INTERNET FOR ALL

Five-Year Action Plan

Louisiana Office of Broadband Development and Connectivity

U.S. Department of Commerce

National Telecommunications and Information Administration

Note: *This document is intended to serve as an organizational tool that supports each Eligible Entity in capturing notes and developing its BEAD Five-Year Action Plan. Each Eligible Entity should review the Five-Year Action Plan Guidance document and speak with their designated Federal Program Officer prior to using this document.*

Table of Contents

1 Executive Summary

"We desperately need internet … for my fiancé's job. We can't move until we know he can work from home, so I'm driving 3 hours a day 4 times a week to care for my grandfather. Please press [my ISP] to hook the house to the line so we can move and take this burden off us."

This story characterizes the broadband challenges Louisiana residents regularly experience. It is also the driving factor behind the state's aspirations for universal service. Many communities, geographically and demographically, have long felt left behind. Louisiana through leveraged partnerships aims to change this trajectory.

In 2019, the Broadband for Everyone in Louisiana Commission was established to offer centralized coordination among state agencies, associations, and others focused on eliminating the digital divide. Shortly thereafter, the COVID-19 pandemic hit Louisiana, catalyzing the need for action and compelling the State Legislature to authorize the creation of the Louisiana Office of Broadband Development and Connectivity, known as ConnectLA, which Gov. John Bel Edwards signed into law in 2020.

Over the last two years, a sense of urgency has driven ConnectLA to undergo extensive outreach for assessing existing conditions and strategizing on future funding opportunities. In response to the American Rescue Plan funding authorizations, Louisiana was one of the first states to disseminate allocations through the Granting Unserved Municipalities Broadband Opportunities program. Leveraging the experiences garnered through the administration of GUMBO will be essential for tailoring the BEAD funding to meet Louisiana's broadband needs.

The comprehensive Five-Year Action Plan delineates the strategic priorities of ConnectLA, adheres to guidance set out by the Infrastructure Investment and Jobs Act, and outlines how BEAD funds will tackle the digital divide. The plan is informed by the number of unserved and underserved households in the state, further considering research conducted for the Digital Equity Plan.

Digital equity remains a core focus throughout our strategy, pushing for innovative solutions to promote equal opportunity in the digital space. In August 2022, ConnectLA began digital equity planning efforts in partnership with the Louisiana Board of Regents and the Kathleen Blanco Public Policy Center. Key findings from the Digital Equity Plan are interwoven throughout the Five-Year Action Plan. While digital equity opportunities are summarized herein, in May 2023, ConnectLA published the required Digital Equity Plan which delves deeply into the challenges and opportunities relative to digital equity. A copy of the plan can be accessed at connect.la.gov.

Louisiana is trending towards meeting its goal of eliminating the digital divide by 2029. Gaps that need to be closed include 656,000 locations without high-speed internet, 460,000 working-age adults without adequate digital skills, and 137,000 households without digital devices. Strategies emphasize a firm commitment to ensuring connectivity and affordability while mitigating the impacts of workforce and supply chain disruptions.

At the end of five years, we envision broadband will be utilized across the state as an asset, platform and enabler. As an asset, broadband is part of the core infrastructure, a solution for how to move data and offer resilient and redundant connectivity to achieve ubiquitous access.

As a platform, we look at applications of use that can be available to all Louisianians, such as telehealth or remote learning, and consider the security of the application of the utmost importance, where we see concerns surrounding cybersecurity awareness and unintended consequences of connectivity. To enable the masses, we want to align partners across the state to make Louisiana a sandbox of innovation in areas such as precision agriculture, health care, cybersecurity and public safety. The Five-Year Action Plan summarizes how this can be achieved.

2 Overview of the Five-Year Action Plan

2.1 Vision

It is Gov. John Bel Edwards' vision and ConnectLA's goal to eliminate the digital divide in Louisiana by 2029. The presented Five-Year Action Plan outlines strategies for eliminating the connectivity divide, sustaining affordability for those most in need, and increasing the state's digital skills rate by 50%. In the next year, Louisiana stands to receive unprecedented funding for broadband initiatives which may present newer challenges to local workforce and supply chains. Critical to successful deployment is the ability for Louisiana to adjust economically to the influx of funds and reduce any existing barriers for deployment.

Basic Public Infrastructure. Like railways in the 19th century and electricity in the 20th century, broadband has become as critical as these types of basic public infrastructure. Internet connectivity is relied upon to ignite economic growth and competitiveness, contribute to improved outcomes in healthcare, enhance agricultural output and advance the educational experience of our children. In the 21st century, broadband access is a given for many Louisianans, who rely on broadband in every aspect of daily life.

Economic Survival and Equity. The COVID-19 pandemic has forever changed the definition and location of "work." Unemployed Louisianians rely on broadband to search and apply for the next opportunity. Our state's families and children have been forced to rely on broadband for virtual education while our aging and vulnerable populations have become increasingly reliant on broadband to schedule telehealth visits and see medical specialists. Broadband's impact on agricultural production has also gained recognition. Across fields of rice in Acadia Parish, corn in Richland Parish and sugarcane in Lafourche Parish, farmers around the state rely on broadband to take advantage of the latest innovations in agricultural technology to increase yields.

However, according to the Federal Communications Commission's Broadband Data Collection data pulled on May 2, 2023, approximately 656,000 Louisiana locations currently do not have access to high-speed internet (i.e., 100 Mbps download and 20 Mbps upload and excluding fixed wireless and satellite technologies). Even after federally awarded and GUMBO-funded broadband projects are installed, there are projected to be roughly 449,000 locations that still require high-speed internet, representing over 20% of broadband serviceable locations in Louisiana. And finally, the number of locations increases to roughly 474,000 if the state prioritizes locations that are currently only served by DSL.

In addition to the lack of access cited above, the most recently available data from the U.S. Census Bureau's American Community Survey also reports that over 20% of Black households lack high speed internet and that Louisiana ranks 46th in adoption and use. Failure to connect the unconnected, prolonged deployment and a lack of education continues to present hardships for many Louisianians.

Continuous Public Engagement. Over the past two years, ConnectLA has undergone robust public engagement efforts to educate residents on the significance of participating in today's digital world; ConnectLA staff has conducted and participated in a series of community engagement meetings reaching nearly 90 municipalities throughout the state. This initial series of engagement meetings primarily focused on understanding existing conditions, gaps and needs. A second round of listening sessions launched in the fall of 2022 addressed digital equity and digital inclusion. In partnership with the Louisiana Board of Regents, the University of Louisiana at Lafayette's Blanco Public Policy Center, the University of Louisiana System, and the Louisiana Association of Planning and Development Districts, eight regional meetings were facilitated in each planning district and 32 focus groups with broad representation from 259 participants were held. ConnectLA's aim and priority is to provide for continuous local engagement that informs future program investments and program implementation.
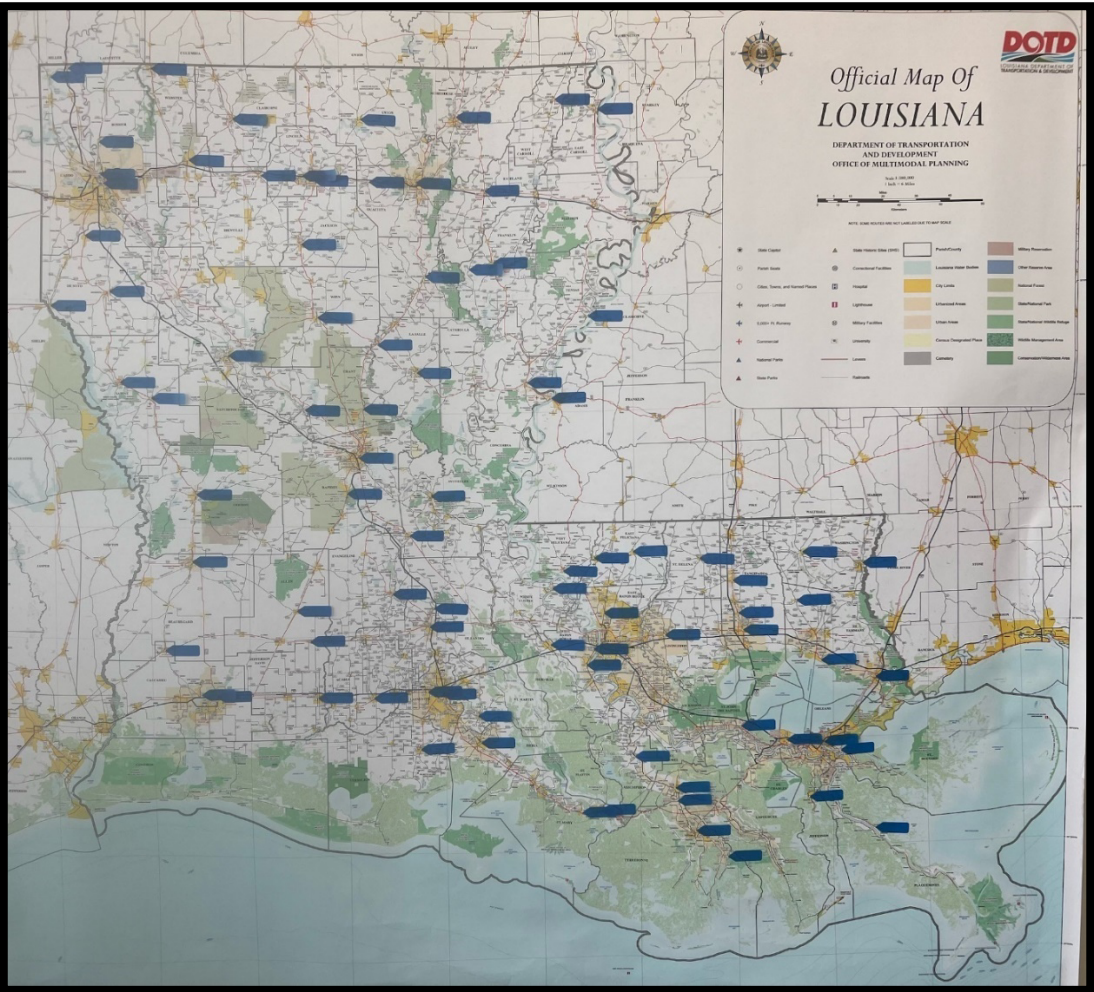

Figure 1: Outreach Meetings at Flagged Locations

Resources. In 2021 the Louisiana Office of Broadband Development and Connectivity became the first state to receive approval to establish a competitive grant program for infrastructure deployment, the GUMBO program, using funds from the American Rescue Plan Act. GUMBO afforded internet service providers and electric cooperatives the opportunity to facilitate the deployment of broadband service to unserved areas of the state. Future funding through BEAD will prioritize the unserved areas through a higher subsidization rate that allows underfunded rural communities better access to resources they may have not received otherwise. Offering resources in disadvantaged communities is a priority to improve access and equity throughout the state.

