶¹ NHEC has engaged its major subcontractor, Conexon, to manage the construction and labor of the project, ensuring a sufficient supply of skilled labor.

⁵⁷ U.S. Census Bureau

⁵⁸ "Annual Report." *State of New Hampshire Commission on Aging*, November 1, 2020, https://www.nhcoa.nh.gov/documents/COA_2020_ANNUAL_REPORT_FINAL_DRAFT.pdf.

⁵⁹ "Annual Report." *State of New Hampshire Commission on Aging*, November 1, 2020, https://www.nhcoa.nh.gov/documents/COA_2020_ANNUAL_REPORT_FINAL_DRAFT.pdf.

⁶⁰ "Annual Report." *State of New Hampshire Commission on Aging*, November 1, 2020, https://www.nhcoa.nh.gov/documents/COA_2020_ANNUAL_REPORT_FINAL_DRAFT.pdf.

⁶¹ CCI CPF RFP Response

All labor on the ARPA CPF funded project is compensated above the national and regional prevailing wage.⁶² New Hampshire is a competitive environment for employers, and wages in New Hampshire typically match or exceed national averages and local prevailing wages for construction-related jobs.⁶³ As a result of the competitive labor market, many private construction firms offer full benefits, including health insurance, paid sick leave, paid vacation, and retirement contributions.

New Hampshire imposes licensure requirements, including education, certification, and experience requirements, for a broad range of professionals⁶⁴ including electricians, gas fitters, plumbers, heating equipment technicians, architects and landscape architects, asbestos and lead abatement professionals, elevator and lift mechanics, engineers, explosives workers, and well contractors and installers. In the event of an infraction, the Office of Professional Licensure and Certification provides a convenient online portal for reporting violations of licensure requirements.⁶⁵ These requirements help ensure a consistently high quality of labor and workplace safety for all projects employing workers in these fields.

Though New Hampshire is aware of supply chain and labor shortages that could potentially delay the investment in construction materials and fiber-optical cable as a result of the significant influx in Federal broadband funding, BEA and contractors have mitigated this challenge by securing on-hand inventory, labor standards, and robust supply chain processes. Inclement weather and rough terrain are common factors in the northern regions of New Hampshire, regions that are the most rural and in need of broadband investment. To ensure the safety of crews on the ground, NHEC and CCI will adhere to strict processes that ensure the safety and wellbeing of all stakeholders. NHEC's Safety Department has met with the vendors that are completing the project and have held site visits to ensure that safety guidelines and protocols are followed. To ensure steady progress, NHEC will mitigate slower winter construction through an aggressive build pace in the weather-amenable summer and fall. CCI incorporates weather and season related considerations in their engineering and construction planning.

Community Engagement

In both the project standup and implementation phases of this program, BEA has engaged community feedback through attending Governor & Executive Council sessions, conducting community meetings and stakeholder interviews, and administering surveys to local governments. At the national level, BEA presented at the School Health Libraries Broadband Conference in Washington, DC. At the State level, BEA discussed broadband equity and affordability at the NH Municipal Association Conference, the Mobilizing NH for Digital Equity and Economic Inclusion Meeting, and the Affordable Broadband in NH Meeting. At the local level, BEA conducted in-person Q&A sessions on the BEA Broadband Road Trip across New Hampshire. Prior to selecting contractors, BEA worked with ISPs across the State to understand the nuances of large-scale broadband infrastructure builds and ensure that the parameters

⁶² NHEC Project & Expenditure Report data, Q1-2 2023

⁶³ "Occupational Employment and Wages, May 2022." *U.S. Bureau of Labor Statistics*, <https://www.bls.gov/oes/current/oes472073.htm>.

⁶⁴ New Hampshire Office of Professional Licensure and Certification. <https://www.oplc.nh.gov/find-board>.

⁶⁵ New Hampshire Office of Professional Licensure and Certification. <https://www.oplc.nh.gov/report-non-compliance>.

of the contract were feasible for targeting the broadest number of locations.⁶⁶ Prior to project implementation, BEA administered a survey to all towns in New Hampshire to gather information on broadband existence, current projects, and planned projects to better understand the needs for investment. On the ground level, BEA leveraged internal data-gathering strategies to develop an initial list of unserved and underserved addresses that will be impacted by funding.⁶⁷ BEA has utilized the feedback received from all of these initiatives to formulate the State’s program plan and scope of work.⁶⁸

Progress Spotlight: CCI’s Community Engagement Strategy

During construction of New Hampshire’s broadband network, CCI will work closely with each municipality identified to ensure that municipality leadership is fully apprised of where and when construction is taking place. In any community where CCI will build fiber, CCI will host an initial meeting with the community prior to construction to describe the project and hold regular meetings with the municipality at whatever frequency the municipality prefers to discuss ongoing construction. Municipality leadership will also provide direct contact information for CCI’s leadership to ensure that the municipality has immediate access to the service provider if questions or issues arise. Upon project completion, CCI will host a final meeting with municipality leadership to address any remaining questions and discuss plans for the network launch, marketing, and sales outreach.⁶⁹

