

STATE OF NORTH CAROLINA

BEAD FIVE-YEAR PLAN

Broadband Equity, Access, and
Deployment (BEAD) Program



Division of Broadband and Digital Equity

www.ncbroadband.gov

1. Executive Summary

Under the leadership of Governor Roy Cooper, the N.C. Department of Information Technology (NCDIT) Division of Broadband and Digital Equity prepared this five-year action plan to connect all North Carolinians to affordable, reliable high-speed internet service. The state of North Carolina's participation in the Broadband Equity, Access, and Deployment (BEAD) program will supplement Governor Cooper's comprehensive strategy to build digital equity across North Carolina using state and American Rescue Plan Act funds. The Division of Broadband and Digital Equity executes that strategy by working to ensure that all North Carolinians have access to an affordable, high-speed internet connection and the devices and skills necessary to participate in the modern digital economy.

Governor Cooper created the Division of Broadband and Digital Equity in 2021 to accelerate efforts to close the digital divide in North Carolina. The division, which includes the Broadband Infrastructure Office and the nation's first Office of Digital Equity and Literacy, serves as a statewide resource for broadband access, digital inclusion, and digital literacy initiatives.

The division's mission includes:

- building a sustainable operation with the capacity to build digital equity in North Carolina,
- enabling more North Carolinians to afford high-speed internet,
- increasing digital literacy among all North Carolinians,
- expanding broadband access across the state,
- leveraging data to identify and understand community needs, and
- providing technical assistance to community leaders.

This plan will leverage the division's ongoing grant programs, community engagement, and digital inclusion initiatives to meet the objectives of the Broadband Equity, Access, and Deployment (BEAD) Program, authorized by the Infrastructure Investment and Jobs Act of 2021 – specifically, achieving Internet for All. The plan details the division's work with local leaders, federal and state agencies, and the private sector to:

- accurately identify unserved and underserved locations through data collection and mapping,
- recognize obstacles and barriers,
- develop an asset inventory and needs assessment,
- form partnerships with community-based organizations and local governments,
- expand interagency partnerships,
- prepare the workforce, and
- integrate and leverage existing grant programs.

Resident participation and input remain central to the plan. The division and its predecessors have a long history of stakeholder engagement throughout the state. For more than 10 years, the state has provided technical assistance to communities on broadband planning, identifying

funding sources, crowdsourcing, and engaging internet service providers. Mapping and data collection initiatives involved a survey and speed test. The Growing Rural Economies with Access to Technology (GREAT) grant program, created in 2018, expanded educational outreach initiatives in every region of the state.

The state continues to engage and solicit feedback from a variety of broadband and digital equity stakeholders that have a vested interest in expanding high-speed internet access and building digital equity within the communities they serve, represent, or live. The division uses data gleaned from all outreach efforts to create comprehensive BEAD and Digital Equity program plans to guide subsequent investments from both programs.

The state prides itself on using data to plan deployment projects and implemented a robust mapping effort over the last several years. Using state and federal data, the division identified approximately 374,412 unserved and 127,956 underserved homes and businesses. To reach universal service by 2029, the plan will sequence the distribution of state funding, American Rescue Plan Act (ARPA) resources, and BEAD funds through four existing infrastructure grant programs, while coordinating with other federal funding programs to avoid duplication and extend the reach of the BEAD program funding.

First, the division is investing \$350 million from the ARPA State and Local Fiscal Recovery Fund (SLFRF) through the Growing Rural Economies with Access to Technology (GREAT) grant program. The 2021-2022 application round closed May 4, 2022, and the division awarded \$269 million to connect 117,405 unserved locations resulting in a total project cost of over \$426 million as of June 2023. The division awarded the remaining funds in July 2023 to connect an additional 26,687 unserved locations. The average cost per location is approximately \$4,600 in grant and matching funds.

Rural Digital Opportunity Fund (RDOF) recipients continue their work to connect an estimated 128,000 locations. The division works closely with those internet service providers to avoid GREAT grant awards to those locations by mapping them internally and excluding them from eligible areas. Additionally, internet providers in North Carolina are leveraging the U.S. Department of Agriculture's Community ReConnect program to connect approximately 23,125 homes and businesses.

Second, the division is investing approximately \$590 million from ARPA SLFRF and Capital Projects Fund through the Completing Access to Broadband (CAB), Stop-Gap Solutions, and Broadband Pole Replacement programs to serve as many as 200,000 additional unserved and underserved locations. The CAB program will allow the division to work directly with counties to identify provider partners through a competitive bidding process. The Stop-Gap Solutions program will use line extension and other measures to connect unserved or underserved locations that remain after the GREAT and CAB programs are complete.

Finally, the division will use BEAD funding to connect high-cost areas, remaining unserved and underserved locations, and community anchor institutions (CAIs) without at least one gigabit

per second symmetrical broadband access. The division will seek to use any remaining funds to expand affordability and digital equity efforts, including digital skills trainings.

The activities and community engagement detailed in the plan will improve mapping, eliminate barriers, build asset inventories, improve interagency coordination, and enhance workforce planning. The division will integrate community feedback and ongoing engagement to address local needs. Digital inclusion and literacy programs, to be detailed in the State Digital Equity Plan, and funding to ensure equitable inclusion will be implemented in parallel with and immediately following these infrastructure builds to align access with digital inclusion.

The division expresses gratitude to Governor Cooper, the N.C. General Assembly, the National Telecommunications and Information Administration (NTIA), the Federal Communications Commission (FCC), and the state's many partners for support, input, and counsel throughout the development of this plan. Staff are especially grateful for the local leaders and residents who attended listening sessions and provided valuable feedback through emails and surveys to shape this plan. Many residents remain disadvantaged by the lack of affordable, reliable high-speed internet service. The entire state will benefit from improved connectivity through this plan.

2. Governor Roy Cooper's Plan to Close the Digital Divide

Governor Cooper committed to closing the digital divide so all North Carolinians can live better-educated, healthier, wealthier lives filled with purpose and abundance. Doing so means not only providing access to affordable, high-speed internet in every corner of the state but also ensuring that residents can adopt these services and have the tools and skills to participate in the digital economy.

By 2025, North Carolina plans to become a national leader, ranking in the top five states for high-speed internet adoption. As North Carolinians in every corner of the state can access, afford, and use high-speed internet, they can take advantage of career, education, and health resources. This investment will drive the state's economy to new heights.

Governor Cooper's plan aims to close the digital divide by addressing:

- Infrastructure and access,
- Digital literacy, and
- Affordability.

The state already invested close to \$56 million in state and \$350 million in ARPA funding to connect more than 177,000 unserved homes and businesses.

Goals and Objectives

The governor's plan seeks to achieve universal access to broadband and to significantly increase adoption rates by dedicating nearly \$1 billion in federal American Rescue Plan Act funds to achieve the following goals:*

- Investing \$971 million to build critical infrastructure to deliver internet speeds of 100/20 Mbps to 98 percent of unserved households with the ability to handle future speeds of 100/100 Mbps.
- Investing BEAD funding to build infrastructure to deliver internet speeds of 100/20 Mbps to the remaining unserved households and 100 percent of all underserved households, locations in high-cost areas, and community anchor institutions, with remaining funds dedicated to affordability programs.
- Investing \$50 million to create awareness and support digital literacy and skills training to participate in the digital economy.
- Promoting enrollment in the Affordable Connectivity Program to include 1 million North Carolina households - currently 810,538 households (July 26, 2023).
- Increasing high-speed internet adoption by raising percentages of subscriptions as shown below:

	N.C. Today	N.C. 2025
 Households with broadband internet subscriptions	73%	80%
 Households with children with broadband internet subscriptions	81%	100%
 Adoption rates across racial groups		
• Native American	57%	80%
• Black	64%	80%
• Hispanic/Latino	68%	80%
• White	76%	80%

*All additional funding from the Bipartisan Infrastructure Law programs will be used to supplement these goals set for ARPA-funded programs to connect all North Carolinians by 2029.

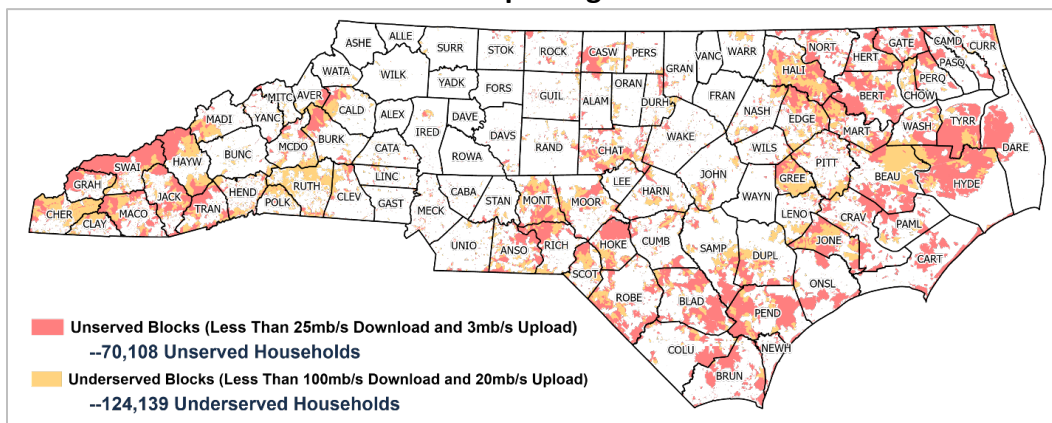
The state will submit its State Digital Equity Plan separately to satisfy requirement 11 of the five-year action plan. The plan is due Oct. 30, 2023, and is currently under development. The State Digital Equity Plan will include additional data that measures broadband access and adoption by race and ethnicity across North Carolina to support the goal that all racial groups will have at least 80% adoption rates by 2025.

3. State of the State of North Carolina

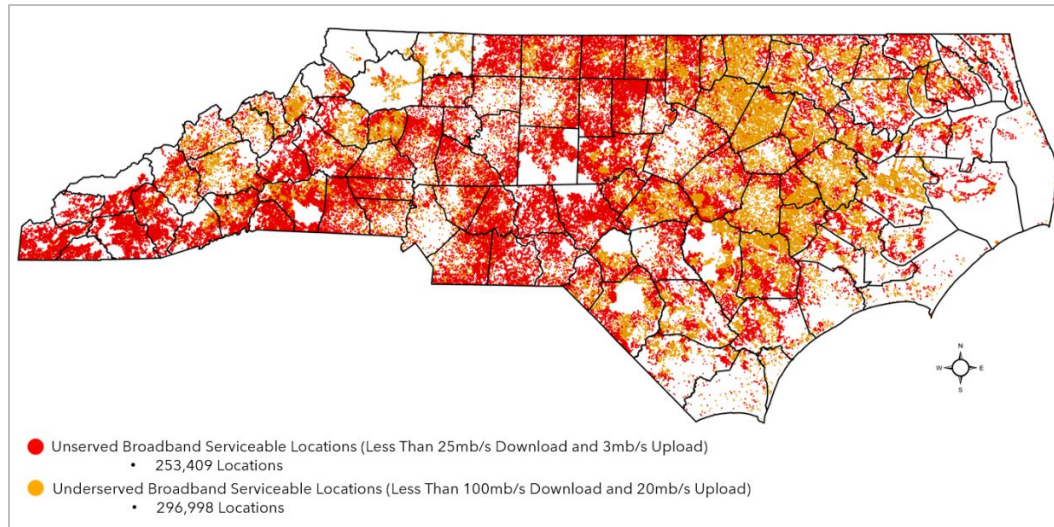
Governor Cooper made closing the digital divide a state priority and helped create bipartisan agreement for the state's need to connect all North Carolina businesses and homes to high-speed internet. Through his continued leadership, the creation of the NCDIT Division of Broadband and Digital Equity, and the Broadband Infrastructure Office's work and partnership with internet service providers and telephone cooperatives, the state has been able to better assess the areas with gaps in broadband access and digital equity.

In partnership with the N.C. Center for Geographic Information and Analysis and the N.C. Geographic Information Coordinating Council, the division obtained more granular location data for unserved and underserved households and businesses. The following figures demonstrate the marked difference between the FCC National Broadband Map's unserved and underserved North Carolina locations from the census block level reporting with December 2021 data to the June 2022 data (released Nov. 18, 2022) and then the December 2022 data (released May 30, 2023).