Fiber as the Standard. As Louisiana receives significant federal dollars for infrastructure investments, it is imperative that investments are made in future-proof technologies. While many rural areas are still serviced by legacy technologies, ConnectLA intends to prioritize infrastructure expansion in areas lacking transmission speeds below 100 Mbps download and 20 Mbps upload (100:20 Mbps). ISPs and electric cooperatives that can deploy fiber-to-the-home may have a competitive advantage in accessing dollars. However, we recognize based on cost modeling that there are thousands of Broadband Serviceable Locations that may require a non-fiber solution such as fixed wireless, satellite or other. This may be due to extremely high costs to serve these locations. This figure will be revised as new data evolves.

Digital Equity is a Must. This plan outlines Louisiana's first coordinated effort to assess the state's digital divide and move Louisiana toward digital equity. According to the National Digital Inclusion Alliance, the digital divide is the gap between those who have affordable access, skills and support to effectively engage online and those who do not (National Digital Inclusion Alliance, n.d.). Addressing this gap will move Louisiana toward digital equity, which means that all individuals and communities will have the information technology capacity needed for full participation in our society, democracy and economy.

> **Digital Equity Vision for Broadband in Louisiana**
> Louisiana's vision is that digital equity will be achieved for all residents and communities. Digital equity for Louisiana means that all residents will have access to affordable broadband, opportunities to obtain the appropriate devices, accessible applications and support to acquire the digital skills needed to improve their quality of life. By 2029, the necessary structures will be in place to sustain Louisiana's work toward digital equity for all Louisianians.

2.2 Goals and Objectives

Addressing the digital divide is the ultimate outcome for Louisiana, one that requires strategic partnerships across public, private, and nonprofit organizations. The following section outlines the goals and objectives required to achieve success.

Table 1: Broadband Goals and Objectives

Broadband Goals	Objectives
Access Connect 100% of broadband serviceable locations throughout Louisiana.	• Eliminate the unserved population (access to speeds of less than 25/3) by deploying climate resilient infrastructure with access to speeds of at least 100/20 with scalability of 100/100. A file is available for download

	("unserved.csv") listing unserved location IDs. The data is sourced from the Broadband DATA Map as of May 2, 2023. • Eliminate the underserved population (access to speeds of less than 100/20) by deploying climate resilient infrastructure with access to speeds of at least 100/20 with scalability of 100/100. A file is available for download ("underserved.csv") listing underserved location IDs. The data is sourced from the Broadband DATA Map as of May 2, 2023. • Eliminate the challenges that Community Anchor Institutions have (access to speeds of less than 100/20) by deploying climate resilient infrastructure with access to speeds of at least 100/20 with scalability of 100/100. A file is available for download ("cai.csv") listing eligible CAI location IDs. The data is sourced from the Broadband DATA Map as of May 2, 2023. • Fully administer, execute or oversee federally funded infrastructure expansion efforts towards achieving internet for all. • Provide a plan for communication resilience by ensuring redundant anchor institution connectivity during times of natural disasters. • Study the creation of designated telecommunications "resilience zones" for increasing threats described in the Statewide Climate Action Plan. • Offer Wi-Fi access to MDUs among low-income/ affordable housing units. • Support the efforts of existing state middle-mile infrastructure.
Adoption Increase broadband adoption rates by 50%	• Improve outreach and education for broadband financial assistance. • Increase digital skills and understanding of individual broadband need.
Affordability Improve affordability of broadband and devices among LA residents	• Continue to publicize and market the FCC Affordable Connectivity Program to improve outreach and education for financial assistance. • Promote use of financial incentives for low-income households. • Research innovative state-level program offerings to target the most vulnerable of populations.
Digital Equity & Inclusion Increase equitable deployment and literacy programming	• Create low-cost to free opportunities for digital skills training. • Fund digital navigators to assist in digital inclusion programming. • Develop public private partnerships to help fund devices. • Continue to research BEAD funding mechanisms for important non-deployment projects, such as tele-health access, precision agriculture, cybersecurity concerns and telecommunications mobility. • Work with disadvantaged communities to advance successful pilot programs funded through existing federal grants. • Work with health care service providers to advance successful pilot programs funded through existing federal grants.
Digital Skills Increase Louisiana's digital skills rate by 50%	• Increase digital skills of residents by funding staffing support at the parish level and postsecondary education institutions with state-wide partners to offer low-cost or free opportunities for training programs. • Continue to implement the Northstar Digital skills program statewide, with an additional enticement for enrollment through the offering of a free device (laptop/tablet) upon program completion
Economic Development Cultivate the economic supply chain required to support mass infrastructure deployment in Louisiana.	• Partner with LCTCS and LWC to meet workforce needs. • Offer tuition subsidies for students enrolling into certification programs. • Assist with the creation of a resilient broadband supply chain in Louisiana. • Ease regulatory and permitting burden on project buildouts by working with local and state agencies.

3   Current State of Broadband and Digital Inclusion

Louisiana has positioned itself to be a frontrunner in obtaining and implementing broadband programming. A sense of urgency now exists to improve the overall state of broadband which is coordinated through Connect LA and established partnerships. Louisiana now touts a couple of "firsts" and plans for many more.

- First recipient of the NTIA planning grant funds
- First recipient of dollars from U.S. Treasury to deploy Capital Project Fund funds toward the development of a state grant program
- First per capita in adoption of the Affordable Connectivity Program
- One of first states to receive NTIA Broadband Infrastructure Program dollars

3.1   Existing Programs

As a testament to the expeditious methods for deploying federal assistance, Louisiana received $176.7 million in Capital Projects Fund from the American Rescue Plan and have committed over $140 million as of May 2023. A newly created grant program, GUMBO, targeted investment for areas lacking internet speeds of 25/3 Mbps. ConnectLA, with legislative support, established the GUMBO program in the summer of 2021, accepted and reviewed applications by the summer of 2022, and, in November of 2022, had executed 77 unique grant agreements for projects across the state. It is expected nearly 88,500 homes and businesses will be connected through the program in the next 12-18 months, closing the digital divide by 25% for locations lacking high-speed internet access in the state.

The GUMBO program is the primary program by which ConnectLA will receive and administer future funding opportunities offered through BEAD. Existing programs, staff, partnerships and financial resources will be leveraged to further Louisiana's broadband vision.

Figure 2: Charter GUMBO Groundbreaking

Programmatic Resources. Louisiana has made a concerted effort to invest resources in eliminating the digital divide. Through the establishment of the BEL Commission, ConnectLA and statewide partnerships and programs, Louisiana is closer to achieving this goal. The following section outlines the existing activities and programmatic resources available through ConnectLA and their partners.

Table 2: Current Activities conducted by ConnectLA and Statewide Partners

Activity Name	Description	Intended Outcome(s)
GUMBO Program (Granting Unserved Municipalities Broadband Opportunities)	Access	Using US Treasury Capital Projects Fund; connect broadband serviceable locations that are currently unserved to high-speed, reliable, and affordable internet
Federally funded infrastructure expansion efforts	Access	See Table 5 for details on programs to improve broadband access.
Louisiana Optical Network Initiative (LONI)	Access	A dedicated middle-mile network for university and institutions to access high-speed internet.
Louisiana Wireless Internet Network (LWIN)	Access	Enabling seamless communication among all responders to an event or emergency and to improve information sharing and systems
ISP Statewide Outreach	Adoption	Various internet service providers throughout the state offer community-based adoption efforts, sign up assistance, technology support, upskilling, cybersecurity training, and multi-lingual outreach.
FCC Affordable Connectivity, Emergency Broadband Benefit and Lifeline Programs	Affordability	See Table 5 for details on programs that support households needing financial assistance with broadband service.
FCC Connectivity Outreach Grant	Affordability	See Table 5 for details on outreach and engagement to increase communities' participation in the ACP.
NDIA Technical Assistance	Digital Equity & Inclusion	Provide ConnectLA with technical assistance to address digital skills and inclusion efforts.
NTIA Tribal Broadband Connectivity Program	Digital Equity & Inclusion	See Table 5 for details on program funding.
Connecting Minority Communities & Tribal Communities	Digital Equity & Inclusion	See Table 5 for details on program funding.
FCC Connected Care Pilot Program and Covid-19 Tele-health Award	Digital Equity & Inclusion	See Table 5 for details on program funding.
Digital Equity Roundtables	Digital Equity & Inclusion	Provide a platform for broad stakeholder representation and covered populations/minority groups.

Louisiana Statewide Digital Inclusion Pilot	Digital Skills	Louisiana Board of Regents, LOUIS: The Louisiana Library Network, the State Library of Louisiana and ConnectLA; to improve digital skills training programs facilitated at local public libraries.
Broadband Workforce Development	Economic Development	Execution of the LCTCS Broadband Strategic Plan.
Internet Service Provider Supply Chain Survey	Economic Development	See Figure 10 for details on supply chain survey.
State-Wide Infrastructure Coordination Meetings	Public Engagement	Ongoing discussion and quarterly meetings with local, state and federal stakeholders to address permitting concerns
Early Stakeholder Engagement to Introduce ConnectLA	Public Engagement	Educate public and our partners on broadband activities while gaining feedback on initiatives such as program rules and administration of funds
BEL Commission	Public Engagement	State department coordination for broadband activities and funding; a commission established to eliminate digital divide
Annual Statewide Broadband Summit	Public Engagement	Collectively prioritize the need for statewide broadband access, adoption, affordability, skills and equity
Advisory Council on Rural Revitalization	Public Engagement	The Council was created to identify the needs and issues facing Louisiana's vital rural communities, as well as solutions to removing any challenges. Broadband is a top priority in the Rural Revitalization Strategic Plan.

Staffing Resources. Upon authorization of digital equity and BEAD funding, ConnectLA anticipates scaling both internal and external staff to implement the associated programming. Table 3 and Table 4 depict existing and future staff of ConnectLA, as well as external contractual relationships.

Table 3: Current and Planned Full-Time and Part-Time Employees

Current/ Planned	Full/Part Time	Position	Description of Role
Current	FT	Executive Director	Office planning and execution
Current	FT	Deputy Director	Project oversight and management
Current	FT	Program Manager	Policy, rule, and federal report writing
Current	PT	(x3) Intern	Communications and public relations
Planned	FT	Digital Equity Manager	Execution of digital equity strategy

Table 4: Current and Planned Contractor Support

Current/ Planned	Full/Part Time	Position	Description of Role
Current	FT	Technical Reviewers	Audit broadband construction and deployment
Current	FT	Federal Reporting	Write federal reports
Current	FT	Map Consultants	Assist in building state's address-level map
Current	PT	Map Consultants	Assist in defining project areas and project cost
Current	PT	Federal Consulting	Guide writing federal plans
Current	PT	Federal Consulting	Guide writing federal plans
Current	PT	Digital Equity Consulting	Guide research and writing of digital equity plan

Financial Resources. In addition to GUMBO funding, Table 5 illustrates existing and future funding opportunities available to Louisiana. ConnectLA anticipates needing nearly $1.4 billion in capital expenditures to connect services to all locations throughout the state. To supplement capital investment, other financial resources will be required to promote adoption, improve literacy and ensure equitable distribution of financial resources and programming.