BEA understands the need for knowledge transparency when promoting broadband expansion. Broadband thought leaders have stressed the criticality of accurate and timely mapping data for broadband expansion efforts.⁷⁰ In order to address this need, BEA utilized a portion of its allocated administrative dollars to award a contract to NH GRANIT (University of New Hampshire) to support the construction of a publicly available comprehensive map that identifies the unserved and underserved locations in New Hampshire. The NH Broadband Mapping Initiative has captured the following: ISP coverage data; unserved, underserved, and served location data; existing fiber networks across the State; fiber development status; accessibility and accuracy of current fiber deployed by ISPs; and speed of fiber currently deployed. The first iteration of these maps was published in April 2023 and serves as a resource for Granite Staters to understand the status and breadth of this operation. Maps and dashboards are interactive and user-friendly, allowing New Hampshire to spread the word about broadband expansion and digital literacy.⁷¹

⁶⁶ CPF RFP

⁶⁷ CPF RFP

⁶⁸ CPF RFP

⁶⁹ CCI CPF RFP Response

⁷⁰ The Pew Charitable Trusts. “What Is the FCC’s New Broadband Map and Why Does it Matter?”

<https://www.pewtrusts.org/en/research-and-analysis/articles/2022/11/18/what-is-the-fccs-new-broadband-map-and-why-does-it-matter>.

⁷¹ New Hampshire Broadband Mapping Initiative. <https://broadbandnh.sr.unh.edu/portal/apps/sites/#/new-hampshire-broadband-mapping/>.

Progress Spotlight: NHEC's Community Engagement Strategy

NHEC has hosted events and implemented activities such as Town Halls, bill inserts, advertising, letters, FAQs and web explanations to describe and educate on products and services. To increase the uptake of more affordable broadband, NHEC has utilized postal and email communications to share information regarding billing and affordability. To ensure feedback is received and engaged in practice, NHEC travels across New Hampshire (Ex. Andover, Haverhill, and Sugar Hill, NH) to present on initiatives and answer questions. In addition, digital surveys are submitted by Conexon to gauge feedback on construction activities.⁷²

ARPA CPF broadband programs must conclude by December 31, 2026. As New Hampshire's broadband infrastructure scope is developed, BEA plans to host webinars and publish broadband resources to ensure all end users are secure and connected. BEA will continue to engage with ISP leadership teams to build effective strategies. In the following years, BEA plans to leverage the community engagement strategies in place to increase impact. After project implementation, BEA plans to perform adoption audits, and for properties that have chosen not to subscribe to services, set out to understand the barriers to using service once infrastructure is in place. Finally, BEA intends to support ISPs and municipalities in promoting the use of the broadband subsidy programs in the communities where work is being done to increase the adoption of the service when it becomes available.⁷³ The community partnership established between the broadband stakeholders (State, ISPs, and end users) will serve as an invaluable resource during project standup, implementation, and closeout of grant activities.

Civil Rights Compliance

New Hampshire's Department of Business and Economic Affairs has strict regulatory and compliance protocols in place to ensure contractors meet legal requirements relating to nondiscrimination and nondiscriminatory use of Federal funds. By implementing a standardized New Hampshire P-37 contract form for all subrecipients of ARPA CPF Federal funds, BEA has communicated the contractual agreement that Title VI of the Civil Rights Act of 1964 (Pub. L. 88-352), Title IX of the Education Amendments of 1972, as amended, (Pub. L. 92-318, Pub. L. 93-568, and Pub. L. 94-482), Section 504 of the Rehabilitation Act of 1973 (Pub. L. 93-112), the Age Discrimination Act of 1975 (Pub. L. 94-135), and Title VIII of the Civil Rights Act of 1968 (Pub. L. 90-284) are adhered to. By signing this contractual agreement, contractors adhere to the strict policies and procedures set forth. In connection with the performance of broadband services, the contractors shall comply with all applicable statutes, laws, regulations, and orders of Federal, State, county or municipal authorities which impose any obligation or duty upon the contractor, including, but not limited to, civil rights and equal employment opportunity laws. During the term of this agreement, the contractors shall not discriminate against employees or applicants for employment because of race, color, religion, creed, age, sex, handicap, sexual orientation, or national

⁷² NHEC

⁷³ CPF RFP

origin and will take affirmative action to prevent such discrimination. These measures taken by BEA assure compliance with all nondiscrimination Federal laws laid forth by the Treasury.

Broadband Matching Grant Initiative Program

Program Information

The Broadband Matching Grant Initiative has not yet begun. Currently, New Hampshire is working through the Legislative Rules process and does not anticipate having the permanent rules approved by the Office of Legislative Services until mid to late summer. Per Treasury communications from April 27, no waiver is needed for this performance report.

Works Cited

American Community Survey 1-Year Estimates, United States Census Bureau, S2801.