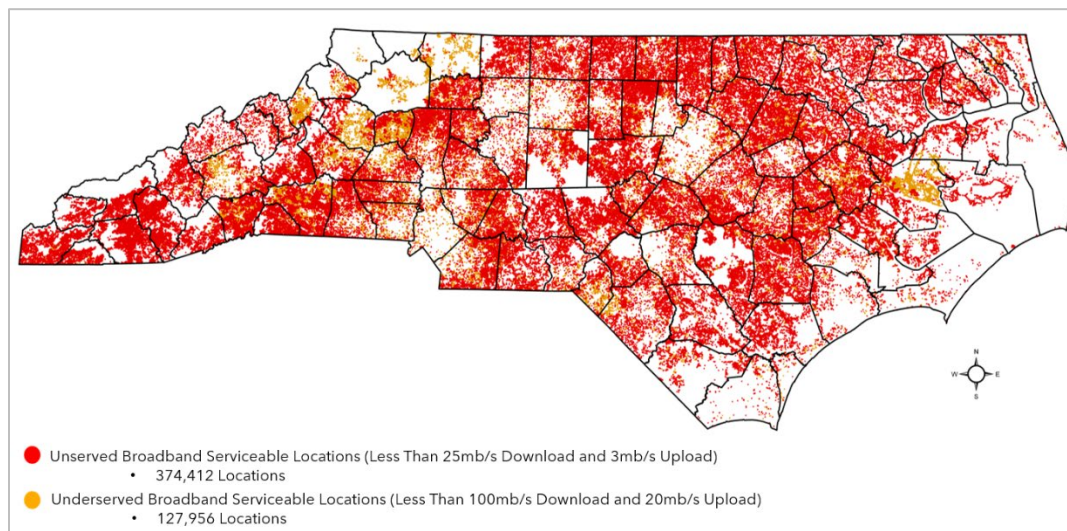
FCC Form 477 – Census Block Level Reporting – December 2021



FCC Broadband Data Collection – June 2022 Data



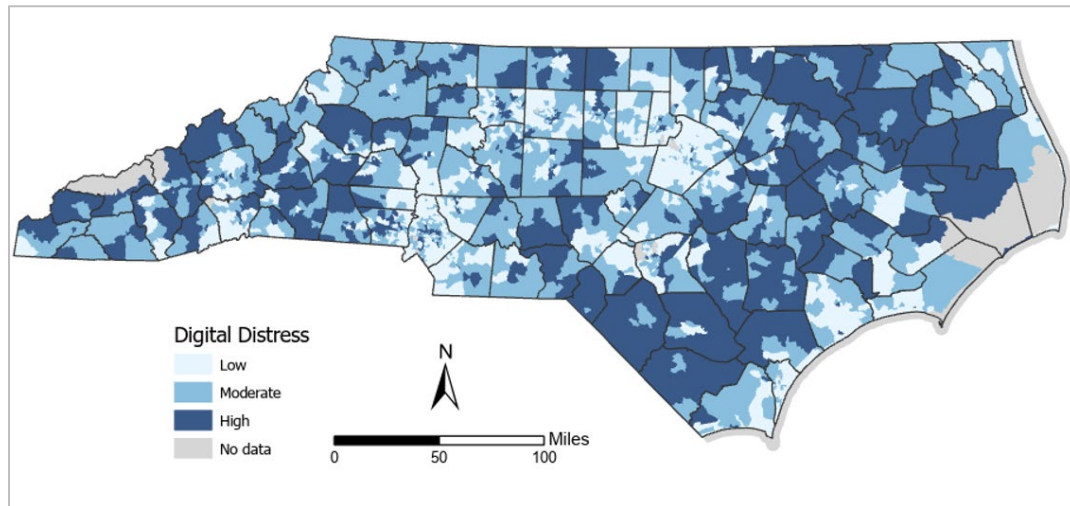
FCC Broadband Data Collection – December 2022 Data



The division also partnered with Dr. Roberto Gallardo, director of the Purdue Center for Regional Development and national expert on the intersection between digital equity and economic development, to develop a statewide data baseline and state maps using American Community Survey data.

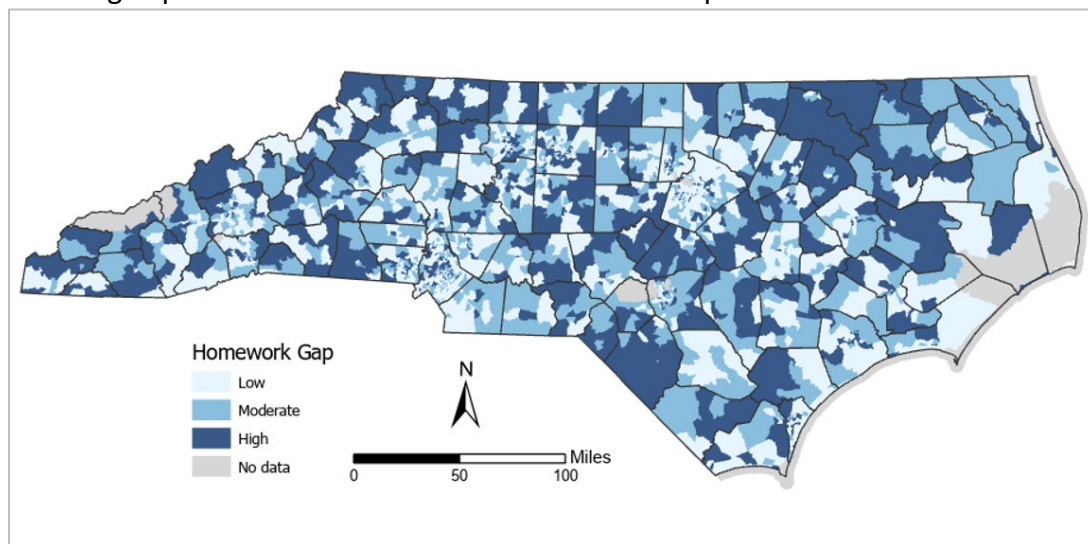
Households in Digital Distress

The map below shows the percentage of homes that rely on mobile devices only or have no devices and either have no internet access or cellular data only.



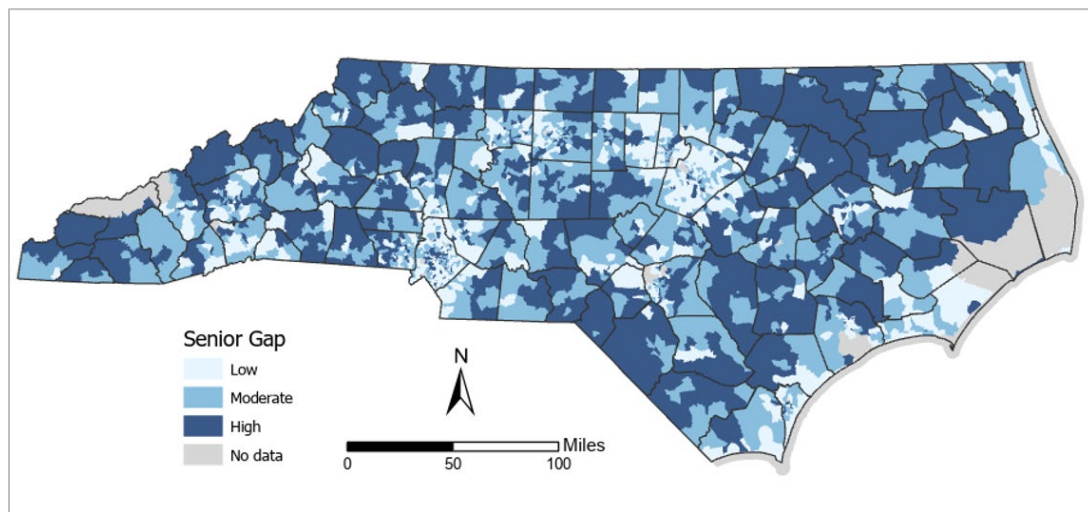
Homework Gap

The following map shows the percentage of homes with school-age children that do not have access to high-speed internet at home but do have a computer.



Senior Gap

This map shows the percentage of adults aged 65 or older in an area without a computer.



Together, these data and feedback from local leaders provide an evolving understanding of community needs to help the state strategically invest federal resources to expand broadband infrastructure and digital equity for all North Carolinians.

The division closely partners with local government leadership, including the N.C. Association of County Commissioners (NCACC), N.C. League of Municipalities, and their members to influence participation in local coordination events and feedback initiatives, as well as provide information directly to community members from a trusted source. NCACC President Tracy Johnson launched her presidential initiative, Connecting Counties: Expanding Broadband Access in NC, to bring together county commissioners, private sector partners, and state officials to explore the complexities and opportunities for expanding broadband. The division participates in these meetings to drive bidirectional communication and collect crucial county input. See [Appendix B](#) for more information on engaged local partners.

4. Funding and Programs

Using more than \$1 billion in American Rescue Plan Act funds, the division continues to expand upon the work of the state-funded GREAT grant program that launched in 2018 as it implements the following funding programs for infrastructure, awareness, and digital literacy. The division collects data and feedback on the efficacy of each program to expeditiously close the digital divide and will continue the most effective programs with awarded BEAD funding.

 INFRASTRUCTURE	\$971M	Ensure availability of internet service at speeds of at least 100/20 Mbps for more than 98% of North Carolina households
	\$380M	• GREAT Grant (\$350M American Rescue Plan Act; \$30M SCIF)
	\$400M	• Completing Access to Broadband (CAB)
	\$90M	• Stop-Gap Solutions
	\$100M	• Broadband Pole Replacement Fund
	\$1M	• Broadband Mapping
 AWARENESS AND DIGITAL LITERACY	\$50M	Improve awareness and enable North Carolinians to realize the benefits of high-speed internet through digital literacy and upskilling aimed at accessing the digital economy. • Increase enrollment in the Affordable Connectivity Program • Increase access to devices for households • Increase access to high quality digital literacy and skills training • Build local digital equity capacity

Current Division Programs and Initiatives

Initiative	Description	Intended Outcome(s)
Infrastructure programs	Grant programs are described below.	98% of residents with internet access
GREAT grants (federally funded)	Growing Rural Economies with Access to Technology (GREAT) infrastructure grant program funds infrastructure deployment providing connectivity speeds of at least 100/20 Mbps, scalable to 100:100 Mbps by Dec. 31, 2026	Connect 144,046 homes and businesses to fiber
GREAT grants (state funded)	GREAT grant -state-funded grants for infrastructure deployment to unserved areas in economically distressed counties	Legacy state grant program that connected 33,250 locations lacking 25/3 Mbps service with wireline or fixed wireless service
Completing Access to Broadband	Continuing Access to Broadband (CAB) funds county partnerships with internet service providers to fund infrastructure deployment and access. The division works with each county to develop a scope of work for this competitive bidding process with pre-qualified internet service providers.	Allows counties to plan and fund infrastructure grants to connect unserved and underserved homes and businesses

Initiative	Description	Intended Outcome(s)
Broadband Pole Replacement	Infrastructure grants for pole replacement provide reimbursements to internet service providers for eligible pole replacement costs in areas where deployment is delayed due to the high cost of pole replacement	Reduce the cost of pole replacement to facilitate the expansion of broadband infrastructure
Stop-Gap Solutions	Infrastructure grants to connect underserved households with children and/or elderly (65+) not likely to get fiber for 3-4 years; line-extensions	Line extension and other programs to connect households with vulnerable residents not likely to get fiber to the home service for several years
Digital Equity and Digital Champion Grants	The division awarded \$14 million in funding for the state's first Digital Equity Grant including \$4 million for an Anchor Institution Digital Navigator Initiative , and will award approximately \$14 million more through the Digital Champion Grant Program: https://www.ncbroadband.gov/funding-programs/digital-equity-grant	Grants support state agencies, local governments, education institutions and non-profits to develop and expand digital equity programs in their communities.
Digital Health Equity Project	Digital Health Equity: The division received an Appalachian Regional Commission POWER grant to create a program aimed at improving digital and health literacy, computer ownership, and broadband adoption among residents of the target region.	Estimate at least two-thirds of program participants will complete all aspects of the program to include digital and health literacy training, telehealth, and utilization of a hotspot and device.
Broadband mapping	NC OneMap, an open-source, interactive GIS mapping tool, provides visualized data collected by the state, as well as other resources related to broadband availability and adoption. https://www.nconemap.gov/pages/broadband	Identify unserved and underserved locations to more efficiently direct funding.