Table 5: Broadband Funding

Source	Recipients	Purpose	Total
NTIA Broadband Infrastructure Program	Acadia, St Landry, Evangeline Parish *Expected to serve 30k locations	Planning, Access	$29.9m
NTIA Tribal Broadband Connectivity Program	Tunica-Biloxi Tribe of Louisiana Coushatta Tribe of Louisiana	Planning, Digital Skills	$2.5m $366k
NTIA Connecting Minority Communities Pilot	Grambling State University Southern University Law Center Southern University at New Orleans Southern University and A&M College	Digital Equity & Inclusion	$2.2m $3.0m $3.0m $6.2m
US Treasury Capital Projects Fund (GUMBO)	Statewide *Expected to serve 80k locations	Access	$176m
FCC Rural Digital Opportunity Fund	Statewide *Expected to serve 176k locations	Access	$342m
FCC CAF Broadband Loop Support	Statewide	Access	$30.9m[1]
FCC Connect America Fund II	Statewide	Access	$2.9m
FCC Emergency Broadband Benefit Program	Statewide	Affordability	$47m[2]
FCC Affordable Connectivity Program	Statewide *Beneficiaries 433k as of 5/16/23	Affordability	$140m[3]
FCC Affordable Connectivity Outreach Grant	Calcasieu Planning Commission, City of Natchitoches, City of New Orleans, St. Landry Parish Government	Affordability	$946k
FCC Alternative Connect America Cost Model	Statewide	Access	$6.3m
FCC Emergency Connectivity Fund	Statewide	Access, Devices	$18.8m $83.3m
FCC E-RATE	Statewide	Access	$16.1b[4]
FCC Lifeline	Statewide	Affordability	$481m[5]
FCC Connected Care Pilot Program	Primary Care Providers for a Healthy Feliciana	Access	$80k

FCC Covid-19 Telehealth Award	Access Health Louisiana Odyssey House Louisiana CMC University of Louisiana-Lafayette Louisiana Primary Care Association Louisiana Independent Hospital Network Coalition	Access	$930k $143k $272k $891k $453k
USDA Reconnect	Iberville Parish Pointe Coupee Parish, St. Landry Parish *3k locations served	Access	$7.7m
Louisiana LCTCS Broadband Curriculum Expansion Program	Statewide *State supplemental budget 2022	Workforce Development	$10.3m
Louisiana Optical Network Initiative	Statewide	Access	$50m
Louisiana Wireless Internet Network (LWIN) Emergency Communications Interoperability Fund	Statewide	Access	$12m
Louisiana Statewide Digital Inclusion Pilot	Jefferson Parish Livingston Parish Rapides Parish East Carroll Parish West Feliciana Parish	Digital Equity & Inclusion	$100k

1 Expended January 2020 – December 2022
2 Expended May 2021 – December 2021
3 Expended January 2022 – May 2023
4 Expended January 2017 – May 2023
5 Expended January 2004 – May 2023

3.2 Partnerships

While ConnectLA is singularly focused on improving the state of broadband, many partners have participated in addressing access, affordability, literacy and equity efforts. Partner identification was a critical first step that has proved advantageous to the initiative. Many of the partners identified in Table 6 have a mutually beneficial interest in providing internet for all and ensuring non-construction efforts are equitably distributed throughout Louisiana.

Figure 3: Coushatta Tribal Consultation

Table 6: Statewide Partners

Partners	Description of Current or Planned Role in Broadband Deployment and Adoption
LA Department of Education	Access, devices and affordability for students
LA Board of Regents	Adoption, access, digital skills, devices, affordability and workforce upskilling for students; digital equity planning
State Library of LA	Adoption, access, digital skills, devices, affordability
LA Planning and Development Districts	Access, equity planning, and technical assistance
LA Technical and Community College System	Adoption, digital skills and workforce upskilling for students
Louisiana State University System	Adoption, digital skills and workforce upskilling for students
University of Louisiana System	Adoption, digital skills and workforce upskilling for students
Southern University System	Adoption, digital skills and workforce upskilling for students
LA Workforce Commission	Workforce development and federal fair labor practices compliance for internet service providers
LA Coastal Protection and Restoration Authority	Climate resilience for infrastructure
LA Office of Homeland Security and Emergency Preparedness	Climate resilience for infrastructure
Police Jury Association of Louisiana	Local coordination
Louisiana Municipal Association	Local coordination
Governor's Office of Indian Affairs	Tribal coordination
Governor's Office	Infrastructure permitting coordination; rural development, Governor's Advisory Council on Disability Affairs
Office of Internal Audit	Financial and technical audit review
Communications Workers of America	Workforce development and federal fair labor practices compliance for internet service providers
Urban League of Louisiana	Disadvantaged business entity auditing and fair labor practices compliance for internet service providers
Louisiana Chamber of Commerce Foundation	Disadvantaged business entity auditing and fair labor practices compliance for internet service providers
Ochsner Healthy State Advisory Board	Thought leadership in improving access to telehealth services through consultation and feedback
BlueCross BlueShield Foundation	Thought leadership in improving access to telehealth services through consultation and feedback
Louisiana Telecommunications Association	Engaging internet service providers and affiliates in stakeholder engagement and grant program rules feedback
Louisiana Internet and Television Association	Engaging internet service providers and affiliates in stakeholder engagement and grant program rules feedback
Education SuperHighway	Develop a strategy for Wi-Fi for multi-family dwelling units

3.3 Asset Inventory

Over the last year, ConnectLA has worked to establish a statewide repository of broadband data points to inform investment decisions. While some assets are categorized below, an objective of the BEAD program is to further catalogue the hard and soft assets that exist in Louisiana. This can be accomplished by leveraging the work performed through Louisiana's Geographic Information Systems Council which currently works with the Louisiana Department of Transportation to inventory transportation assets. A robust geospatial map illustrating adoption, affordability, equity, access and deployment will be a product of the BEAD investment. An initial version of the map can be viewed at https://connect.la.gov/gumbo/. While the initial map documents GUMBO investments and other existing awards, a future version will focus on cataloging the remaining BEAD assets.
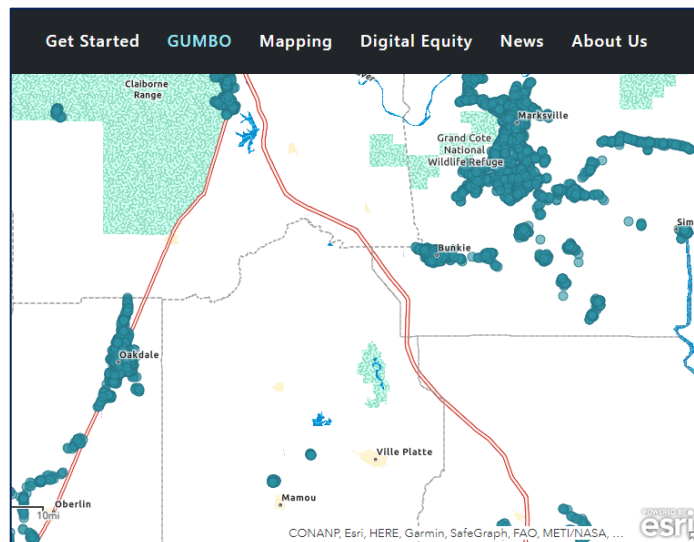

Figure 4: GUMBO Round 1 Grant Awards

Hard Assets

To achieve "internet for all," new funding and proposed projects will need to build upon any existing public assets and investments. Leveraging readily available hard assets could stretch future investments a little further resulting in more last mile connections.

Electric Cooperatives. In 2021, upon development of the GUMBO grant program, ConnectLA realized the significance of electric cooperatives participating in eliminating the digital divide. Specifically, co-ops can be advantageous for infrastructure expansions in the most rural parts of Louisiana. ConnectLA in partnership with the Association of Louisiana Electronic Cooperatives actively engaged seven co-op members to include them as eligible applicants in GUMBO.
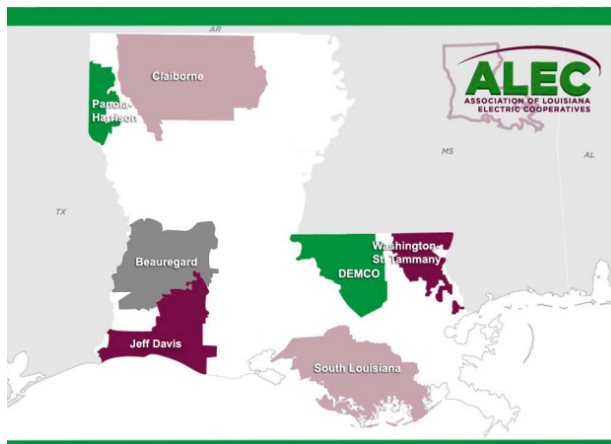

Figure 5: Electric Cooperatives

Figure 6: Volt Broadband Engagement

ConnectLA

ConnectLA intends to continue engagement with ALEC throughout BEAD implementation and will develop a co-op strategy. Northeast Louisiana Power Cooperative successfully worked with the Public Service Commission to create a subsidiary, Volt Broadband, who secured $2.3 Million in GUMBO funds to provide 291 households and 145 businesses with broadband access. In March 2023, Volt Broadband connected their first customer.

Louisiana Optical Network Infrastructure. The Louisiana Optical Network Infrastructure, or LONI, is a statewide fiber optic, high-performance computing and distributed-storage network funded by a $50 million state investment. LONI, a program of the Louisiana Board of Regents, is primarily available for use by academic and government institutions.