"Annual Report." *State of New Hampshire Commission on Aging*, November 1, 2020, https://www.nhcoa.nh.gov/documents/COA_2020_ANNUAL_REPORT_FINAL_DRAFT.pdf.

"Capital Projects Fund." *United States Department of Treasury*, <https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/capital-projects-fund>.

"Conexon supports seven Mississippi electric cooperatives in completing CARES Act broadband pilot projects on time." *Conexon*, <https://conexon.us/conexon-news/conexon-supports-seven-mississippi-electric-cooperatives-in-completing-cares-act-broadband-pilot-projects-on-time-co-ops-successfully-deliver-ftth-access-to-thousands-of-unserved-and-underserved-miss/>.

Duggan, Emily. "Remote Learning and Broadband Challenges Across the State." *NH PBS*, <https://nhpbs.org/statewherein/?resource=3410>.

Gong, Lily, Colby Humphrey, Jake Varn. "How State Broadband Offices Are Using Initial Dollars from Capital Projects Fund." *The Pew Charitable Trusts*, May 23, 2023, <https://www.pewtrusts.org/en/research-and-analysis/articles/2023/05/23/how-state-broadband-offices-are-using-initial-dollars-from-capital-projects-fund>.

Moske, Nina. "'Keeping up with everybody else' – Broadband extended to more rural areas." *Concord Monitor*, May 23, 2023, <https://www.concordmonitor.com/New-Hampshire-Broadband-51061874>.
New Hampshire Broadband Mapping Initiative, <https://broadbandnh.sr.unh.edu/portal/apps/sites/#/new-hampshire-broadband-mapping/>.

"New Hampshire First State to Implement Broadband Expansion." *New Hampshire Governor Christopher Sununu*, June 7, 2022, <https://www.governor.nh.gov/news-and-media/new-hampshire-first-state-implement-broadband-expansion>.

New Hampshire Governor's Office, <https://www.governor.nh.gov/news-and-media/new-hampshire-first-state-implement-broadband-expansion>.

"New Hampshire Marks the End of the COVID-19 Public Health Emergency." *New Hampshire Department of Health and Human Services*, May 11, 2023, <https://www.dhhs.nh.gov/news-and-media/new-hampshire-marks-end-covid-19-public-health-emergency>.

New Hampshire Office of Professional Licensure and Certification, <https://www.oplc.nh.gov/find-board>.

New Hampshire Office of Professional Licensure and Certification, <https://www.oplc.nh.gov/report-non-compliance>.

"NH Broadband Mapping Initiative." *University of New Hampshire*, <https://broadbandnh.sr.unh.edu/portal/apps/experiencebuilder/experience/?id=31b1aeb597249239e588ae26ca759b>.

NHEC Residential Internet Plans, <https://www.nhbroadband.com/residential-internet>.

"Occupational Employment and Wages, May 2022." *U.S. Bureau of Labor Statistics*, <https://www.bls.gov/oes/current/oes472073.htm>.

State of New Hampshire's Office for Emergency Relief and Recovery. "CARES Act Transparency: An overview of CARES Act Coronavirus Relief Funds (CRF) related transparency resource."
<https://www.goferr.nh.gov/transparency/cares-act-transparency>

Taglang, Kevin. "Broadband is the Future of New Hampshire." *Benton Institute for Broadband and Society*, June 10, 2022, <https://www.benton.org/blog/broadband-future-new-hampshire#:~:text=According%20to%20U.S.%20News%20%26%20World,access%20to%201%2Dgig%20service>.

Taglang, Kevin. "An Update on Affordable Connectivity Program Enrollment." *Benton Institute for Broadband and Society*, August 5, 2022, <https://www.benton.org/blog/update-affordable-connectivity-program-enrollment>.

"The COVID-19 Crisis in New Hampshire: Initial Economic Impacts and Policy Responses." *New Hampshire Fiscal Policy Institute*, April 14, 2020, <https://nhfpi.org/resource/the-covid-19-crisis-in-new-hampshire-initial-economic-impacts-and-policy-responses/>.

The Pew Charitable Trusts. "What Is the FCC's New Broadband Map and Why Does it Matter?"
<https://www.pewtrusts.org/en/research-and-analysis/articles/2022/11/18/what-is-the-fccs-new-broadband-map-and-why-does-it-matter>.

U.S. Census Bureau

Weinschenk, Carl. "New Hampshire Gets \$66M in Capital Projects Fund Broadband Grants." *Telecompetitor*, September 9, 2022, <https://www.telecompetitor.com/new-hampshire-gets-66m-in-capital-projects-fund-broadbandgrants/>.

Wert, Kelly and Anna Read. "Broadband Access Still a Challenge in Rural Affordable Housing." *The Pew Charitable Trusts*, December 8, 2022, <https://www.pewtrusts.org/en/research-and-analysis/articles/2022/12/08/broadband-access-still-a-challenge-in-rural-affordable-housing#:~:text=Housing%20in%20rural%20areas%2C%20including,to%20subscribe%20to%20the%20service>.