Initiative	Description	Intended Outcome(s)
Affordable Connectivity Program (ACP) Outreach	Provides assistance, guidance, and promotional materials for families and community leaders https://www.ncbroadband.gov/ACP	Increase public awareness of the program and increase the number of eligible households enrolled in the ACP to 1 million.
Technical assistance program	The technical assistance program provides North Carolina's communities with an on-the-ground resource for broadband expertise.	Community engagement and planning
Community Broadband Planning Playbook	The Community Broadband Planning Playbook provides the tools local governments need to help expand broadband access in their communities.	Empowering local leaders to identify current broadband availability.
Digital inclusion plan template and guide	The Digital Inclusion Plan Template and Guide helps communities create digital inclusion plans to reduce the digital divide and prioritize digital equity for their residents.	Identify assets relevant to broadband deployment. Assist communities by simplifying the process of creating a digital inclusion plan and expediting the implementation of digital inclusion activities.
Broadband survey and speed test	The N.C. Broadband Survey gathers information on locations in the state without adequate internet access and speeds.	Provides clear data to guide the investment of funds; informs research and policy recommendations; and supports strategic targeting of additional funding streams.
Digital equity survey	Data collection and planning to identify barriers to digital equity	Inform IJJA-Digital Equity Plan; identify digital equity needs;

Initiative	Description	Intended Outcome(s)
		provide clear data to guide the investment of funds; and inform research and policy recommendations
Public Wi-Fi mapping	A web-based map and searchable list of public Wi-Fi access locations around the state reported to the division.	The resource provides teachers, students, and others without internet access a map to public locations where free internet access is available.

Funds Currently Available for Broadband

Program/Purpose	Funding Source	Total Funding	Obligated	Available
GREAT grant – federally funded	ARPA SFRF	\$350,000,000	\$350,000,000	\$0
GREAT grant – state-funded	State Capital Infrastructure Fund	\$50,623,710 (Matched with \$39,000,000 in private funding)	\$14,850,000 (annually)	\$50,623,710
Completing Access to Broadband (CAB)	ARPA SFRF	\$212,939,144	\$0	\$212,939,144
CAB program	ARPA CPF	\$187,060,856	\$0	\$187,060,856
Broadband Pole Replacement	ARPA SFRF	\$100,000,000	\$0	\$100,000,000
Digital literacy Grants	ARPA SFRF	\$50,000,000	\$14,000,000	\$36,000,000
Mapping-comprehensive mapping fabric and cost-modeling	ARPA SFRF	\$1,000,000	\$157,000	\$843,000
Stop-Gap Solutions	ARPA CPF	\$86,522,303	\$0	\$86,522,303

Planning and administrative support	IIJA BEAD	\$5,000,000	\$46,749	\$4,953,251
Planning and administrative support	IIJA Digital Equity Plan	\$1,415,614	\$0 (awaiting authorization to spend)	\$1,415,614
Provides match to K-12 schools participating in the federal E-rate program	NC School Connectivity Fund	\$160M in the last 5 years	about \$95M annually (5-year average)	\$32,000,000 per year, much of which is leveraged with E-rate for about \$95M per year to provide secure internet to every public school in NC.

5. Successes to Date

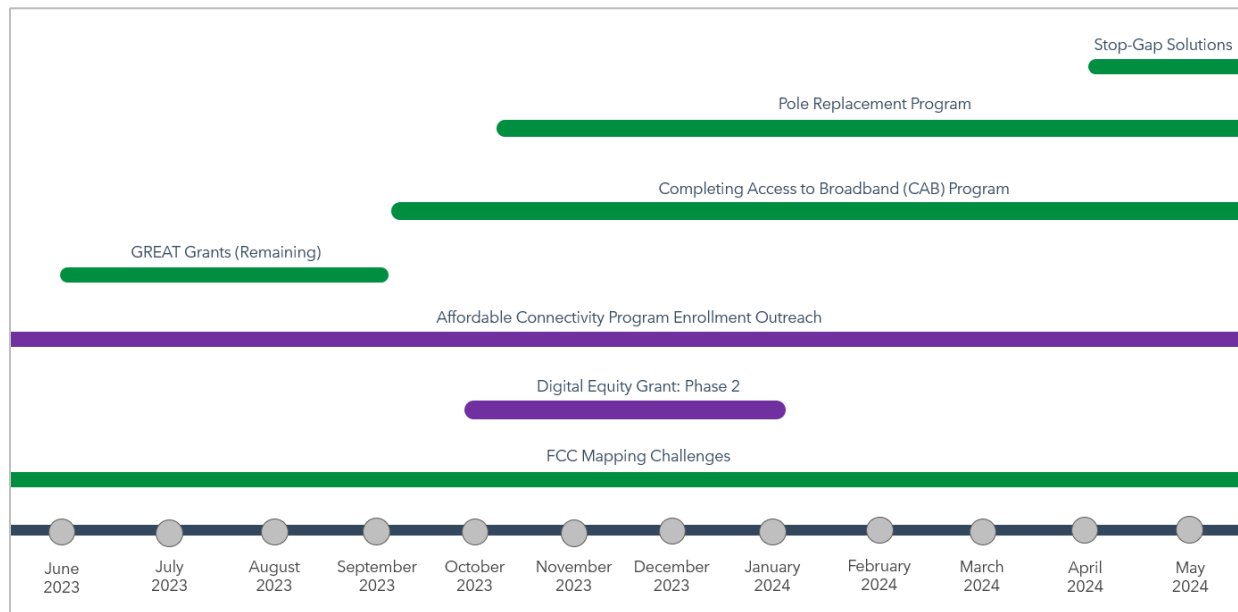
The division awarded more than \$480 million in grant awards to expand broadband access and digital equity across the state.

Sixteen internet service providers received a total of \$348 million in GREAT grants to connect 144,046 households and businesses in 92 of 100 N.C. counties. The division is in the process of executing these contracts funded by federal ARPA dollars, and work began in most counties. The state awarded close to \$56 million in state-funded GREAT grants from 2018 to 2022 to expand broadband infrastructure across North Carolina.

The Office of Digital Equity and Literacy launched the state's first digital equity grants in 2022 and awarded \$9.9 million in January 2023 to eight state government agencies and universities to help North Carolinians afford high-speed internet, obtain digital devices, and access digital literacy resources.

The office also awarded \$4 million for the state's first digital navigator initiative to be used to help connect North Carolinians to services that aid with home connectivity issues, digital device use, digital skills acquisition, and Affordable Connectivity Program enrollment.

Funding Program Launch Timeline



6. Planning and Engagement

The division and its predecessors have a long history of stakeholder engagement. For almost 10 years the state has employed technical assistance advisors to work with local communities on creating broadband planning task forces, identifying funding sources, crowdsourcing, and engaging internet service providers. Our mapping and data collection initiatives involved a survey and speed test. The GREAT grant, enacted in 2018, led to educational outreach initiatives in every region of the state. The division staffed the governor's broadband task force, which brought together state agencies and relevant stakeholder groups to develop recommendations to improve deployment and increase digital inclusion.

The division uses the BEAD and State Digital Equity planning grants to help fund local coordination efforts to ensure that the state's comprehensive plans to address high-speed internet access and digital equity are inclusive of all N.C. communities and populations' needs. The detailed local coordination plan that includes objectives, strategy, timeline, and tools is included in [Appendix E](#).

The division completed its initial community outreach for BEAD and Digital Equity as part of the development of this plan and to build a foundation for continued engagement during implementation. The results and findings of this initial outreach were presented to NTIA, stakeholders and the public at the Closing the Digital Divide: Internet for All in NC summit in Raleigh, N.C., on May 23, 2023. The overwhelming feedback from residents and local leaders is that this plan should address access, affordability and digital literacy. The state's strategies for

addressing those issues are included in this section and the forthcoming State Digital Equity Plan.

On May 18, 2023, the division held a tribal consultation with the Eastern Band of Cherokee Indians. Based on this engagement the state gained a better idea of how the tribe plans to provide improved access on tribal lands. The division committed to work with the tribe to find opportunities to use BEAD funding for deployment where needed. Additional discussions will follow to coordinate digital equity planning and strategies.

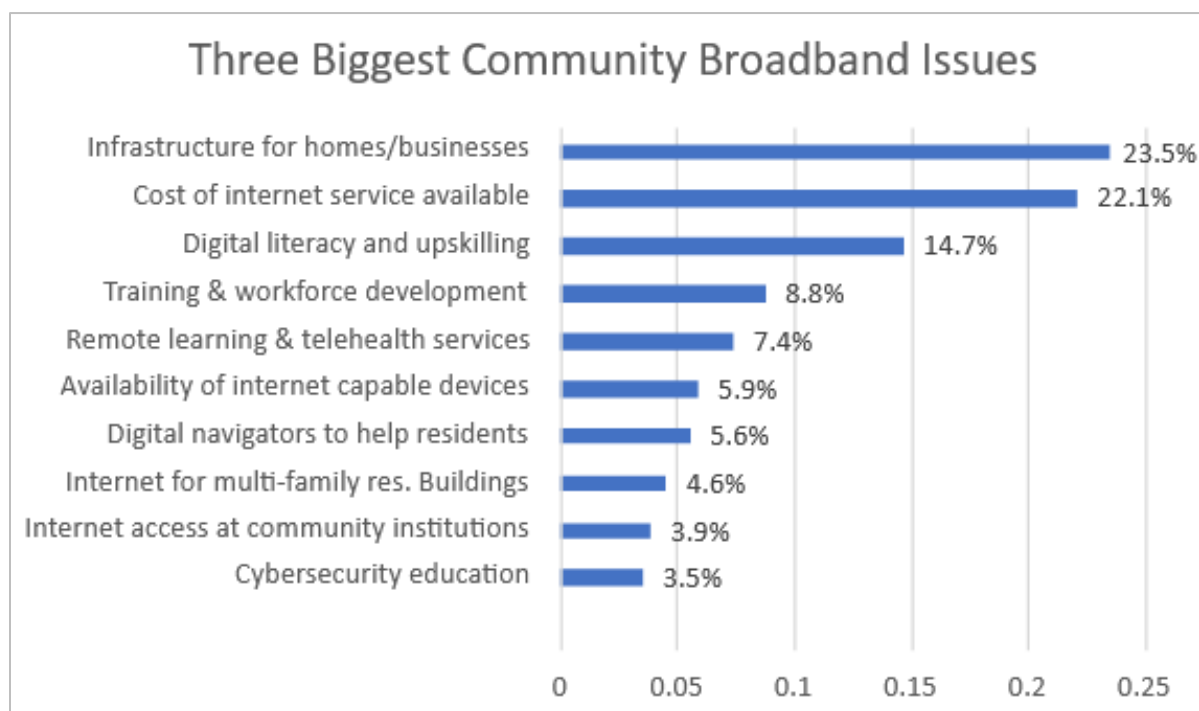
The division formed meaningful partnerships with key state agencies, nonprofits, and trade associations, in addition to internet service providers, to coordinate and augment the state's resources to close the digital divide. In April and May 2023, the division held interviews with six other state government agencies, including the N.C. Departments of Adult Corrections, Commerce (which includes workforce programs), Health & Human Services, Natural & Cultural Resources, Public Instruction, and Transportation to discuss how the BEAD and State Digital Equity plans should align with the strategic plans of those agencies.

Whether partners are electric membership cooperatives, computer refurbishment agencies, digital navigators, or libraries, each plays an equally important role in achieving universal service and digital equity. The division works with partner organizations and key stakeholders to best understand and therefore provide plans that provide access and digital equity for all communities. See [Appendix B](#) for a list of digital equity grant recipients and other important partners who participated in regional listening sessions or other convenings. The State Digital Equity Plan will include a comprehensive list of all organizations in the state working to create a digitally equitable state. The state will continue to engage and solicit feedback from a variety of broadband and digital equity stakeholders across the state that have a vested interest in expanding high-speed internet access and building digital equity within the communities they serve, represent, and live.

Obstacles

The state's work through the BEAD and Digital Equity engagement processes identified several obstacles and barriers to the deployment and adoption of broadband service. In addition to a statutory limitation of municipally operated service providers, the state faces mountainous terrain in the west, low-lying areas prone to flooding in the east, and a lengthy coastline of barrier islands experiencing a surge in population growth. The state recognizes that it may experience labor shortages and supply chain delays due to competing construction projects throughout the country.