Table 7: LONI Network Assets by Parish

Parish Asset	Conduit Availability (ft)	Strand SMF Availability (ft)
Bossier	22,704 feet x 1.5"	22,704 ft of 144
Caddo	36,732 feet x 1.5" conduit	36,732 ft of 144
Calcasieu	72,117 feet x 1.5"	72,117 ft of 144
East Baton Rouge	199,404 feet x 1.5"	199,404 ft of 144, 216, 288
Jefferson Davis	5,796 feet x 1.5"	5,796 feet of 288
Lafayette	18,081 feet x 1.5"	18,081 feet of 144
Lafourche	48,310 feet x 1.5"	48,310 feet of 48
Lincoln	23,631 feet x 1.5"	23,631 feet of 144
Orleans	1,331 feet x 1.5"	1,331 feet of 144
Ouachita	58,672 feet x 1.5"	58,672 feet of 144
Rapides	7,552 feet x 1.5"	7,552 feet of 144
Tangipahoa	13,975 feet x 1.5"	13,975 feet of 144

The robust 40 Gbps backbone network has connections to Internet 2, commodity internet and other major national and international networks throughout Louisiana. Table 7 depicts the networks presence by parish with conduits and strands available in each. LONI was founded on the premise of transforming educational efforts in Louisiana to attract industry and research opportunities. The initial investment has yielded significant public benefits by saving university institutions nearly $10 million in individual broadband infrastructure investments.
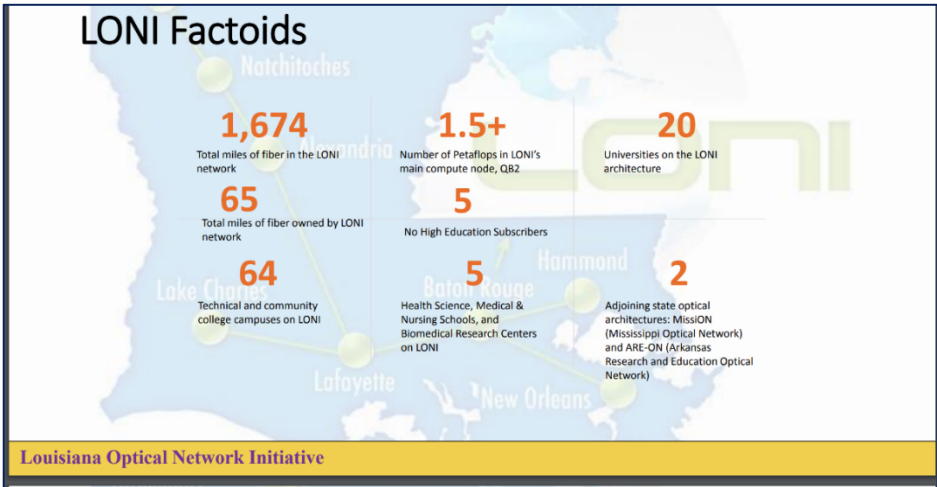

Figure 7: LA Optical Network Infrastructure Factoids

These institutions have also leveraged the network to enhance research capacity in areas of advanced manufacturing, biomedical research, and cybersecurity. The following are some other benefits:

- The ability to support cyber-related training activities using high-definition multi-cast conferencing with high-speed access to most major research universities and national laboratories across the country.
- Access to a cadre of knowledgeable professors, staff, students and graduates who are highly trained in the use of leading-edge networks and high-performance computers.
- Access to high performance computers and data storage resources for research
- Ability to demonstrate, test and evaluate soft/hardware in a configurable wide area network.

Louisiana Wireless Infrastructure Network. Louisiana is one of the few states with a hurricane season. Past devastating experiences dictate the need for Louisiana to maintain one of the largest statewide radio systems in the country, the Louisiana Wireless Information Network.
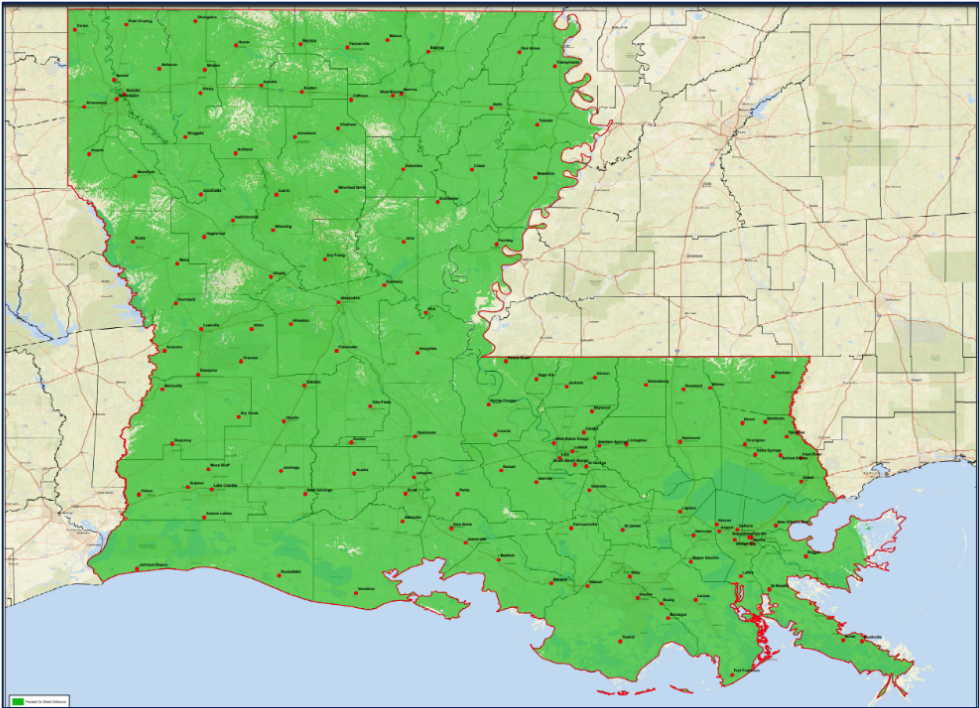

Figure 8: LA Wireless Network Access Points

The network supports communication to the public sector during emergency response efforts to any disaster-related event as operated by the governor's Office of Homeland Security and Emergency Preparedness. During an event the system can provide daily voice communication for more than 109,000 users with plans to do more. Currently, LWIN operates the following hard assets: 141 active tower sites, 4 mobile tower sites, 2 mobile repeater sites, 4 mobiles satellite dishes, 6 generators on wheels and 4 master sites. As a compliment to the LWIN Network, Louisiana in partnership with private providers offers additional emergency response communication through LA First Net. This broadband network offers communication to broader stakeholder groups.

Transportation Infrastructure Assets. Roadways are accompanied by Rights of Way which can be advantageous to broadband expansion efforts. Instead of securing land easements for every property, efforts are streamlined by building in the public ROW. Louisiana's local roadways comprise the majority of the total miles as depicted in Table 8. The Louisiana Department of Transportation and Development manages the remaining roadway miles and is a significant partner in broadband deployment.

Table 8: Public Roadway Miles

Interstate Miles	US Hwy Miles	LA Hwy Miles	Local Miles	Total Miles
943.69	2,284.83	13,243.58	44,681.61	61,153.71

Louisiana DOTD manages a set of statewide fiber infrastructure, the Intelligent Transportation System, that is primarily utilized to monitor traffic conditions throughout major cities. Although 90% is permitted fiber from third party providers, the remainder is a state asset that could potentially be leveraged for future expansion efforts.

<u>**Soft Assets**</u>

Closing the digital divide is a multifaceted effort that requires leveraging partners, initiatives, programs and resources. The following soft assets are unique to Louisiana and will position the state to achieve set outcomes:

Access. Libraries have been a long-standing resource to communities and have been actively engaged in digital inclusion programs. Public libraries in Louisiana offer free access to the internet and some also facilitate digital skills training. Main libraries, 67 in total, offer high-speed internet at an average of 1 gigabyte. These libraries are typically wired with fiber optic internet while other library branches, more than 280 in total, offer a variety of internet speeds. ConnectLA recognizes libraries as community anchor institutions which can be leveraged to improve access points statewide. Like many rural communities, some branches lack high-speed connections due to the prohibitive expense associated with a wired connection. The State Library of Louisiana provides significant staff support for public libraries in the annual application process for e-rate funds. Ongoing e-rate funding is critical for funding library connectivity.

Adoption and Digital skills. For an individual to "adopt" broadband, an understanding of the importance and benefit of use ought to be established. Libraries play a critical role in offering these resources. The Board of Regents and LOUIS: the Louisiana Library Network, a consortium of academic libraries, partnered with the state library to initiate the Louisiana Statewide Digital Inclusion Pilot to communicate the importance of improving digital skills. The State Library selected five public libraries to participate in this pilot, based on a variety of factors including library size, location in the state, library leadership and special demographics within their community. These libraries include East Carroll Public Library, Jefferson Public Library, Livingston Public Library, Rapides Public Library and West Feliciana Public Library. Participating libraries trialed new digital skills programming, enhanced their existing digital skills instruction and tried some new outreach strategies to reduce the number of people in their communities who lacked foundational digital skills. While the program was only a pilot, it established a framework by which future programming could be expanded.

The Northstar Digital skills online learning platform was developed by Literacy Minnesota in response to the needs of job seekers who may lack the digital skills needed to seek, obtain and retain employment, as well as to perform other tasks in daily life. In addition to the five public libraries in the pilot, the Board of Regents provides all colleges and universities in Louisiana with access to implement the Northstar platform. In total, 23 public and private higher education institutions offer the Northstar program's online digital skills assessments and practice lessons to their college students. Additionally, WorkReady U, an LCTCS adult education program, requires all their programs (ESL, High School Equivalency, and Foundational Skills classes) to work towards integrating digital skills development into their curriculum. WorkReady U's network includes twelve public community and technical colleges, with 75 campuses, and 22 adult education providers, which includes local education agencies, community and faith-based organizations, and correctional institutions. Currently, 22 of their colleges and adult education providers use the Northstar platform to assess and award digital skills certificates to learners who have acquired foundational digital skills.

Affordability. Similar to other states, Louisiana has received two primary funding opportunities through the FCC which provides financial assistance to broadband end-users. Both the Emergency Broadband Benefit program and the Affordable Connectivity Program amount to nearly $187 million in federal subsidies for Louisiana. As of May 2023, approximately 433,000 households have accessed this financial assistance. A critical component to the success of these programs is communication and outreach. While many have taken advantage of the program and successes have been achieved, a large number have yet to access the available financial assistance.

Finally, within the GUMBO subgrantee selection process, ConnectLA has incentivized low monthly prices by assigning more value to companies committing to consumer price stability for 5+ years. This valuation will also be utilized in evaluating future BEAD funding allocations.

Digital Equity. ConnectLA has partnered with the National Digital Inclusion Alliance and the Louisiana Board of Regents to create the state's first digital equity plan. The Kathleen Blanco Public Policy Center within the University of Louisiana Lafayette in partnership with the Louisiana Planning and Development Districts and other partners conducted rigorous stakeholder engagement to create the plan. ConnectLA will work with state-wide partners to implement the plan and develop tactics to address affordability, increase digital skills, address cybersecurity concerns, increase broadband construction certifications and credentials to assist with workforce development and career opportunities, and telehealth adoption promotion to increase rural health outcomes.

Economic Development. A recent National Skills Coalition publication found that 92% of jobs, across all industries, require digital skills. In contrast, 90% of all jobs in Louisiana require digital skills. Digital skills instruction through libraries, higher education, workforce development, adult educations providers, and others contribute to workforce development solutions and help meet industry needs for qualified workers*.* Louisiana Community and Technical Colleges is a major driver behind workforce solutions and meeting industry needs.

In recent efforts to meet broadband workforce needs LCTCS established a strategic broadband plan. A primary outcome is to offer multiple certification classes to equip students for fiberoptic installation. Among the programs offered, 14 are unique to broadband installation and a total of 52 programs are available to support workforce needs overall. In the first year of launching statewide programs, LCTCS plans to establish courses and curriculum in 55 of 64 parishes; market the programming; and evaluate the program's effectiveness to meet industry need. In the third to fifth years, LCTCS will perform rigorous program evaluation to maintain relevance with industry need while informing other leaders in education about opportunities for partnership to further advance the broadband strategic plan.