The division's recent listening sessions asked attendees to identify the biggest broadband issues facing their communities. The three top responses in aggregate are access, affordability and digital literacy. These issues have consistently acted as obstacles to closing the digital divide in the state for many years.



*Source: Division of Broadband and Digital Equity community listening sessions.

Based on experience, the division identified the current and significant barriers below but recognizes that new obstacles and barriers may surface during the implementation of this plan.

- Affordability:** Addressing the cost of high-speed internet subscriptions is a core challenge for the state to implement internet for all. The division is concerned about the continuity of the Affordable Connectivity Program (ACP) and the risk that the program will run out of funding. Enrollment in the program enables the most vulnerable families in the state to afford internet access. An end to the ACP will leave tens of thousands of families without access to the internet. Governor Cooper wants to ensure the continuity of this program and feels a deep commitment to these families. The temporary funding nature of the ACP, coupled with the requirement for BEAD participants to participate in ACP, puts providers and enrolled residents in an uncertain position. The division encourages the federal government to provide consistent, uninterrupted funding for the ACP. North Carolina cannot achieve digital equity without addressing the high cost of a high-speed internet subscription.
- Legislative or regulatory barriers:** In 2011, the N.C. General Assembly enacted the Level Playing Field Act, which places limits on and establishes requirements for local governments seeking to provide broadband service. Since its enactment no local government has met the requirements of the statute to provide broadband service to its residents. Proponents argue it is the public policy of the state to prohibit the state or subdivisions of the state from directly or indirectly engaging in competition with the

private sector. The result is a limit on the number of options available for broadband service, particularly in areas where the private sector is not providing adequate, affordable service. Several municipalities were grandfathered and allowed to continue service with certain geographical restrictions. (NCGS 160A-340)

Additionally, this statute created a chilling effect for local governments interested in exploring alternative networks like open access networks. Municipalities that own conduit and dark fiber have been reluctant to lease their infrastructure to private internet service providers or create open access networks operated by a private entity for fear of violating the statute.

The state's existing broadband grant programs, by definition, allow private providers of broadband service to participate and receive funding. By definition "public" or government-operated broadband service providers are excluded from participation in the grant programs. This provision limits the options available to residents, particularly in areas where incumbent internet service providers may not want to provide service. It also unnecessarily restricts existing public service providers from leveraging grants to expand within their jurisdictions.

Current state law limits BEAD funding to be distributed to subgrantees through three existing infrastructure grant programs: 50% through GREAT, 40% through CAB, and 10% through the Stop-Gap Solutions Program. Based on the infrastructure deployment implementation plan, cost modeling and community and stakeholder feedback, the state may benefit from legislative action to ensure the grant programs meet specific community needs and authorize funding for non-deployment initiatives focused on affordability, digital equity, and adoption. Stakeholders, including internet service providers, suggest that the division should have the authority to reallocate funds between these programs as needed to accomplish the goals of the state. Specifically, several stakeholders suggest that non-deployment activities, such as digital equity and literacy programs, should be prioritized for available funding. Doing so may require a change to existing session law.

Additionally, state statute requires that counties participating in the CAB program provide a match using ARPA SLFRF funds, which are dwindling rapidly. This requirement, designed in the context of ARPA, is inconsistent with BEAD requirements, which encourages a match from the subgrantee. A match requirement could deter participation in the BEAD-funded CAB program in economically distressed or low-income counties. In those cases, the governing statute will need to be adapted to cover part or all the local match through other funds or by a match waiver process consistent with the BEAD notice of funding opportunity requirements. Other options shared by stakeholders include reducing the amount of matching funds required and including the value of in-kind resources provided toward the required match.

Finally, if the NTIA adopts a different approach than U.S. Department of the Treasury in implementing 2CFR200 (Uniform Guidance), North Carolina will face significant challenges in attracting internet service providers to participate, managing local government risk, and navigating audit requirements.

- **Topography and Climate:** North Carolina benefits from a diverse topography that includes some of the tallest mountains east of the Mississippi River and a long, pristine coastline. However, these attributes create challenges for deploying broadband infrastructure. In the mountains deployment may be hampered by the granite substrate, steep inclines, and thick foliage. The state's coast includes several distinct barrier islands, consisting of shifting sand, separated by significant stretches of water, and few geographic protections from strong storms and hurricanes. Over the past 20 years flooding presented a significant issue, rendering underground communications equipment ineffective. The state will incorporate in its Initial and Final Proposals the BEAD notice of funding opportunity requirements detailed in Section IV.C.1.h and will work with the N.C. Office of Recovery and Resiliency in the N.C. Department of Public Safety to account and plan for climate related risks to new infrastructure projects.
- **Digital Literacy and Devices:** As many as 1.2 million adults in North Carolina may not have the digital skills or tools to participate in the digital economy. An estimated 430,000 households do not have a laptop or desktop, and 180,000 do not have a smartphone.
- **Mapping Accuracy:** North Carolina has a unique opportunity to utilize locally sourced, authoritative address data to improve the Broadband Serviceable Location (BSL) fabric used for BEAD deployments. These data include address data collected through the state's NextGen 911 project, parcel data, and building footprints from the state's ongoing orthoimage work. While this transition of granularity from census block data to address location-level data is a significant leap forward in mapping precision, challenges to mapped broadband service availability remain. The local-level data is reported by internet service providers, and overstatement of service (or omissions due to inaccurate data or non-participation) still occurs. These inaccuracies must be challenged by state broadband offices and other stakeholders with finite resources and various methods still under development, within very short timelines tied to a six-month data collection cycle.

It is also a challenge that the location data (or "BSL fabric") is proprietary in nature, due to it being sourced from a commercial vendor contracted by the FCC. This data requires licensing and is limited to purposes tied to specific national-level programs. This means that coordination with parties that do not have licensed access to the location data can only be done in a generalized, aggregated fashion. Data aggregation removes the ability to make determinations that are important to broadband development work and detracts from the intended goals of moving to an address-level data collection.

It is also difficult for residents without internet access to submit challenges on the FCC map that requires online submission. The division modified its broadband survey to collect the information required for a challenge so it can submit them on behalf of residents. The division's broadband survey offers a telephone option for those without internet access.

The draft BEAD Challenge Process Guidance indicates that eligible entities are required to identify each unserved and underserved location within the eligible entity's geographic reach as part of Volume I of the initial proposal. The division strongly urges the NTIA to ensure that states receive additional time before "locking down" the fabric locations to incorporate updates leading up to the actual initiation of the state's challenge process, as per the notice of funding opportunity, to ensure the ability to leverage data sets unique to North Carolina and accurately identify all broadband serviceable locations in the state that may be eligible for funding. Otherwise, this issue may increase the amount of funding needed and may require the state to negotiate with subgrantees post-grant agreement execution to serve these locations, adding to increased construction costs and delays. Fortunately, the division recently received an update from NTIA stating that requirements are being revised so that new broadband serviceable locations can be added as they are discovered over time, due to instances like new construction, continuing map corrections, and locations observed during broadband build-out. The division will continue to monitor the situation and advocate for implementation of updates over time to reflect the most accurate possible data.

- **Multi-family dwellings:** Extending service to multi-family dwellings is an eligible expense of BEAD funding, but the FCC mapping indicates a location is served if a provider offers service to any one of potentially multiple buildings at that address and doesn't reflect whether infrastructure in the building(s) will be sufficient to deliver high-speed service to residents. There are cases where infrastructure may be installed to the building closest to the street and/or to the main office but not to all housing units of a property. The residential units may be left with inferior options or no options for individual connection due to old/nonexistent cabling throughout the structure or may be subject to an inadequate wireless service from the property owner's central connection to all units. It is problematic that the FCC map represents these situations with a single location point, indicating the maximum available service reported for the property as a whole. Also, there are errors in the FCC map regarding unit counts at these locations, corrections to which will help better reflect the number of households impacted by broadband access to these locations. The state will pursue strategies to address the access barriers for residents living in multi-family dwellings, including public housing communities.
- **Labor shortages:** The state will benefit from the help of consultants and labor experts to determine the extent of potential labor shortages. These experts will use focus groups of employers and labor unions, as well as data analysis to determine the labor needed to complete the infrastructure deployment anticipated. Based on this analysis, the state

will include a workforce development plan in the initial proposal. The plan will contemplate immediate and long-term opportunities for sustained employment among diverse populations. The plan will also require subgrantees to adhere to federal and state labor provisions to ensure job quality and a diverse workforce.

- **Supply chain issues:** Recent industry trade group reporting indicates that supply chain delays experienced during the pandemic are easing. For example, a Fiber Broadband Association survey of its members shows a 92% decrease in minimum lead times for fiber optic cables (from 52-60 weeks in summer 2022 to 4-10 weeks as of March 2023).

The division works closely with most internet service providers in the state and maintains a close working relationship with those receiving GREAT grants. Through these relationships, the division tracks any issues or disruptions to the supply chain that may delay deployment. Most providers anticipate a significant increase in requests for equipment, fiber and conduit and plan accordingly. The product mix needed for harder to reach locations may look different as the division allocates funding for projects to more rural parts of the state. Several providers expressed concern about the Build America, Buy America clause and its implications on the availability and costs of supplies needed for deployment. The division will continue to work closely with providers to ensure they take steps to secure materials needed.

- **Lack of industry participation (in grant programs):** Smaller providers express concerns about their ability to compete with larger providers to provide a lower cost per location, one criterion on which GREAT grant applications are scored according to state statute. Their financial ability to front deployment costs and await reimbursements from grant programs may also discourage participation. Wireless providers express concerns about federal funding preferences for fiber and their ability to participate in BEAD funding opportunities.
- **Rural Population Decline:** Based on the most recent U.S. Census data, North Carolina experienced population decline in 51 of its 100 counties. These losses were primarily in rural counties that are the least economically connected and not adjacent to large economic hubs. A declining population presents a disincentive for internet service providers to expand their service or upgrade their existing infrastructure. Even with grants that reduce the cost of deployment, the cost of operating and maintaining the infrastructure and service limits an internet service provider's potential return on investment.
- **Railroad Crossings:** Infrastructure deployment across railroad crossings continues to be a barrier to broadband expansion throughout the state. Internet service providers throughout the state shared that the permitting process, permit fees, and other expenses required by the railroads increase the cost of deployment so significantly that it makes deployment unaffordable. Internet service providers also shared that lack of consistent processes and timelines for railroads to respond to provider requests for

support associated with crossing lines, such as flaggers and other safety requirements, often place construction plans on hold for indefinite periods, compromising the ability to meet the committed grant deployment schedules. The division plans to address this issue with the N.C. Railroad, but most of the issues involve national freight rail companies. The state will look to the federal government to help address this problem.

- **Existing funding programs:** The IIJA excluded existing federal funding programs, like RDOF that commit to connecting areas not served by a minimum of 25/3 Mbps, from BEAD funding. Many stakeholders expressed concerns about the risk of federal program recipients failing to meet their obligations, especially considering a few accepted awards at a cost per location that will require significant recipient contribution. For example, in North Carolina, several RDOF recipients committed to serving locations with fiber to the home at a federal funding contribution of merely several hundred dollars per location. One recipient committed to serving one-third of the state's unserved homes and businesses. Their success in fulfilling their obligation remains critical to the state's objective of reaching universal service. Federal policy makers are encouraged to consider policies that mitigate risks to achieving universal service such as granting flexibility to use BEAD funding to connect locations that existing federal funding programs intended to or inadvertently included in their project area that will not or could not be connected.

7. Implementation Plan

North Carolina will dedicate approximately \$2 billion in state and federal funding to achieve universal access. By leveraging IIJA BEAD, ARPA Capital Projects Fund, and ARPA SLFRF in coordination with existing federal and state funding commitments, all North Carolinians will have access to affordable, reliable high-speed internet service by 2029.

The state began its effort to connect all residents two decades ago. In 2018, the state established a broadband grant program to lower the cost of the deployment of broadband infrastructure to incentivize internet service providers to provide service in rural and remote areas lacking service. Implementing a comprehensive plan, published in 2016 and later updated in 2021, the state laid a foundation for the successful implementation of BEAD and Digital Equity funding.

This implementation plan builds on the Governor's current plan and relies on policies, activities, and relationships developed over many years. With significant planning resources now available from NTIA, the division broadened its activities to include in-person community engagement meetings, a digital equity survey, supporting digital literacy and inclusion plans for every county, a broadband workforce development plan, an approach to climate resilience, and more accurate identification of unserved and underserved locations.