Figure 9: LCTCS Network

3.4 Needs and Gaps Assessment

A significant benefit of the initial outreach sessions conducted by ConnectLA was hearing the needs, concerns, and solutions presented by communities throughout Louisiana. Overtime multiple methods and opportunities were implored for identifying existing needs and gaps. Needs typically refer to what stakeholders require to achieve the outcome. Gaps are the areas lacking and methods for closing the gap. To ascertain needs and gaps, ConnectLA utilized the following sources:

- Digital Equity Outreach and Engagement conducted by UL Blanco Public Policy Center
- BCG Analysis
- Education SuperHighway
- American Community Survey
- FCC Broadband Data Collection, dated May 2, 2023
- CostQuest Associates State Plan (including CAI data sourced from the US Department of Homeland Security, IMLS, American Red Cross, and the US Census Bureau, dated August 2021)
- Qualitative information received by the Board of Elementary and Secondary Education (BESE) and school system superintendents.

Table 9: Broadband Needs and Gaps

Need	Gap to Close
Broadband Deployment / Access	
Access to Broadband Infrastructure	483,113 unserved broadband serviceable locations 170,514 underserved broadband serviceable locations 2,505 unserved or underserved community anchor institutions
Increase WIFI Access for Multi-Dwelling Units	1,148 MDU properties across Louisiana 159,150 residents living in MDUs without internet

Broadband Adoption	
Increased household broadband subscriptions	• 30% adoption rates of overall broadband • 50% adoption rates of broadband among <$20K HH income
Broadband Affordability	
Increased ACP enrollment	• 438,720 of household using ACP assistance • 904,157 are eligible for ACP assistance • $148m of ACP funding expended in Louisiana
Increased financial assistance for low-income consumers	• Ensure that 100% of providers offer ACP assistance • 904,157 are eligible for ACP assistance • 52% of population lack awareness of ACP program
Incentivize ISP participation to offer 5+ years affordable service	• Extra points assigned for low-cost long-term subscription pricing
Digital Equity	
Increased digital inclusion efforts	• 64 digital navigators needed statewide in public libraries • Digital navigators needed at postsecondary institutions, especially in community and technical colleges, HBCUs, and those primarily serving students from covered populations • ~20% of population lacking access to affordable digital devices
Increased participation in the Northstar Digital skills Program	• Five parish library systems participating in the Louisiana Digital Inclusion Pilot have implemented the Northstar Digital skills program. • Ensure that 100% of public libraries offer the Northstar platform. • 23 postsecondary institutions have implemented Northstar program • Increase participation in postsecondary institutions to include all colleges and universities across the five college systems (Louisiana Community and Technical Colleges System, Louisiana State University System, Southern University System, University of Louisiana System and the Louisiana Association of Independent Colleges and Universities) • 22 WorkReady U adult education providers have embedded the Northstar Digital skills program into their curriculum • Increase participation in WorkReady U (34) programs • Decrease the percentage of the population lacking foundational digital skills by 50%
Addressing cybersecurity concerns	• Robust cybersecurity understanding
Expansion of precision agriculture technology	• Ongoing productivity issues due to lack of broadband access • Reduce ongoing operational costs
Expansion of tele-health access	• Ensure that patients can use technology to access their provider and that issues surrounding, concerns with quality of care, broadband connection and digital skills are addressed
Economic Development	
Robust workforce for deployment	• Preliminary programs from LCTCS identify 14 unique programs to broadband installation and maintenance and a total of 52 programs
Resilient broadband supply chain in Louisiana	• 1-2 year lead times on vault and component acquisition • Work with manufacturers to meet supply chain needs • 7,000-8,000 workers needed to meet labor supply
Streamlined Permitting / Procurement	• Work with local, state and federal stakeholders to offer a streamlined permitting process for use of existing rights-of-way

4   Obstacles or Barriers

Today's broadband climate post-pandemic is drastically different and presents its own set of challenges that are further characterized by a variety of issues. These challenges may be attributed to the unprecedented availability of federal dollars authorized to local, state and federal agencies for broadband investments. To start the process of addressing the issues within Louisiana, the GUMBO grant program was established in 2021, which opened opportunities for public-private partnerships in the expansion of broadband infrastructure. While this represents the first of many steps to addressing the challenges Louisiana will face, the state recognizes that there are additional considerations:

Labor Shortage Challenges. As of May of 2023, ConnectLA committed $143 Million in broadband investment throughout the State of Louisiana. While companies were ready and willing to expand their infrastructure and operations, many were faced with labor shortages. According to an early analysis using data from CostQuest Associates, LightCast (EMSI), and private sector expert interviews, Louisiana could see shortages of up to 7,000-8,000 jobs by 2025 to construct and maintain future network expansions if no action is taken to increase the qualified labor pool.

In late 2021, ConnectLA strongly encouraged applications to the GUMBO Grant program to partner with local community colleges and the Louisiana Community and Technical College System to develop local workforce plans in anticipation of workforce needs. In addition, Governor John Bel Edwards provided in 2022 an appropriation of $10.3 million in funding to help pay for tuition reimbursements for those who pursue a certification.

The goal for the community college is that by the end of 2023, every community college (55 out of 64 parishes) will offer multiple certification classes around fiber splicing, trenchless digging and digital skilling. This creates an opportunity for people in a parish to travel to their location community college and work for the ISP that is building in their parish.

Several community colleges have taken action to remedy the labor shortage challenge while preparing for the required future workforce. South Louisiana Community College (SLCC) for example, now offers a variety of aspects for training fiber to the home installation technicians.

"SLCC is working diligently to ensure that well-trained qualified individuals are being pipelined to fill the workforce needs of our local partners,"

-Anthony Baham, spokesman for SLCC's Workforce and Economic Division.

The goal was to embed the training with multiple different industry-based credentials necessary to be successful as an entry level employee in the industry. Some of the training earned while enrolled in this course include the following material:

- Class A CDL
- CPR/First Aid/AED
- Pole Climbing Techniques
- SMART Defensive Driving

- NCCER Core
- Fiber Broadband Association
- AT&T/Corning
- Pole Top Rescue

The 20-week course is offered at SLCC's Acadia Campus in Crowley and provides 700 hours of training for certification. While the program has been in development since 2021, it is set to launch this year.

Another successful community college is leveraging the traditionally untapped workforce housed at the Caddo Correctional Center. Through a vocational program aimed at filling in the workforce gap, this fiber optic training program is the first of its kind, nationally.

BOSSIER PARISH COMMUNITY COLLEGE

The established curriculum offers Louisiana Department of Corrections inmates participating in the Northwest Regional Re-Entry Program at CCC two fiber optics certifications through BPCC. The certifications include the Certified Premises Cabling Technician certification and the Certified Fiber Optic Technician certification. The industry-based certifications are awarded by the Fiber Optic Association.

"For us at BPCC, expanding correctional-based programs is part of our strategic enrollment strategy, but it goes quite nicely with the workforce need that exists to build these networks," … "We approached the folks at Re-entry, the sheriff's office and our friends at the Department of Corrections and began that process last year."

> **– Rick Bateman, Chancellor at Bossier Parish Community College**

Supply Chain and Material Challenges. As in all construction projects, broadband deployment is contingent upon the availability of supplies and materials. In the last two years, with the influx in infrastructure expansion, many ISPs are facing significant delays in receiving the materials and equipment needed for deployment. BCG Analysis conducted a survey to engage 17 ISPs in their experience on supply chain challenges. For buildouts requiring fiber optic materials, conduit and vaults are two example materials that have become increasingly challenging to obtain, according to the ISPs.

73% of respondents have some increases in lead times, with 26% citing significant increases

% of respondents

Decreased	11%
No change	16%
Increased	47%
Increased significantly	26%

How have lead times changed in the last 12 months?

Figure 10: BCG Survey Analysis
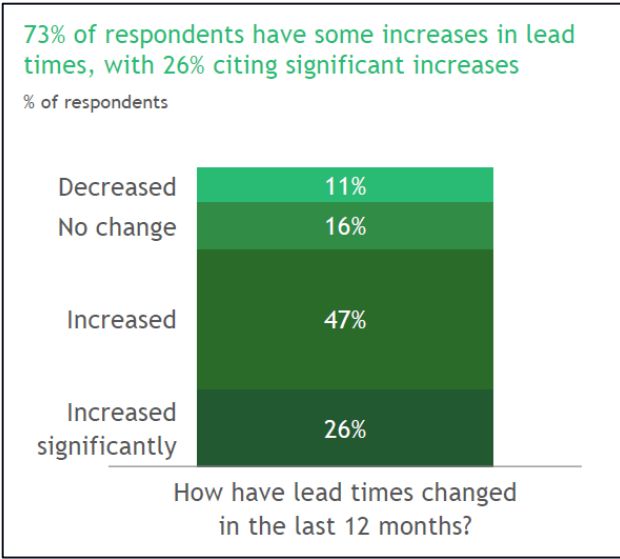
Lead times have doubled on average, and prices have increased by 13% - 133% depending on the component. In addition to longer lead times, overall pricing increases have also created delays in receiving the material directly impacting construction start dates. This is especially critical for smaller companies that do not possess the same buying power as their larger counterparts.

To mitigate the supply chain challenges, companies negotiate with suppliers as soon as stock is available resulting in some overstocking and mass purchasing. Another tactic used includes skipping the distributors and working directly with the manufacturer to bypass any distribution delays. Some companies in Louisiana are now considering what it would take to re-tool internal processes and manufacture certain components in-house.

Procurement and Contracting Challenges. Coupled with the challenges described in the supply chain, ISPs are also facing challenges meeting general procurement guidelines set by State and Federal granting regulations. Typically, private ISPs are not beholden to these types of public procurement processes and are able to leverage long-standing relationships and contracts with existing suppliers. This allows for reasonable pricing. Demand for supply and labor has exponentially increased resulting in market volatility and the inability for companies to maintain long-term pricing. Furthermore, when the public bid process is followed, labor and supply companies are less likely to bid due to 1) the overextension of labor companies, 2) suppliers not meeting component demands and 3) long-standing company relationships taking precedence over new opportunities. A more recent federal requirement, the Build America Buy America Act, while beneficial for the national economy, has placed additional constraints on the market. This focuses on maximizing the federal government's use of services, goods, products, and materials produced and offered in the United States. BABA requires that all iron, steel, manufactured products, and construction materials used in federally funded projects for infrastructure must be produced in the United States. Some companies claim to satisfy these requirements, while others struggle to source U.S. products due to lack of supply. More critical is the challenge of who will be ensuring that BABA requirements are met and what type of leniency will be given considering the overall supply chain challenges.

Industry Participation Challenges. Rural communities have often been left behind by lack of industry participation. In the last decade, significant investments were made in the urban, population-dense areas where it made business sense to deploy. Whereas broadband expansion in rural communities languished and remained cost prohibitive presenting many communities with significant economic challenges. This is evidenced by the lack of connectivity and the remaining legacy infrastructure that dates to the 1960's. As the availability of federal and state subsidies have increased, private providers are now taking a greater interest in rural expansion and prioritizing better service delivery.