The state will use existing infrastructure grant programs to distribute BEAD funding to subgrantees. Using the FCC's map V2, the state [identified](#) approximately 374,412 unserved and

127,956 underserved homes and businesses (from a total of 4,249,391 serviceable locations). The path to universal service by 2029 will sequence the distribution of ARPA and BEAD funds through four existing infrastructure grant programs and coordinated with other federal funding programs (e.g., RDOF) to avoid duplication and extend the reach of the BEAD program funding.

Each phase will be informed by more accurate mapping, local assistance with addressing identified barriers, asset inventories, interagency coordination, and workforce planning. The division will integrate community feedback and ongoing engagement to address local needs. The digital inclusion and literacy programs and funding to ensure equitable inclusion will be implemented in parallel with and immediately following these infrastructure builds.

- **First, from 2023 to 2025** the division will award \$350 million from the ARPA State and Local Fiscal Recovery Fund as well as approximately \$60 million in state funds through the GREAT grant program to connect an estimated 210,000 locations. These funds will be awarded and contracted by the end of calendar year 2023 and GREAT-funded projects have a two-year construction period. During this time RDOF recipients will continue to work to connect an estimated 128,000 locations. The GREAT grant and other infrastructure programs have processes designed to eliminate the possibilities of state awards in locations already funded through RDOF and other federal programs. This information is mapped on the division's applicant planning tool map and excluded from eligibility for future grant funding.
- **Second, from 2023–2026** the division will invest approximately \$490 million from the ARPA Capital Projects Fund and SLFRF through the Completing Access to Broadband and Stop-Gap Solutions programs. North Carolina dedicated the entirety of its Capital Projects Fund allocation to broadband infrastructure programs. The division will also launch its \$100 million Broadband Pole Replacement program. The state plans to connect as many as 200,000 unserved locations. Line extension and other strategies will connect unserved or underserved locations that may fall out of an area receiving funding. This funding may also be used to connect homes with aging adults or students that may not receive a fiber to the home service for 3-4 years.
- **Finally, from 2024-2029**, the division will use BEAD funding to connect the high-cost areas, remaining unserved and underserved locations, community anchor institutions without broadband access of at least one gigabit per second symmetrical bandwidth, and with any remaining funds, affordability and digital equity programs. The division will create an inventory of community anchor institutions and their broadband connectivity status to inform BEAD implementation, independent of the FCC mapping.

Priorities for Federal Support: The state will focus federal funding on infrastructure deployment, adoption, and digital inclusion initiatives. Consistent with the state's vision and goals, the principles supporting this five-year plan include prioritizing funding to unserved areas of economically distressed counties and to community-based (and led) digital equity programs. The table below summarizes these priorities.

Name of Priority	Brief description of the priority
Infrastructure deployment	Increase high-speed internet access to 100 percent of homes and businesses through infrastructure grant programs that reduce the cost of deployment
Adoption	Increase adoption rates among covered populations Increase opportunities for community-based organizations and other stakeholders to support broadband adoption and digital inclusion
Affordability	Through grant contract conditions, efforts to enroll 1 million eligible households in the ACP, and partnerships with internet service providers, the division will incentivize deployment of more affordable service offerings
Community engagement	Identify unserved and underserved areas and inform the selection of areas for investment
Facilitate access to infrastructure	Poles, right of ways, existing conduit, and towers
Public-private partnerships	Grant programs create partnerships with private internet service providers, non-profits, and other entities to further digital inclusion programs
Minority/women owned business enhancement	State grant contracts require grantees to prioritize hiring historically disadvantaged small businesses
Enable participation of non-traditional service providers	Broad range of participants in competitive processes, including telephone and electric membership cooperatives, small businesses, as well as opportunities for counties and municipalities to build public-private partnerships to serve remaining gaps

Additional Planned Activities: The programs, activities, assets and resources detailed elsewhere will support the implementation of this plan and the State Digital Equity Plan to achieve the stated vision and goals. In addition, the division will conduct the following activities with IIJA funding as required by the BEAD notice of funding opportunity for the five-year plan and the initial proposal.

Engagement/Planning Activity	Total Funding	Funding Source	Intended Outcome(s)
Planning and community engagement (BEAD/State Digital Equity planning)	\$1,400,000	IIJA Digital Equity	Community engagement initiatives to develop the BEAD Five-Year Plan, Initial and Final Proposal, and State Digital Equity Plan

Engagement/Planning Activity	Total Funding	Funding Source	Intended Outcome(s)
Broadband workforce development Plan	\$5,000,000	IIJA BEAD	Study, plan and implement program that supports critical broadband workforce needs with a focus on equity and access
Climate resilience plan			Partner with the N.C. Office of Recovery and Resiliency to assess and plan for current and future weather- and climate-related risks to broadband projects

Key Strategies

The strategies for implementation of the BEAD planning and funding align with the state's ongoing goals, strategy and activities to achieve universal access and digital equity. The state's comprehensive approach employs five key strategies: community engagement, partnerships, data driven decision making, policy development, and grant funding.

- **Community engagement:** The state has a legacy of community engagement and technical assistance to include local governments and their communities in the process of identifying, crafting and implementing the deployment of broadband infrastructure. In recent years, this engagement included efforts to promote, plan, and implement digital inclusion initiatives.

For more than 10 years, the division has employed a Technical Assistance team. Using the recommendations, instructions and tactics detailed in the division's Community Broadband Planning Playbook, team members work directly with counties, municipalities and community advocates to form broadband committees to lead the development of an operating plan to be implemented by the entity. In the past these activities included identifying unserved areas, surveys, mapping, identification of assets and funding opportunities. With the availability of significant federal funding these activities also include prioritizing funding and partnerships with internet service providers.

The state's CAB infrastructure program empowers counties to form these partnerships and direct funding. Technical assistance from the state will support a request for proposals process used by the counties to form a partnership with the private sector to deploy infrastructure and provide service.

The state also engages with communities and residents through its [broadband access survey and speed test](#). This sophisticated tool, which can be completed online, via text, via phone or in writing, and is available in Spanish, provides crowdsourced information about the speed, technology type, and cost of service at specific locations. To date the state received almost 100,000 speed tests. The division recently released a companion [digital equity survey](#) to gather information on the accessibility and affordability of digital devices and the internet, as well as digital skills needed to safely access online resources in communities across the state. The results from this survey will provide information to help identify specific barriers and tailor solutions to close the digital divide.

The BEAD stakeholder and community engagement effort, described in detail above, will use feedback to develop legislative recommendations to ensure the grant programs and funding delivery models to subgrantees are flexible to meet community needs and authorize funding for non-deployment initiatives such as affordability, digital equity, and adoption. Additional funding could address current challenges raised at BEAD and Digital Equity listening sessions, such as the urgency for the adoption of telemedicine and school device access and connectivity.

- **Partnerships:** Partnerships serve as the bedrock for state-wide and local broadband and digital inclusion initiatives. Partnerships with philanthropic organizations, state agencies, nonprofit organizations, libraries, schools, agricultural groups, and health care initiatives support infrastructure deployment, increase adoption, and implement digital inclusion programs. Many of these partnerships are summarized in [Appendix B](#). These relationships served as the basis for creative problem solving prior to the establishment of a state grant program and significant federal funding opportunities.

These established partnerships will better allow the state to implement the distribution of BEAD and Digital Equity funding. For example, the division worked closely with the NC State University Institute for Emerging Issues (IEI) to create **Building a New Digital Economy (BAND-NC)**. Money raised from the private sector, and now through a digital equity grant funded by ARPA, provides grants to local governments to develop and implement a digital inclusion plan. The division and IEI developed a training curriculum for community leaders and conduct working group sessions throughout the state, with a goal to have all 100 N.C. counties develop and implement a local digital inclusion plan. This existing partnership will facilitate and expedite the state's goal to increase digital inclusion and adoption.

- **Data-driven decisions:** The state's five-year plan continues to pursue the state's vigorous approach to accurately identifying locations without access to affordable, high-speed internet service. These efforts include the survey and speed test, creation of Availability and Adoption Indices (like the NTIA's Indicators of Broadband Need map), and data gathered during the state's infrastructure grant program to add granularity to the FCC's Form 477 data. These data sources continue to provide valuable information, such as the technology type used in a census block as reported by internet service

providers. Several years ago, the state pursued an initiative to build a parcel identification and building footprint database as part of North Carolina's NextGen 911 initiative to aid 911 centers and improve emergency response. This effort helped the division develop a location specific map prior to the enactment of the Broadband MAPS Act.

The development of the serviceable location fabric and internet service provider reporting requirements improved the state's ability to identify unserved and underserved locations. The division provides important state-specific information as part of the challenge process, which should further improve the identification and mapping of these locations. The division, in partnership with the [N.C. Center for Geographic Information and Analysis](#) (CGIA), will build on the resources and maps in [NC OneMap](#) to provide information to the public and internet service providers to direct BEAD funding to unserved and underserved locations.

- **Funding/grant programs:** As mentioned in Section 3.1, the division has managed a broadband infrastructure grant program since 2018. In response to the pandemic, which highlighted the inequities caused by the digital divide, the state developed additional infrastructure grant programs to expedite deployment to unserved and underserved parts of the state. These programs prioritize funding through a competitive scoring process that considers geography, community involvement, and per location cost.

Pursuant to state statute, the division will use three existing grant programs to distribute BEAD funding to subgrantees. BEAD funds will be distributed as follows: 50 percent through GREAT grant, 40 percent through CAB, and 10 percent through the Stop-Gap Solutions program. Grantees are required to participate in the ACP, meet identified speed thresholds for service, and comply with labor and environmental laws and regulations. These programs fund locations lacking a minimum available service of 100/20 Mbps.

Additionally, several internet service providers received funding through RDOF and USDA's Community ReConnect program. These projects are mapped, and the areas or locations are excluded from eligibility for the state's grant programs.

- **Policy development:** Policies and practices to create efficiencies for infrastructure deployment like a state-wide "dig once" policy, tower leasing and permitting will be leveraged. For example, pursuant to Governor Cooper's Executive Order No. 91, the N.C. Department of Transportation developed a state-wide "dig once" policy in coordination with the division. This policy ensures internet service providers are aware of transportation projects that will create an opportunity for infrastructure installment and permits cost sharing arrangements between internet service providers. Additionally, the statute authorizing the GREAT grant program uses a scoring rubric to incentivize public-private partnerships, telephone and electric membership cooperatives participation, community planning, and fiber to the home. The division will continue to collaborate

with the N.C. Department of Transportation to identify opportunities to streamline permitting processes and expedite reviews to support deployment. These policies will promote the objectives of the BEAD program to facilitate universal access.

The division will implement a Broadband Workforce Plan ([Appendix F](#)) that will use the services of a consultant to identify and analyze key occupations, conduct and analyze results from convenings with key employers and labor union representatives to further hone skills, competencies, and credentials for key occupations, and conduct three to four structured interviews with key education and training leaders to create high-level understanding of current workforce development capacity for broadband jobs. Using this information, the division will establish a vision and goals to meet broadband workforce needs, may develop and implement an employer survey to finalize skills, competencies and credentials for key occupations that will help workforce training providers, create an operational plan that supports critical N.C. broadband workforce needs with a focus on equity and access, and create a monitoring and evaluation plan. The state will incorporate in its initial and final proposals the BEAD notice of funding opportunity requirements detailed in Section IV.C.1.h “Climate Resilience” and will work with the N.C. Office of Recovery and Resiliency in the N.C. Department of Public Safety to account and plan for climate related risks to new infrastructure projects.

Estimated Timeline for Universal Service

The state plans to achieve universal service by the end of 2029. Pursuant to current GREAT grant subgrantee grant agreements, all construction must be completed within 24 months of the execution of the agreement. These current projects will enable the state to complete the build out to approximately 112,281 locations by the end of 2025. The CAB and Stop-Gap Solutions programs (funded by ARPA SLFRF and CFP) anticipate connecting an additional 115,000 locations by the end of 2026. The state anticipates distribution of BEAD funding to begin in 2024 and continue through 2026. Taking into consideration potential delays for various reasons the state plans to complete construction to all eligible locations by the end of 2029. RDOF and USDA funded projects should be completed by 2029.

Estimated Cost for Universal Service:

The estimated total cost to achieve universal service is \$2.411 billion. This number derived from the average cost per location, including private sector match, from the GREAT grant program administered (\$4,800) multiplied by the estimated number of unserved and underserved locations (approximately 502,368).

The division continues to refine this estimate based on improved data collection and current deployment costs. The estimate will be lowered once all funded area data sources are finalized to remove funded locations from the calculations. The estimate may also change after the division establishes an extremely high-cost threshold. The state anticipates the cost to connect

locations in these areas will be significantly higher than the current GREAT grant average per location cost.

Current Connectivity Activities: The state will use existing infrastructure grant programs to provide the foundation on which the BEAD funding will achieve universal service. Using the FCC's map V.2, the state [identified](#) approximately 374,412 unserved and 127,956 underserved homes and businesses (a total of 4,249,391 serviceable locations). Leveraging the ARPA State and Local Fiscal Recovery Fund, the state will connect an estimated 112,281 locations by 2025. Through the CAB and Stop-Gap Solutions programs, using ARPA Capital Projects Fund (CPF) funds, the state plans to connect an additional 200,000 unserved locations.

The GREAT grant (using ARPA SLFRF), a competitive funding program, requires grantees to provide service at a minimum of 100/100 Mbps symmetrical unless impracticable. If impracticable, a minimum service requirement is 100/20 Mbps, using infrastructure scalable to 100/100 Mbps symmetrical. Grantees are also required to accept ACP and comply with labor and environmental laws and regulations. This program focuses on funding unserved locations (those without a minimum available service of 100/20 Mbps). The 2021-2022 funding round closed May 4, 2022, and the division awarded \$272 million to connect 113,614 unserved locations resulting in a total project cost of over \$419 million. The average cost per location is \$4,800 and the average project match is 35 percent. An online mapping tool was used by applicants to identify locations and areas eligible for funding and designated areas and locations currently receiving state or federal broadband funding as ineligible. Funded locations are publicly available at [NCOne Map](#).

The CAB program (using ARPA CPF) will allow counties to partner with the state on a grant program focused on connecting unserved locations (less than 100/20 Mbps) that did not receive funding through the GREAT grant program. Grantees are required to provide service at a minimum of 100/100 Mbps symmetrical unless impracticable. If impracticable, a minimum service requirement is 100/20 Mbps, using infrastructure scalable to 100/100 Mbps symmetrical. Grantees are also required to accept ACP and comply with labor and environmental laws and regulations.

Finally, the state will use the Stop-Gap Solutions program (using ARPA CPF) to address deployment to high-cost areas. The program, using ARPA CPF, will demonstrate how the state will fund high-cost areas and will serve as a model for how the state will identify and fund high-cost areas using BEAD funding. Stop-Gap will also fund a line-extension program and a program to connect homes with aging adults or students that may not receive fiber to the home service for 3-4 years.

BEAD Funding Alignment: Pursuant to state statute, BEAD funds will be distributed through these three existing state infrastructure grant programs (50 percent through GREAT, 40 percent through CAB and 10 percent through Stop-Gap). The state will use BEAD funding to fund remaining unserved and underserved locations, high-cost locations and community anchor

institutions. Additionally, the division may use any remaining available BEAD funding to support affordability and digital inclusion initiatives.

These established programs will facilitate the equitable distribution of funding using a competitive application or request for proposals process. Grant contracts will require a two-year construction period, acceptance of the ACP, and compliance with federal and state labor and environmental laws. Additional provisions will be added to BEAD-funded projects to ensure subgrantee compliance with the IJA and BEAD notice of funding opportunity. For example, subgrantees for each of the grant programs will be required to demonstrate capacity for compliance with all applicable federal, state, and local laws, financial and managerial capacity to meet all commitments, and technical and operational capability to provide the services agreed to in the grant award.

Existing federally funded projects: The state tracks the progress of projects funded through RDOF and USDA's Community ReConnect program. These projects are mapped, and the areas or locations are excluded from eligibility for the state's grant programs and BEAD funding. The current RDOF awards estimate that 128,000 locations will be connected by 2029. Funding from the USDA ReConnect grants and loans should connect 23,153 locations. The successful completion of these projects is essential to the state's plan for universal service.

Timing: Current ARPA SLFRF-funded GREAT grant contracts require grantees to complete the construction and installation of infrastructure within two years. These 113,614 locations should be connected by mid-2025. The ARPA CPF CAB grant program will begin making awards in 2024 and will connect the remaining approximately 115,000 unserved locations by the end of 2026. The state anticipates the distribution of BEAD funding to begin no later than 2024 and continue through 2026. Taking into consideration delays for various reasons the state plans to complete construction to all the estimated 502,368 unserved and underserved locations and community anchor institutions by 2029.

Alignment with other state-wide priorities: In addition to aligning existing broadband grant programs and federal funding opportunities, the division coordinates with the N.C. Department of Commerce (Commerce) to further the state's strategic BEAD economic development planning and workforce development. The department prioritized broadband in the state's strategic economic development plan - [First in Talent: Strategic Economic Development Plan for the State of North Carolina | NC Commerce](#).

The division will collaborate with Commerce to develop the broadband workforce plan that will be part of the initial proposal. The N.C. Works Commission's [biannual plan](#) includes digital literacy as a primary objective: "Goal 1: Prepare workers to succeed in the North Carolina economy by increasing skills and education attainment." In 2021, the commission partnered with the division to secure a [National Governors Association \(NGA\) Workforce Innovation Network](#) grant to develop a digital navigator grant program, empower community-based organizations to provide digital skills training and digital navigation services, and use existing

state assets as “working laboratories” to train and connect workers with high-paying digital careers.

The division also works with the N.C. Department of Health and Human Services Office of Rural Health (ORH) on several initiatives to expand internet access in rural areas including a rural telehealth pilot program and an agricultural farm workers' access program. This partnership will also leverage ORH's relationships in rural communities and with rural healthcare providers to promote the ACP and other programs.

Additional state priorities to align federal, state and local adoption and digital equity activities will be detailed in the forthcoming State Digital Equity Plan.

Technical Assistance: The division appreciates NTIA's continued support and guidance during the development of its five-year plan, initial proposal and State Digital Equity Plan. The BEAD leadership team and federal program officer provide a reliable source for assistance, and the division looks forward to continued cooperation in the future.

Funds provided by NTIA for planning allow the division to hire technical assistance and consultants to provide support during the planning and implementation of the BEAD and State Digital Equity Plan programs. The division will continue to evaluate technical assistance needs as planning continues and implementation begins. The division will update the plan and consult with NTIA if the need arises for additional technical assistance.

APPENDICES

Appendix A: Crosswalk between NTIA template and the State of North Carolina BEAD five-year plan.

1. Provide details of the existing broadband program or office within the Eligible Entity, including any activities that the program or office currently conducts, any previous entity-wide plans or goals for availability of broadband, and any prior experience awarding broadband deployment grants.

See Section 2, pages 4-5; Section 3 pages 6-9; Section 4 pages 9-14; Section 5, page 14-15.

2. Identify the funding that the Eligible Entity currently has available for broadband deployment and other broadband-related activities, including data collection and local planning, and the sources of that funding, including whether the funds are from the Eligible Entity or from the federal government.

See Section 4, pages 9-14.

3. Identify existing efforts funded by the federal government, including the Universal Service Fund, or an Eligible Entity to deploy broadband and close the digital divide.

See Appendix D, pages 42-44.

4. Identify the current full-time and part-time employees of the Eligible Entity who will assist in implementing and administering the BEAD Program and the duties assigned to those employees, as well as any existing contracted support, and any planned expansion of employees or contractors.

See Appendix C, pages 39-41.

5. Identify known or potential obstacles or barriers to the successful implementation of the BEAD Program and the Eligible Entity's corresponding plans to address them.

See Section 6, pages 15-22.

6. Include an asset inventory that catalogues broadband adoption, affordability, equity, access, and deployment activities occurring within the Eligible Entity and identifies and provides details regarding any relevant partners, such as community-based organizations and CAIs that may inform broadband deployment and adoption planning.

See Appendix B, pages 35-38.

7. Include a description of the Eligible Entity’s external engagement process, demonstrating collaboration with local, regional, and Tribal (as applicable) Entities (governmental and non-governmental) and reflective of the local coordination requirements outlined herein, including outreach to underrepresented communities and unions and worker organizations. The engagement required must be undertaken both during the development of the Five-Year Action Plan itself and following submission of the plan, reflecting ongoing collaboration throughout the BEAD Program.

See Section 6, pages 15-22; Appendix E, pages 45-50.

8. Incorporate available federal, Eligible Entity, or local broadband availability and adoption data, including but not limited to Affordable Connectivity Program enrollment data. Other federal broadband federal data sources include the NTIA Internet Use Survey⁴, the NTIA Indicators of Broadband Need Map⁵, and the American Community Survey.

See Section 3, pages 6-9.

9. Identify local and regional broadband service needs and gaps within the Eligible Entity’s boundaries, including unserved or underserved locations and CAIs without gigabit service, and/or any plans to make these determinations where service availability is unclear.

See Section 3, pages 6-9.

10. Provide a comprehensive, high-level plan for providing reliable, affordable, high-speed internet service throughout the Eligible Entity, including:
 - a. The estimated timeline and cost for universal service,
 - b. The planned utilization of federal, Eligible Entity, and local funding sources,
 - c. Prioritization of areas for federal support,
 - d. Any consideration afforded to the use of public-private partnerships or cooperatives in addressing the needs of the Eligible Entity’s residents,
 - e. Strategies to address affordability issues, including but not limited to strategies to increase enrollment in the Affordable Connectivity Program by eligible households; and
Strategies to ensure an available and highly skilled workforce (including by subgrantees, contractors, and subcontractors) to minimize project disruptions, including any plans to ensure strong labor standards and protections, such as those listed in Section IV.C.1.e; and plans to attract, retain, or transition the skilled workforce needed to achieve the plan’s goals, including describing the involvement and partnerships of sub-grantees, contractors, and sub-contractors with existing in-house skills training programs, unions and worker organizations; community colleges and public school districts; supportive services providers; Registered Apprenticeship programs and other labor-management training programs, or other quality workforce training providers.

See Section 7, pages 22-31.

- 11.** Identify digital equity and inclusion needs, goals, and implementation strategies, including ways in which the Eligible Entity plans to utilize BEAD funding, Digital Equity Act funding and/or other funding streams in concert to remedy inequities and barriers to inclusion. Accordingly, the Five-Year Action Plan should set forth a vision for digital equity, include the results of a needs assessment for underrepresented communities and an asset inventory of ongoing digital equity activities, and detail holistic strategies around affordability, devices, digital skills, technical support, and digital navigation. This requirement may be satisfied by the completion of a State Digital Equity Plan under the Digital Equity Act. Please refer to the Digital Equity Act State Planning Grant Program NOFO for the requirements and deadlines applicable to that program.

See Section 2, pages 4-5; Section 3, pages 6-9; Section 7, pages 22-31.

- 12.** Detail alignment of the Five-Year Action Plan with other existing and planned economic development, telehealth, workforce development, related connectivity efforts, and other Eligible Entity priorities.

See Section 6, pages 15-22; Section 7, pages 22-31.

- 13.** Describe technical assistance and additional capacity needed for successful implementation of the BEAD Program.

See Appendix C, pages 39-41.

Appendix B: Engaged Local Coordination Partners

The Division of Broadband and Digital Equity partners with organizations from the following sectors across the state to explore the needs and opportunities for expanding high-speed internet to all North Carolina communities: internet service providers, telephone and electric membership cooperatives, universities, community colleges, K-12 institutions, computer refurbishment agencies, digital navigator programs, libraries, nonprofits, and many others.

The division appreciates the N.C. Association of County Commissioners and the N.C. League of Municipalities for co-hosting the Closing the Digital Divide: Internet for All in NC summit event and helping the state collect feedback from its many constituents.