Like the GUMBO awards, BEAD will be administered by ConnectLA to incentivize rural broadband deployment. Eligible applicants can receive up to 75% of the program build out with a minimal match of 25% contributed by the provider. Additional value is assigned to applicants who work with local communities to ensure buy-in from the area in which the buildout is proposed. While in the past public participation and engagement in Louisiana has not been as robust as it should, communities are taking a more proactive approach in working with ConnectLA and proposed providers to ensure that areas are not left behind.

Furthermore, ConnectLA requires projects to be typically completed within two years. Claw-back clauses are imbedded within the grant acceptance conditions, wherein companies would need to re-pay any awards that do not deliver. ConnectLA intends to maintain regular and consistent stakeholder engagement with providers, local governments, and citizens to foster collaboration and permit coordination.

Adoption Challenges. Digital inclusion is a broader term encompassing many of the aforementioned challenges. More specifically, it refers to the activities necessary to ensure that all individuals and communities, including the most disadvantaged, have access to and use of information and communication technologies. Activities include 1. Affordable, robust broadband internet service; 2. Internet-enabled devices that meet the needs of the user; 3. Access to digital skills training; 4. Quality technical support; and 5. Applications and online content are designed to enable and encourage self-sufficiency, participation and collaboration. NDIA states, "Digital Inclusion must evolve as technology advances. Digital Inclusion requires intentional strategies and investments to reduce and eliminate historical, institutional, and structural barriers to access and use technology.

A specific challenge to overall digital inclusion is documented by ACS in the share of populations without a computer and broadband subscription. As illustrated in Table 10, Nearly 15% of the Louisiana population lack a computer and broadband subscription at home, which is higher in individuals older than 65 (29%), among the black community (21%), and individuals who live in rural areas (17%).

Table 10: Share of Population with a Computer and Broadband Equipment at Home

Group	Louisiana	
Total Population	3,859,185	85.1%
65 or Older	499,642	71.2%
Black	1,124,316	78.7%
Asian	73,755	93.1%
Hispanic	202,963	84.7%
American Indian	21,636	86.9%
Rural	1,022,127	82.8%

Source: U.S. Census Bureau, 2021 ACS 5-year estimates.
Note: baseline estimates for other covered populations will be developed during year 1

Topography Challenges. When addressing access, Louisiana has a significant advantage in its topographic composition because it is flat. Unlike other mountainous areas, Louisiana's terrain is more conducive than others to serving every last mile with a wired connection. Louisiana is a coastal state with low-lying areas near the Gulf of Mexico, leaving it susceptible to hurricanes and tornadoes. It is one of a few states with an annual hurricane season. According to the Pew Charitable Trusts, flooding is the most common and costly natural disaster in the United States and Louisiana is among the most frequent victims. The Federal Emergency Management Agency has designated 26,826 square miles, or 51% of Louisiana, as a Special Flood Hazard area. To mitigate impacts from natural disasters, many ISPs in Louisiana are transitioning to hardened infrastructure through underground deployment. This significantly limits the frequency and duration of broadband outages. Other measures include use of steel poles for aerial deployment and access to backup power sources. Cajun Broadband's underground deployment in Saint Martin Parish is a success story. Through the GUMBO grant program, Cajun Broadband provided high-speed, affordable internet infrastructure to 513 locations in a parish that is often disaster impacted.

Another barrier that Louisiana will contend with when making deployment decisions concerns the loss of coastal land and a northward migrating population. Over the next 30-50 years without risk-

mitigation, Louisiana stands to lose an estimated 3,000 sq miles of land along the coast. While agencies like Louisiana's Coastal Protection and Restoration Authority aim to change that trajectory, the reality is coastal residents continue to move north. Contributing factors include the perpetual state of recovery which many are forced to undergo and ever-increasing insurance rates making it unaffordable for homeowners to live in the area.

Digital Skills Challenges. Overwhelming demand for digital skills exists within the labor market. In a study conducted by the national skills coalition and the Atlanta Federal Reserve Bank, 92 % of all reviewed job ads required digital skills. Large and small businesses alike are seeking workers with technology skills. To best characterize the challenges arising from digital skills, Louisiana piloted a program to increase the available digital training programs - Louisiana Statewide Digital Inclusion Pilot. This one-year effort was initiated through 5 public libraries. Participating libraries trialed new digital skills programming, enhanced their existing digital skills instruction, and tried some new outreach strategies to reduce the number of people in their communities who lacked foundational digital skills. Existing library staff received digital navigator training to serve as trusted guides for individuals looking to improve their digital skills. As of March 2023, there were 65 digital navigators from across the five pilot sites.

Two goals were set for the pilot 1) reduce the number of residents who lack foundational digital skills and 2) develop a framework for a sustainable statewide digital skills program for public libraries. While the pilot proved successful several challenges were identified to long-term programming: 1) small and rural libraries faced capacity issues, 2) digital navigators were limited in their autonomy to meet participants needs, 3) some library staff lacked foundational digital skills, 4) a focus on censorship challenges resulting in staff turnover and 5) promotion of the digital skills training programs was challenging.

To address these challenges, the Louisiana Board of Regents recommended a statewide digital navigator program, with funding for dedicated digital navigators in each parish, targeted outreach to unserved and underserved populations, and the development of an online digital inclusion learning environment for library staff, and a communication tool kit with high-quality outreach materials. As digital skills programming is expanded in the future ConnectLA will consider how best to deploy the digital navigator model throughout libraries statewide.

5   Implementation Plan

5.1   Stakeholder Engagement Process

Public engagement has been a priority of ConnectLA since day one. The strategy has been two-fold, offering continuous and diverse engagement opportunities. The engagement goal is to visit each parish tri-annually. Given the number of parishes and Louisiana's size, this is attainable.

Continuous engagement. Communities have felt more included in ConnectLA's vision and process for program implementation due to the visibility of the office. Staff have been ready and willing to educate communities on the significance of public and industry participation in broadband expansion; provide information on the available funding and resources; offer technical assistance workshops; and facilitate other broadband informational sessions. The continuous outreach strategy has proven beneficial and garnered much buy-in from local groups. To date, ConnectLA has conducted over 130 public engagement meetings.

Diverse engagement. To satisfy diverse engagement metrics and reach covered populations throughout the state, ConnectLA and the outreach team implemented a multi-faceted approach to engagement wherein the needs of individuals both in proximity and intellect were met. To accomplish these goals, the Office of Broadband and the Kathleen Blanco Public Policy Center collaborated with the state's regional planning and development districts, colleges and universities, tribal organizations, and other regional partners to reach a diverse group of Louisianians from across the state. Strategies included in-person stakeholder meetings which were recorded and live streamed, tribal consultations, a stand-alone online digital form, a paper form at meetings and left at libraries, in-person and virtual focus groups, and a comment form for the draft plan. Engagement included four official tribal consultations, eight regional stakeholder meetings, online / paper input forms and 29 focus groups. Regional stakeholder meetings and the input forms were facilitated to capture broader feedback from the public. Tribal consultation along with the focus group meetings were aimed at collecting a more in-depth understanding of the needs associated with covered populations. Participants were either those who have worked with a covered population or were a covered population themselves.
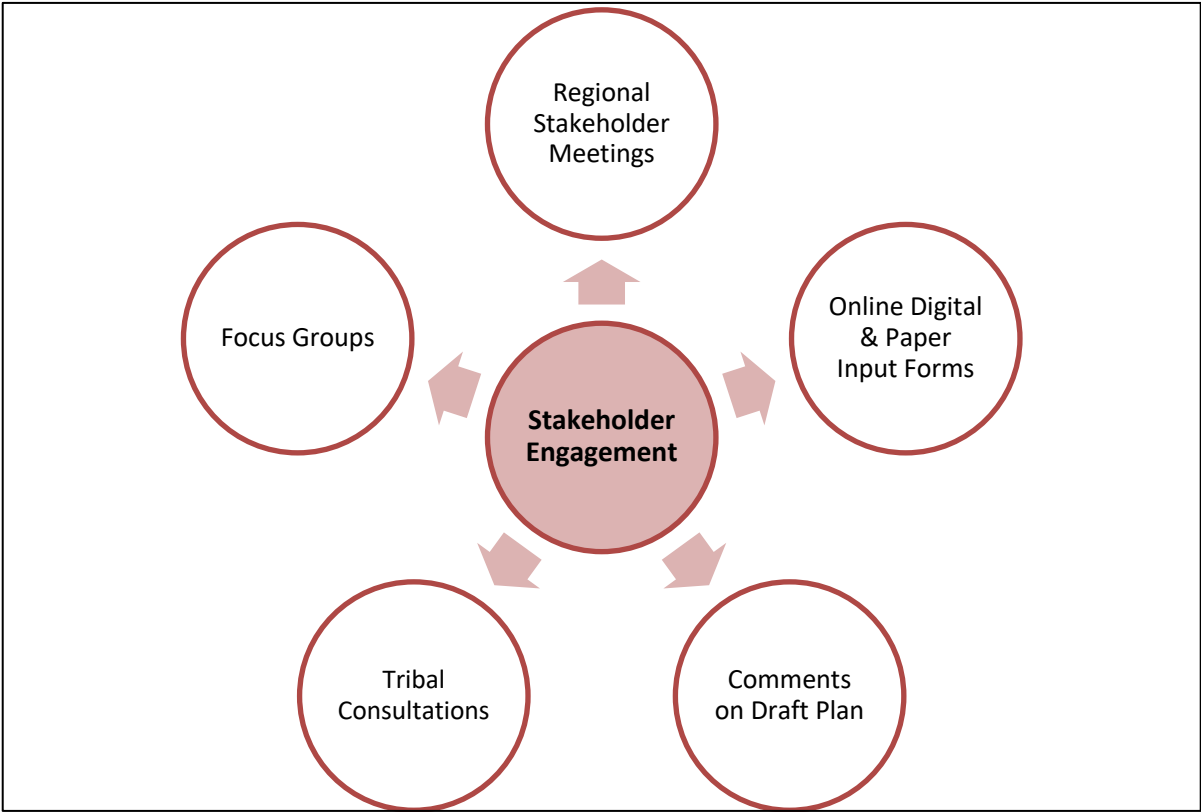
Figure 11: Stakeholder Engagement Framework

Moving forward with the BEAD and digital equity plan implementation, ConnectLA will continue to prioritize communication and engagement. Another key strategy for outreach includes newsletters and regular updates to the ConnectLA website where all broadband information for Louisiana is managed. By utilizing these various modes of communication, ConnectLA can ensure that program information is effectively delivered.

5.2   Priorities

Similar to the funding authorized through the GUMBO grant program, BEAD funding will utilize the following priorities listed in Table 11 to make future investment decisions.