The division also expresses gratitude for the following stakeholders that participated and provided feedback during listening sessions across the state:

All residents who attended apart from organizations	McCormick Farms
A Better Chance A Better Community	Mediacom Communications
AARP	Men and Women United for Youth & Families
Age Friendly Guilford	Metronet
Albemarle Commission	Millstone Creek Orchards
Brighter House	Moore County Cooperative Extension
Buncombe County Government	N.C. Cooperative Extension
Burke County	N.C. Department of Public Instruction
Burke County Beekeepers	N.C. Department of Transportation
Burke Development Incorporated	Nantahala Health Foundation
CAA Group LLC	Nash Community College
Caldwell County	Nash County Public Schools
Camden County	NC Agricultural and Technical State University
Carolina Public Press	NC Association of County Commissioners
Catawba County Library	NC Chapter – A Philip Randolph Institute
Center for Digital Equity at Queens University of Charlotte	NC Community College System Office
Charlotte Area Transit System	NC Counts Coalition
Charter Communications	NC Farm Bureau Federation
Chatham County	NC Farmworker Health Program
Chatham Literacy	NC State Cooperative Extension Person County
Cherokee Central School	NC State University – Friday Institute and Institute for Emerging Issues

Cherokee County	North Carolina Cooperative Extension-McDowell County
Cherokee County EDC	Office of Rural Health - DHHS
Cherokee County Schools	Office of U.S. Senator Thom Tillis
Chowan County	Onslow County Board of Commissioners
City of Jacksonville	Open Broadband
City of Winston-Salem	Orange Literacy
Cleveland County	Pamlico County Planning & Economic Development
Cleveland County Government	PANGAEA Internet
Cleveland County Library	Partnership for Prosperity
Cloudwyze	Pasquotank County
College of The Albemarle	Person County Manager's Office
CommScope	Person County Public Library
Communications Workers of America	Piedmont Community College
Community Medicine Foundation Inc	Piedmont Triad Regional Council
Comunidad Vida Nueva Inc	Power Up USA
Connect McDowell	Reidsville Area Foundation
Corning Incorporated	Right Here, Right Now Project
County of Union	Roanoke Cabarrus Community College
Cumberland County	Roanoke Connect
Cumberland County Cooperative Extension	Roanoke Economic Development, Inc.
Cumberland County Public Library	Rockingham Community College
Dogwood Health Trust	RTRAutoFab
Duke Divinity School	Saint Augustine's University
Duke Tech Solutions, Inc.	Sanford Holshouser EDC
Duplin County Library	Secret Garden Bees
E2D, Inc.	Sheppard Memorial Library
Eastern Band of Cherokee Indians	Siemens
ECPPS	Skyrunner
Edgecombe County	South Piedmont Community College
Elizabeth City Police Department	Southwestern Commission
Elizabeth City State University	Star Communications
Faith & Victory Christian Church	Surry Communications
Fayetteville Cumberland Reentry Council	Surry Medical Ministries

Fayetteville PACT	Swain County Broadband Committee
Fayetteville Technical Community College	Technology Data Institute
Five Forty Broadcasting Company	The Caraway Foundation
FMBC of Magnolia Ministries Inc	The Cornerstone CDC
FOCUS Broadband	The Industrial Commons
Fontana Regional Library	The News Herald
Foothills Regional Commission	The Winston-Salem Foundation
Forsyth County	Town of Belwood
Forsyth County Digital Equity Planning Committee	Town of Connelly Springs
Forsyth Futures	Town of Harrellsville
Forsyth Tech Community College	Town of Long View
Four Square Inc.	Town of Maggie Valley
Franklin County	Town of Weddington
Gates County	Town of Whitakers
Goodwill Industries of Northwest North Carolina	Transylvania County
Graham Revitalization Economic Action Team	Tri-County Community College
Greensboro Public Libraries	Turning Point Workforce Development Board
Hands4goodnc	UNC Pembroke
Haywood County Broadband Committee	Union County Government
Henderson County Cooperative Extension (NCSU)	Union County Library
HIGHTS, Inc	Unite Us / NCCARE360
Hometown Strong	United Way Forsyth County
Housing Authority of the City of Winston-Salem	United Way of NC
Hyde County Government	Urban League of Central Carolinas
Hyde County Schools	USCellular
INLIVIAN	Vance-Granville Community College
INTELLAPLEX, LLC	Wake County Government
Jackson County Economic Development	Wake Downtown
Jackson County Public Schools	Washington County
Kerr-Tar Regional Council of Governments	Western Piedmont Community College
Lake Teresa HOA	Western Piedmont Council of Governments
LANC	Windstream
Land of Sky Regional Council	Wingate University

Lewiston Woodville Municipality	WinstonNet
Liquid Spark	Winston-Salem Foundation
Lumber River Council of Governments	Word Tabernacle Church
Lumos Fiber	YMCA (LITERACY INITIATIVE)
Madison Mayodan Recreation	Z. Smith Reynolds Foundation
Marianna Black Library / Fontana Regional Library	

Digital Equity Core Team and Working Groups

AARP	Land of Sky Regional Commission
Caraway Foundation	MDC Rural Forward
Center for Digital Equity	NC 211 (United Way of North Carolina)
Digital Durham	NC Cooperative Extension
Duke University, Sanford School of Public Policy	NC Central University, School of Library and Information Sciences
Forsyth County Digital Equity	Neuse Regional Library System
Forsyth Futures	Office of Public Engagement and Inclusion
Friday Institute for Educational Innovation (NC State University)	Office of Rural Health
Informative Technologies Inc.	State Library of North Carolina
INLIVIAN	Tyrrell County CDC
Knowledge Exchange Research Group	UNC Charlotte, School of Social Work
Kramden Institute	WinstonNet

In addition, the division received, reviewed, and incorporated public comments on the draft BEAD plan from the following partners:

Brightspeed	Living Better Life	Swain County Broadband Committee
Campus Communications Group Fiber	N.C. Association of County Commissioners	Triangle Native American Society
Commscope	N.C. Budget and Tax Center	U.S. Telecom
CTIA	N.C. Healthcare Broadband Coalition	Wireless Internet Service Providers Association
Guilford County	N.C. Rural Center	Windstream

Appendix C: Staffing/Contractors

Employees Supporting BEAD Planning and Implementation: This team supports current ARPA work and BEAD planning and will move into BEAD implementation.

Current/Planned	Time	Position	Description of Role
Current	Full-time	Deputy Secretary	The Deputy Secretary for the Division of Broadband and Digital Equity provides executive leadership
Current	Full-time	Broadband Infrastructure Director	Leads Broadband Infrastructure Office
Current	Full-time	Digital Equity Director	Leads Office of Digital Equity & Literacy
Current	Full-time	Policy Director	Leads development of BEAD plan and several projects coordinating broadband infrastructure and digital equity programming and planning.
Current	Full-time	Legal Counsel	Attorney for the division providing legal counsel
Current	Full-time	Executive Assistant	Manages the day-to-day operations of the division
Current	Full-time	Administrative Assistant	Provides administrative support including scheduling
Current	Full-time	Communications Manager	Manages press, website, and public communications
Current	Full-time	Digital Equity Manager	Develops and manages programs and planning
Current	Full-time	Digital Equity Manager	Develops and manages programs and planning
Planned	Full-time	Digital Navigator	Outreach and community engagement for Digital Equity team
Current	Full-time	Business Officer	Oversees the budget, payments, and accounting for the division
Current	Full-time	Deputy Director, Broadband Infrastructure Office	Manages the day-to-day operations, including compliance and reporting for infrastructure grant programs

Current	Full-time	Mapping and Data Lead	Oversees the mapping of infrastructure, state and federal grant funding, serviceable locations, and data analysis
Current	Full-time	Infrastructure Solutions Program Manager	Manages the Technical Assistance Team and infrastructure planning
Current	Full-time	Grants Fiscal Specialist	Provides support to the business officer for the administration of grant payments
Current	Full-time	Grants Fiscal Specialist	Provides support to the business officer for the administration of grant payments
Planned	Full-time	Grants Fiscal Specialist	Provides support to the business officer for the administration of grant payments
Current	Full-time	Network Specialist	Provides technical assistance for grant programs and to communities
Current	Full-time	State Broadband Liaison	Community outreach and technical assistance support
Current	Part-time	Program Analyst	Technical assistance for grant programs
Current	Full-time	Program Analyst	Technical assistance for grant programs
Current	Full-time	Database Administrator	Provides data support for the management of grant projects
Current	Full-time	Program Manager – Grants	Grants management and supervision
Current	Full-time	Grants Manager	Grants and contract management
Planned	Full-time	Grants Manager	Grants management
Planned	Full-time	Grants Manager	Grants management
Planned	Full-time	Grants Manager	Grants management

Current and Planned Contractor Support

Current/ Planned	Time	Position	Description of Role
Current	Part-time	GIS specialists (N.C. Center for Geographic Information and Analysis)	Mapping support
Current	Part-time	Broadband specialist (NCSU Friday Institute for Educational Innovation)	Drafting planning documents
Current	Part-time	Data analysis, speed test and survey (NCSU Friday Institute)	Provides support to build Eligible Entity's broadband availability maps, and support FCC Mapping and Challenge Process
Current	Part-time	Survey and project development (NCSU Friday Institute, N.C. Central University, Institute for Emerging Issues)	Provides project management support and development of key aspects of the State Digital Equity Plan, including development of Asset Inventory, Digital Equity Survey, Listening Sessions, and analysis of current local digital inclusion plans
Current	Multiple Part-time	Host organizations for listening sessions	Coordination of and hosting listening sessions for the Digital Equity plan
Planned	Part-time	Plan development	Assisting with development of the State Digital Equity Plan
Planned	Part-time	Risk Management	Provide risk management services for the division's programs
Current	Part-time	Facilitation and data collection	Facilitation services for community engagement listening sessions
Current	Part-time	Technical assistance	Assisting with development of workforce plan

Appendix D: Existing Efforts Funded by the Federal Government

Program	Purpose	Total Funding	Impact
Appalachian Regional Commission (ARC)	Funding for public fixed wireless infrastructure in rural and remote areas in the Appalachian Region.	\$3.9 million	Since 2018, ARC awarded 19 projects in Western NC to provide wireless access for economic development purposes
Appalachian Regional Commission (ARC)	Digital Health Equity: The division was awarded an Appalachian Regional Commission POWER grant to create a program aimed at improving digital and health literacy, computer ownership, and broadband adoption amongst the residents of the region.	\$633,940	The project team conducted ongoing virtual statewide telehealth workshops which reached 157 organizations. The Office of Rural Health's (ORH) telehealth resources and the Telehealth Playbook were accessed by providers and 153 individuals participated in telehealth services. A total of 140 hotspots were delivered to the three counties.
FCC E-rate	Funding for infrastructure, equipment, and internet service to K-12 schools https://webservices.ncleg.gov/ViewDocSiteFile/73785	\$1.2 billion (since inception)	All 2,500+ K-12 public schools have access to high-speed internet service. See https://go.ncsu.edu/scireport
FCC Emergency Connectivity Fund	COVID-19 Pandemic funding for schools for connectivity and devices https://go.ncsu.edu/NationwideECF	\$181 million funded with an additional \$20 million still pending with USAC	80 percent for student Chromebooks and laptops; also used for hotspots

FCC Affordable Connectivity Program	Affordability	TBD	Reduced service cost for 774,327 households (6/20/2023)
FCC Affordable Connectivity Outreach Grants	Affordability, Outreach State of North Carolina Goler Depot Street Renaissance Corp Kramden Institute United Way of Forsyth County	\$500,000 \$300,000 \$200,000 \$200,000	Increased enrollment for eligible households; goal: 1 million households
FCC Connected Care Pilot Program	Duke University Health System's pilot project seeks to provide remote patient monitoring and video visits or consults	\$1,464,759	Pilot project would serve an estimated 16,000 patients in North Carolina, of which 25 percent are low-income.
FCC COVID-19 Telehealth Award	Caromont Regional Medical Center Gastonia Duke University Health System, Durham Alleghany Memorial Hospital Sparta C.W. Williams Community Health Center, Charlotte Forsyth Memorial Hospital, Winston-Salem Robeson Health Care Corporation (SE NC) Cape Fear Valley Health System (SE NC) Carolina Community Health Center, Wilson Gaston Family Health Services (10 counties) Vidant Health System (ENC)	\$130,591 \$955,557 \$92,041 \$312,399 \$1,000,000 \$495,633 \$998,357 \$1,000,000 \$983,524 \$897,000	Video conferencing equipment and devices for telehealth capabilities to limit exposure to COVID-19

	East Carolina University, Greenville	\$367,900	
	High Country Community Health Center, Boone	\$495,429	
FCC Rural Digital Opportunity Fund	Provides funding to ISPs for the provision of internet service in areas of the state lacking 25/3 Mbps service.	\$166,000,000	128,000 locations
HUD ConnectHomeUSA	Infrastructure Access Affordability	\$786,191	Bridge the digital divide for HUD- assisted housing residents in Goldsboro
NTIA Broadband Infrastructure Program	Infrastructure, Access	\$29,985,000	15,256 households in Lenoir County
NTIA Connecting Minority Communities Pilot	Bennett College Elizabeth City State University Fayetteville State University Johnson C. Smith University NC A&T State University Shaw University	\$699,950 \$2,100,000 \$4,933,021 \$5,720,896 \$3,686,697 \$5,072,045	Programs to aid access and educational opportunities for students
USDA ReConnect	Infrastructure, Access	\$121,384,898 (Since 2019)	More than 28,000 households across nine projects.

Appendix E. BEAD and Digital Equity Coordination and Outreach Strategy

Overview: The N.C. Department of Information Technology's Division of Broadband and Digital Equity received \$1.4 million in planning funds for the Digital Equity program and \$5 million in planning funds for the Broadband Equity, Access, and Deployment (BEAD) program. With these funds, the division will engage and solicit feedback from a variety of broadband and digital equity stakeholders across the state that have a vested interest in expanding high-speed internet access and building digital equity within the communities they serve, represent, or in which they live. The division will use data gleaned from all outreach efforts to create comprehensive BEAD and Digital Equity program plans to guide subsequent investments from both programs.

Objectives

- To achieve Governor Roy Cooper's goal to close the digital divide in North Carolina.
- To demonstrate NCDIT's commitment to fostering a digitally connected and enabled state.
- To develop deeper partnerships and bi-directional communication channels with broadband and digital equity stakeholders across the state that can best represent the needs of the communities they serve.
- To ensure the division's comprehensive, statewide broadband expansion and digital equity plans will address and positively and measurably benefit all North Carolina communities.
- To ensure North Carolina's broadband maps reflect unserved and underserved locations and that residents know how to access state maps and the FCC National Broadband Map and submit challenges as needed.

Communication Goals

- Ensure clear, timely, and direct communication of appropriate information to encourage participation in the planning programs and provide prompt response to any misinformation.
- Maintain updated information about planning for BEAD and the Digital Equity programs for internal and external audiences on the ncbroadband.gov website.
- Provide information to senior leadership so they can communicate about the funding programs and ongoing planning details with interested cabinet agencies, external organizations, and the media, as necessary.
- Address language barriers and provide accommodating translation and interpretation services. Ensure all print and digital publications are in at least English and Spanish. Some publications may appear in the top six languages used in North Carolina.
- Engage various media outlets based on covered populations.

Audiences

- Covered populations and organizations that represent them:
 - Aging individuals
 - Immigrants
 - Individuals who live in households at or below 150% of federal poverty level
 - Individuals with disabilities
 - Individuals with a language barrier, including individuals who are English learners and have low levels of literacy
 - Individuals who are members of a racial or ethnic minority group
 - Individuals who primarily reside in a rural area
 - Incarcerated individuals, other than individuals who are incarcerated in a federal correctional facility
 - LGBTQI+ people
 - Veterans
- Agriculture and Cooperative Extension agencies
- Chambers of Commerce
- Civil Rights organizations
- Community Anchor Institutions
- Community and grassroots organizations
- Community Centers and recreation centers
- Counties
- Economic Development organizations
- Educational agencies
- Emergency responders
- Faith-based organizations
- Funders
- Governor's Office
- Higher education institutions (with special emphasis on minority serving institutions)
- Internet service providers
- Labor organizations
- Libraries
- Media
- Municipalities
- N.C. Digital Equity and Inclusion Collaborative
- Nonprofit organizations
- North Carolina residents
- Public Housing Authorities
- Public Utilities Commission
- Regional Councils of Government
- Small businesses

- State agencies
- Technology device manufacturers and providers
- Tribal Governments
- Workforce development organizations

Key Messages

- Governor Roy Cooper has developed a comprehensive strategy to build digital equity across North Carolina, and the Division of Broadband and Digital Equity is executing that strategy by ensuring that all North Carolinians have access to an affordable, high-speed internet connection and have the devices and skills necessary to participate in the modern digital economy.
- The NCDIT Division of Broadband and Digital Equity will use the Digital Equity and Broadband Equity, Access, and Deployment (BEAD) planning grants to help fund local coordination efforts to ensure that the state's comprehensive plans to address high-speed internet access and digital equity are inclusive of all N.C. communities and populations' needs.
- The division is seeking input from stakeholders across the state to ensure that we create effective plans that address the needs of all N.C. communities and populations.
- With these Internet for All planning grants, we will be able to create comprehensive state plans to address broadband access and digital equity and literacy needs for all North Carolinians and build upon our existing work to close the digital divide.

Strategy: The division will employ the following approaches to ensure that we have thorough outreach to all audiences.

- **Outreach & Communication:** The division will partner with agencies to develop educational collateral to distribute, facilitate eight regional sessions, facilitate up to 20 listening sessions with covered populations, and compile findings from these sessions to inform the plans. The listening sessions will use human centered design or similar practices to better understand the barriers covered populations face and identify solutions to overcome these barriers.
- **Tracking Impact and Engagement:** To ensure that we engage all the covered populations and target audiences, the division will use software to document all invited representatives and participants to measure engagement and record the needs and/or barriers of each community represented.
- **Communicating with Audiences:** Create and deploy a comprehensive communications plan with in-person, online, print, and digital and social media tactics to engage and collect feedback from stakeholders and covered populations.

Tactics and Goals

Surveys

- Determine need for Digital Equity survey by analyzing baseline data and working with the Data and Barriers Working Group convened for the State Digital Equity planning process to identify potential data collection opportunities. Based on these activities, assess data gaps, and deploy surveys to better understand the barriers faced by each covered population (could include collecting data from other state agencies).
- Continued use of the N.C. Broadband Survey (hosted by Qualtrics and created in partnership with the Friday Institute for Educational Innovation at N.C. State University) to identify locations unserved and underserved with broadband across the state.
- Distribute all surveys widely via partnership with other state agencies, counties, municipalities, nonprofits, organizations, and media outlets.

Regional Sessions

- Host at least eight regional sessions – one in each prosperity region defined by the N.C. General Assembly
- Partner with host organizations, counties, and municipalities to promote widely within each prosperity region.
- Host one during the N.C. Rural Summit in conjunction with N.C. Rural Center
- Develop a protocol to use in regional sessions.
- Obtain participation and feedback from 50-75 attendees at each regional session

Listening Sessions

- Include covered populations in up to 20 listening sessions.
- Partner with trusted intermediary organizations in regions to host and organize the sessions.
- Develop a protocol to use in all sessions.
- Obtain participation and feedback from 8-12 attendees at each session

Webinars

- Kickoff process for all – explain why we're doing it, why it's important, and what to expect.
- Provide quarterly updates via webinars that will have registration beforehand and on-demand viewing after
- Use Office of Public Engagement platforms to share updates and invite participation.
- Share recordings with local organizations to provide during live/in-person meetings so trusted local organizations can share messaging and collect feedback

Interagency coordination

- Hold interviews with key agencies (as outlined in federal Notice of Funding Opportunity)
- Obtain participation and feedback from at least six state agencies including those that represent: economic and workforce development, education, health, transportation,

natural & cultural resources, and the delivery of other essential services

Web pages for BEAD & Digital Equity information

- Landing page(s) where we can refer stakeholders.
- Post resources
- Announcements about events, surveys, etc.
- Acknowledgements for core planning teams and working groups.
- Post the draft plans for public comments for at least 30 days

Advertising/Marketing/Promotion

- Create materials to promote sessions (print and digital)
- Design materials to promote statewide surveys.
- Digital - Twitter, Facebook, agency and partner organization electronic newsletters
- Print – Flyers, Mailers, etc.
- Media buys as needed.
- Email, video, and digital content creation
- Partner with hyper local community outlets (neighborhood newsletters, town flyers, radio, etc.)
- Create and distribute a media kit for all engaged organizations to use to promote engagement options.
- Include translation and interpretation services to ensure that all materials are inclusive

Summit event

- Share what we learned from public engagement opportunities.
- Invite stakeholders to respond to lessons learned and inform strategies that will be incorporated in the plans based on that input.
- Make both in-person and virtual options available.
- Post recorded sessions on website.

Outreach Tactics and Timeline

Date	Tactic
Feb. 7	Fiber Broadband Association presentation in Raleigh
Feb. 22	N.C. Association of County Commissioners (NCACC) task force presentation
March 7	Q1 Webinar: Kickoff process for all – explain why we’re doing it, why it’s important, and what to expect
March 9	N.C. Agriculture Digital Alliance listening session
March 9	N.C. Commission of Indian Affairs presentation
March 21	Rural Summit listening session
March to May	NCACC District Meetings across the state
March to July	Up to 20 listening sessions for covered populations in partnership with community-based organizations
April & May	Interviews with select state agencies to align these plans with their strategic plans as appropriate
April 3	How the Maps Could Determine our Rural Broadband Future Webinar with NC Broadband Matters
April 25	Regional session: Sandhills Region (Fayetteville)
April 26	Regional session: North Central Region (Rocky Mount)
April 27	Regional session: Southeast Region (Jacksonville)
May 2	Regional session: Piedmont Triad Region (Kernersville)
May 4	Regional session: Northwest Region (Morganton)
May 8	Regional session: Western Region (Cherokee)
May 11	Regional session: Northeast Region (Elizabeth City)
May 16	Regional session: Southwest Region (Wingate)
May 23	Summit convening [Partners: National Telecommunications Information Administration (NTIA), NCACC & N.C. League of Municipalities]
June 5	Virtual Listening Session
June 8	Q2 webinar update
June 26	Draft BEAD plan published for public comments
June	Draft BEAD plan published in community outlets for public comments
July 29	BEAD 5 YR PLAN DUE to NTIA
August	Q3 webinar update
September	Draft State Digital Equity Plan published for public comments
September	Draft State Digital Equity Plan published in community outlets for public comments
Oct. 30	STATE DIGITAL EQUITY PLAN DUE TO NTIA
November	Q4 webinar update

Appendix F. Workforce Plan: NC Broadband Workforce Plan Development Timeline

PHASE 1: April 15 to June 30, 2023

Tasks	Timeline			
	April	May	June	July
Labor Market Analyses for Key Broadband Occupations				
Planning and consultation with partner consultant who is identifying and analyzing key occupations				
Planning, conducting, and analyzing results from two convenings with key employers and one labor union to further hone skills, competencies, and credentials for key occupations				
Education & Training Capacity Scan				
Planning, conducting and analyzing results from three to four structured interviews with key education and training leaders to create high-level understanding of current workforce development capacity for broadband jobs				
Establish N.C. Broadband Workforce Task Force				
Developing charge for the Broadband Workforce Task Force and sending invitations to key stakeholders to serve on the task force				
Planning for July in-person meeting of the Task Force				
Memo and slide deck that presents deliverables and makes recommendations for the planning process				

PHASE 2: July to December 2023

Tasks	Timeline					
	JUL	AUG	SEP	OCT	NOV	DEC
NC Broadband Workforce Advisory Committee Meetings						
Plan and facilitate three advisory committee meetings to gather input and guidance throughout the development of the workforce plan						
Industry Engagement						
Finalize priority workforce and certification needs across types of broadband providers, including contractors. Data collection may include a survey, interviews, or both.						
Education & Training Capacity						
Identify required resources and costs to implement high quality broadband education & training, with a focus on the top 2 or 3 high demand jobs.						
Develop strategies to a) invest in training for priority broadband jobs, b) increase career awareness and access, especially among students of color and women, and c) encourage career pathways by linking short-term training to degree programs.						
Operational Plan						
Create an operational plan to support critical NC broadband workforce needs. Plan will include a) identification of priority jobs & certifications, b) recommended education & training deployment investments, and c) strategies to promote equity and access.						

N.C. Broadband Workforce Advisory Committee: July 2023

Name	Organization / Company
Alan Fitzpatrick	Open Broadband
Amelia DeJesus	Wireless Infrastructure Association
Andrea DeSantis	Policy Advisor, Office of Governor Roy Cooper
Andrew Gardner	N.C. Community Colleges
Annie Izod	NC Works Commission, N.C. Department of Commerce
Debbie Kish	Fiber Broadband Association
Gary Beasley	Central Carolina Community College
Jennifer Tracy	Spectrum/Charter
John Chamberlain	Commscope
Keith Busby	Communication Workers of America
Kim Shepherd	SkyLine
Kristie Van Auken	N.C. Department of Public Instruction
Maya Norvel	Corning
Michelle Slaton	Piedmont Triad Workforce Development Board
Robert Doreauk	AT&T
Shinica Thomas	Wake County Commissioner
Wes Hill	Wilson Community College