Table 11: Priorities for Broadband Deployment and Digital Inclusion

Priority	Description
Access	
Leverage Existing Assets	Incentivize applications that utilize existing infrastructure and already-awarded project applications.
High-Cost Location Deployment	Identify high-cost areas for deployment and develop a matrix for awarding these areas at higher subsidy rates to incentivize all locations for inclusivity of a competitive grant process.
Ensure connectivity across all MDUs	Invest in Wi-Fi access to MDUs among low income and affordable housing.
Adoption	
Adoption Outreach	Continue to partner with internet service providers to facilitate ongoing outreach methods and to research solutions for future methods.
Public Outreach and Engagement	Continue engagement efforts to communicate funding awards and promote the use of the FCC Affordable Connectivity Program.
Affordability	
Promote use of the FCC Affordable Connectivity Program	Using stakeholder engagement to market the FCC Affordable Connectivity Program which provides device subsidies to those who qualify, providing wi-fi routers and modems to multi-dwelling units.
Prioritize buildouts that offer long-term, low-cost service	Incentivize ISP applications that propose to offer communities price stability for 5 years or more.
Digital Equity and Inclusion	
Increased participation in the Northstar Digital skills Program	Coordinate with partners, such as the LA Board of Regents, LOUIS: The Louisiana Library Network and the State Library of LA, to market the Northstar digital skills program to teach digital skills to citizens.
Identify and employ digital navigators	Coordinate with partners, such as the LA Board of Regents, LOUIS: The Louisiana Library Network and the State Library of LA, to identify locations for potential digital navigators and find sustainable funding to maintain these positions.
Ensure disadvantaged areas are made aware of career opportunities	Coordinate with partners, such as the LA Board of Regents, LOUIS: The Louisiana Library Network and the State Library of LA, to market online education platforms to achieve new education credentials.
Promote use of DBE, WBE, and Hudson businesses	Assign higher points or added points to applications where a DBE, WBE and/or Hudson business is included in the project implementation.

Addressing cybersecurity concerns	-Educate residents and business owners on the current threats to their quality of life from ongoing cybersecurity issues and concerns. -Prioritize the understanding the benefits of broadband adoption for every-day life activities, but also the unintended consequences of connectivity.
Expansion of precision agriculture technology to reduce operating expenses	-Encourage additional research aimed at quantifying the economic benefits in utilizing precision agriculture and value-added technologies. -Collaborate with agriculture partners to demonstrate best practices at regularly scheduled events and conferences. -Support digital skills education for agriculture-based businesses. -Facilitate agribusiness development sessions that leverage regional agricultural assets with technology advancements.
Expansion of tele-health access	-Ensure 100% of health centers can offer telehealth and monitoring services to their service territory. -A regional goal to increase the number of clients accessing the service. -Promote available healthy living, screening, and wellness trainings offered by health centers and organizations. -Explore federal and state opportunities for health care providers to submit for reimbursements for telehealth services and for patients who need broadband to use telehealth services.
Economic Development	
Support LCTCS and Workforce Commission in offering workforce certifications	Facilitate stakeholder engagement to educate citizens on careers in broadband network construction and maintenance, as well as support expansion of certification programs throughout the state.
Identify industry partners to provide supply chain components	Work with Louisiana Economic Development and other Economic Development stakeholders to identify and recruit potential businesses that can fill gaps in the broadband supply chain.
Streamlined Permitting/Procurement	Work with local, state and federal stakeholders to offer a streamlined permitting process for use of existing rights-of-way.
Resiliency	
Climate Resilient Framework	Creation of a climate resilience framework that incentivizes "resilience zones" to strengthen the broadband infrastructure of Louisiana for at-risk communities.
Standardize resilience measures at CAIs	Invest in hardened infrastructure and redundancy at CAIs to mitigate risk during extreme weather events.

5.3 Planned Activities

In the next 5 years, ConnectLA, along with engaged partners, are focused on the following planned activities to eliminate the digital divide. To accomplish this, ConnectLA intends to expand staffing efforts to accomplish the planned activities and strategies outlined below.

Broadband Access

Funding Source: Capital Projects Fund and BEAD

- Eliminate the unserved population (access to speeds of less than 25:3) by considering programs identified in Table 5 to complete connectivity for the remaining unserved.

- Increase connectivity for the underserved population (access to speeds of at least 25:3 but less than 100:20) by providing infrastructure deployment programs that would provide access to speeds of at least 100:20, with scalability to at least 100:100.
- Invest in Wi-Fi access to MDUs among low income and affordable housing to ensure universal coverage.

Broadband Adoption
Funding Source: BEAD and Digital Equity

- Improve digital skills rates and health outcomes by providing access to digital skills programming, telehealth availability, and research opportunities through programs sponsored by the State Library and LA Board of Regents.
- Consult with partners and recipients of other broadband programs not administered through ConnectLA to ensure continuity in broadband implementation and adoption.

Broadband Affordability
Funding Source: BEAD and Digital Equity

- Continue outreach and engagement to inform communities of the Affordable Connectivity Program and other financial assistance.

Digital Equity and Inclusion
Source: BEAD and Digital Equity

- Increase the state's digital skills rate by 50% by funding digital skills staffing support at the parish level and implementing the Northstar program statewide, with an additional enticement for enrollment through the offering of a free device upon program completion.
- Designate and fund the State Library of Louisiana as the organization to manage the statewide digital navigator program in public libraries.
- Designate and fund the Louisiana Board of Regents as the organization to manage the statewide digital navigator program in postsecondary institutions.
- Develop public private partnerships to help CAIs and individuals with device affordability.
- Create a digital equity dashboard that tracks clearly defined access and affordability metrics to ensure that milestones are achieved.
- Expand outreach to covered populations through accessible communication outlets.
- Establish a digital equity advisory panel in coordination with the BEL Commission
- Address tele-health, precision agriculture and cybersecurity concerns and provide methods for expansion of existing programs.
- Promote use of DBE, WBE, Hudson businesses and ensure DBEs are aware of opportunities.

Economic Development
Source: BEAD, Digital Equity and Other State Funds

- Increase local, broadband-related workforce levels to ensure timely, efficient, and cost-effective infrastructure deployments by partnering with the Louisiana Community and Technical College System and funding tuition and fees for 500 students enrolled in newly created broadband-related programs.

- Address permitting and procurement concerns by working with local, state and federal stakeholders to offer a streamlined permitting process for use of existing rights-of-way.
- Work with Louisiana Economic Development and other Economic Development stakeholders to identify and recruit potential businesses that can fill gaps in the broadband supply chain.

Resiliency

Source: BEAD, Digital Equity and Other State Funds

- Study the creation of designated "Resilience Zones" because of increasing threats described in the Statewide Climate Action Plan.
- Provide coastal communication resilience by ensuring anchor institution connectivity to underground fiber optics.

5.4 Key Execution Strategies

As BEAD and digital equity funds are authorized for use in Louisiana, ConnectLA intends to implement strategies to close the digital divide and ensure digital inclusion opportunities for all. Below are key strategies that will advance ConnectLA goals, objectives, and planned activities.

Access Strategy

Louisiana has proven successful in administering GUMBO investments targeted at unserved and underserved areas. As a frontrunner in implementation, ConnectLA developed improved strategies for deployment of BEAD funding. Existing assets are to be leveraged in future investments which may likely decrease the cost per passing. Furthermore, in areas where industry participation is low and costs per passing is high, through the subgrantee application process, ConnectLA will offer increased grant rates to incentivize build outs in high-need areas. Communities will be encouraged to engage and assist ISPs to ensure that disadvantaged areas have high industry participation.

Adoption Strategy

Communicate the value in broadband usage and improve individual digital skills to ultimately increase statewide adoption rates. Expansion of Louisiana's Statewide Digital Inclusion pilot to include all public libraries, managed by the State Library, is the springboard for this strategy. Utilization of the State Library of Louisiana (for public libraries) and the LA Board of Regents (for postsecondary institutions) to implement the Northstar Digital skills program and establish digital navigators is key to cultivating adoption.

Affordability Strategy

Identification of the extent to which needs among covered populations are unmet will be a critical first step in addressing affordability. Robust engagement is necessary to market existing financial assistance programs and promote use. Such programs include ACP and ISPs that can offer lower-cost service plans for longer periods of time and will have more opportunities for accessing infrastructure funding. Furthermore, utilizing public-private partnerships can provide a strategic advantage for stretching public dollars to offer affordable internet service, devices, and resources.

Digital Equity and Inclusion strategy

Utilize the key strategies outlined in the Digital Equity Plan to ensure covered populations are receiving equal opportunity for access, affordability, and adoption.

Economic Development Strategy

Critical to achieving deployment goals is the need to maintain a skilled and certified workforce. LCTCS's broadband workforce strategy will be utilized as the framework for connecting talent pipelines to meet industry need. ConnectLA will leverage ongoing efforts by LCTCS and the LA Workforce Commission to periodically re-evaluate and align curriculums with industry demand. ConnectLA in partnership with economic development organizations will strategize to mitigate supply chain disruptions by re-tooling willing businesses that can manufacture components.

Resiliency Strategy

Mitigation of broadband outages during a natural disaster is a critical life-saving strategy. To accomplish this, hardening infrastructure throughout Louisiana is a must. Additionally, Louisiana will need to ensure emergency-related communications are operational during and after a storm by establishing resilient hubs at CAIs and resiliency zones across the state.

5.5   Estimated Timeline for Universal Service

By 2029, Louisiana aims to be fully connected. Illustrated in the timelines below, GUMBO and BEAD funding will be allocated with guided parameters for construction completion. GUMBO grant funds are anticipated to be disbursed based on the following project completion milestones:

Installment 1	10% Construction Completion
Installment 2	35% Construction Completion
Installment 3	60% Construction Completion
Installment 4	85% Construction Completion
Installment 5	100% Construction Completion

Through the GUMBO program, applications containing buildouts past 24 months received fewer points. These same processes will likely be utilized during the development of the subgrantee selection process for BEAD. Supply chain challenges may impact final construction completion schedules, but ideally, most GUMBO construction should be complete by 2025.

BEAD Phase I: Based on Initial 20% - Access and Deployment

May 23, 2023:	Volume 1 Initial Proposal Public Comment Period Starts
May 29, 2023:	5 Year Action Plan Submitted
June 2023:	Volume 2 Initial Proposal Public Comment Period Starts
June 23, 2023:	Volume 1 Initial Proposal Public Comment Period Ends
June 30, 2023:	Notice of Available Amounts Announced
July 1, 2023:	Volume 1 Initial Proposal Submitted to NTIA for Review
July 3, 2023:	Volume 2 Initial Proposal Submitted to NTIA for Review
August 28, 2023:	Initial Proposal Approved by NTIA
October 1, 2023:	Application Period Opens
November 30, 2023:	Application Period Closes
December 2023:	Administrative Review
January 2024:	Provisional Awards Announced
February 2024:	Finalize Awards and Present Grant Agreements
February 2024:	Grant Agreements Signed, Construction Begins
December 2025:	Construction Completion

BEAD Phase II: Based on Using Half of Remaining 80% - Access and Deployment

July 31, 2024:	Complete Final Proposal
August 1, 2024:	Final Proposal Submitted
August 31, 2024:	Final Proposal (Ideally) Approved
October 1, 2024:	Application Period Opens
November 30, 2024:	Application Period Closes
December 2024:	Administrative Review
January 2025:	Provisional Awards Announced
February 2025:	Finalize Awards and Present Grant Agreements
February 2025:	Grant Agreements Signed, Construction Begins
December 2026:	Construction Completion

BEAD Phase III: Based on Using Last Remaining 40% - Deployment Completion and Beginning Non-Construction Initiatives

March 1, 2025:	Application Period Opens
April 30, 2025:	Application Period Closes
May 2025:	Administrative Review
June 2025:	Provisional Awards Announced
July 2025:	Finalize Awards and Present Grant Agreements
July 2025:	Grant Agreements Signed, Construction Begins
July 2027:	Construction Completion – Internet for all Louisianians

5.6 Estimated Cost for Universal Service

While the goal is to eliminate the digital divide, estimated cost associated with universal service depends on multiple factors: (1) the final number of locations to be prioritized, including how many previously funded federal awards go through as planned, and (2) the cost to serve those locations, considering factors such as greenfield versus brownfield fiber build costs; provider bids and match rates; labor, material, and/or general inflation adjustments; the cost to bury fiber to reduce climate risk; and more. Due to the evolving nature of the factors above, the numbers put forth in this document are estimates and are expected to change, particularly with the near-term deployment of the FCC's new fabric and cost model updates, at a minimum.

Louisiana total potential CapEx by deployment strategy, Total Cost to Serve[1], Capex ($M)

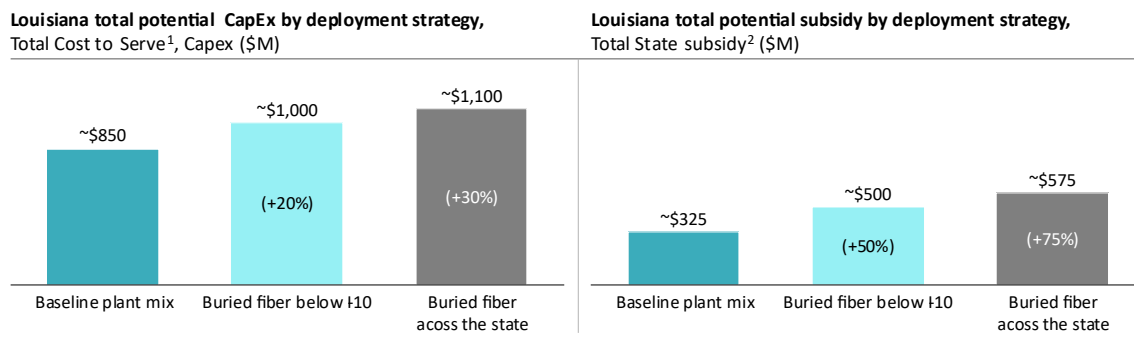Louisiana total potential subsidy by deployment strategy, Total State subsidy[2] ($M)

Figure 5: Cost Distribution of Infrastructure by Census Blocks (in Millions)

The State of Louisiana is looking at varying factors that will impact the number of locations prioritized for deployment, as listed in the table below. As stated above, the numbers are estimates and likely to change.

Table 12: Universal Service Cost Scenarios

Scenario	Unserved locations	Underserved locations	CAIs	Total Unserved, Underserved, CAI locations	Estimated CapEx Baseline | $m
A: Base scenario	483,113	170,514	2,505	656,132	$1,641
	• FCC Broadband Data Collection (pulled May 2, 2023) • Excludes unlicensed FW and Satellite • Locations without service availabilities counted as unserved • CAIs assumed to be unserved – service availability to be finalized				
B: Locations served via other federal funds (RDOF, CAFII, USDA)	163,827	14,146	311	178,284	$772
C: State run CPF program (GUMBO)	16,098	12,591	3	28,692	$47
D: Expected RDOF defaults	In process of assessing, further updates forthcoming				
E: Adjusted Base Scenario – excludes federally funded & Gumbo locations, readd RDOF defaults (A-B-C+D)	303,188	143,777	2,191	449,156	$822
F: DSL-only served locations *(Discretionary)*	-	24,621	-	24,621	$27
	• FCC Broadband Data Collection (pulled May 2, 2023) • Assumes all copper served locations are DSL and underserved				
G: Adjusted Base Scenario plus DSL-only locations (E+F)	**303,188**	**168,398**	**21,91**	**473,777**	**$849**

Source: CostQuest Analysis Dataset

For the purposes of this estimate, location data in **Scenario G** is considered. The above cost estimates represent Capex required (does not yet include expected provider matches), Greenfield fiber network build out, and various assumptions (federal funds, material costs, fixed network costs, service costs, etc.) provided through CQA's November 2022 cost model and state data set.

Louisiana is considering three additional scenarios that address varying levels of climate risk and associated deployment costs. The southern and coastal region of the state is frequently impacted by hurricanes, and, in recent years, they occur more frequently and intensely. To provide high-speed, climate-resilient internet with reasonable and affordable rates to all Louisianans, the state is exploring options to bury its fiber network. As of May 2, 2023, the scenarios under consideration are:

- **Baseline**: A mix of underground and aerial construction statewide, based on historical deployment patterns of wireline networks in the state

- **Bury in Coastal Parishes**: Total underground construction south of Interstate-10, baseline mix in other parishes
- **Bury Across State**: Total underground construction statewide

Based on an initial analysis we anticipate the total costs for these three scenarios to be:

- **Baseline**: $850M Total CapEx | $325M estimated State Subsidy
- **Bury in Coastal Parishes**: $1,000M | $500M estimated State Subsidy
- **Bury Across State**: $1,100M | $575M estimated State Subsidy

The above numbers assume Greenfield fiber network build out and various costing assumptions (potential provider match rates, material costs, fixed network costs, service costs, etc.) provided through CQA's November 2022 cost model and state data set.

Based on these figures, the State of Louisiana currently believes it can provide high-speed internet (100:20 Mbps) to every broadband serviceable location and address in the state. However, this outcome will ultimately be based upon the NTIA's Notice of Available Amount and Louisiana's allocation, the FCC's new fabric to be released, evolving cost models, and assumptions around inflation, provider match rates, and other variables. ConnectLA will continue to monitor and evolve cost estimations in preparation for the bid process. If future costs to serve are projected to exceed Louisiana's final allocation, the State of Louisiana will connect locations in order of priority as dictated by the BEAD Notice of Funding Opportunity.

5.7   Alignment

Preceding ConnectLA and NTIA's support for State Broadband Offices, Louisiana facilitated a variety of broadband programming. While most programming was incongruent and lacked coordination by a centralized state body, broadband priorities were imbedded throughout state plans. Table 13 illustrates existing statewide plans and intended plans that align with the 5-year action plan.

Table 13: Existing Plans and 5-Year Action Plan Alignment

Priority	Description
Access	
Broadband for Everyone in Louisiana (BEL) Commission	In 2019, the BEL Commission was established to support access for all residents in Louisiana. A strategic plan was adopted to support this effort.
GUMBO Grant Program	The GUMBO grant program provided significant assistance with constructing and deploying high-speed, reliable broadband networks to unserved and underserved areas and community anchor institutions.
Rural Revitalization Plan – LA Governor's Advisory Council on Rural Revitalization	In February 2020, the council was created to identify the needs and issues facing Louisiana's vital rural communities, as well as solutions to removing any challenges. Broadband is a top priority in the Rural Revitalization Strategic Plan.
LONI Strategic Plan	A primary objective of LONI is to connect residents to supercomputers at the participating universities and other computing resources throughout Louisiana which centers around a 50-teraflop supercomputer.

ConnectLA

LA DOTD Intelligent Transportation System	LA DOTD is actively improving the operations of the state's transportation systems for hurricane-related emergency evacuation, developing a cost-effective system that utilizes existing telecommunications resources and identifying and addressing the ITS communications requirements.
Adoption	
Digital Learning/ Educational Technology Plan	LA Department of Education has a plan that is intended to be a guide to inform and influence school systems in crafting their own strategic technology plan. This plan also serves as a guide for school leaders to develop a framework for educational technology integration at the school level.
U.S. Economic Development Association Grant Funded	In 2021, the U.S. Economic Development Administration (EDA) funded the Association of LA Planning and Development Districts to develop regional plans for broadband development including outreach, mapping and technical assistance. The districts have since integrated efforts with ConnectLA to provide for engagement and encourage adoption.
Affordability	
FCC Affordable Connectivity Program	Continue to market the FCC Affordable Connectivity Program for eligible citizens to receive a stipend of $30/ month.
Incentivize State Funded Grant Applications	Incentivize the subgrantee applications by assigning additional value to affordable monthly consumer prices. This process proved successful in GUMBO and will also be applied to BEAD.
Additional Broadband Affordability Measures	Research innovative state-level program offerings to target the most vulnerable of populations.
Digital Equity	
Device Access and Affordability	ConnectLA plans to assist citizens in acquiring devices by 1) coordinating with the LA Department of Education to market the FCC Affordable Connectivity Program and the $100 subsidy for a new device; and 2) exploring a state-administered program providing wi-fi routers and modems to low-income, multi-dwelling units such as apartments. As funded by non-deployment BEAD or digital equity fund.
Northstar Digital skills Program	ConnectLA will continue its partnership with state-wide stakeholders to increase participation in the Northstar Digital skills Program, which trains participants in digital skills from beginner level to advanced.
Telehealth Programming	ConnectLA will partner with healthcare related organizations to educate citizens on the benefits and options of telehealth participation.
Economic Development and Resiliency	
Broadband Workforce Strategic Plan	ConnectLA will align economic development and workforce development by continuing to partner with the LA Community and Technical College System.
LA Industry-Based Certification (IBC) State Focus List	LA Workforce Commission has integrated the broadband profession as a state focus on the Louisiana Industry Certification list. The Workforce Investment Council has identified this as a need and intends to provide support to ensure the career path is clearly articulated to the community.
Streamlined Permitting / Procurement	-Ease regulatory and permitting burden on project buildouts by working with local state and federal stakeholders to offer a streamlined permitting process. -LA House Resolution 155 was recently passed as a study resolution to understand the barriers to deployment of broadband across public and private property.
2022 Climate Action Plan- Climate Initiatives Task Force	A priority of the Climate Action Plan is to reduce roadway travel and corresponding greenhouse gas emissions. The strategy for this is to expand broadband access statewide, allowing for more remote working opportunities.

ConnectLA

LA Wireless Internet Network (LWIN) and LA First Net	The Louisiana Homeland Security Strategy identifies emergency preparedness and response as critical missions. A major initiative in both strategies is to enable seamless communication among all responders to an event or emergency and to improve information sharing and systems.

5.8 Technical Assistance

Critical to the success of GUMBO, BIP, BEAD, Digital Equity and other federal program implementation is the relationship Louisiana has with its partners at NTIA. Federal program officers are continually monitoring program implementation and guiding ConnectLA and other grantees on regulatory requirements. Additionally, as obstacles or challenges arise, NTIA is quick to respond, offer assistance, and provide the necessary training to communicate program outputs. ConnectLA and partners across Louisiana are appreciative of the support offered by NTIA and look forward to continued coordination in the curing process of the 5-year action plan and the initial proposal.

6 Conclusion

In 5 years, Louisiana envisions its broadband landscape drastically different than the present. ConnectLA's ambitions to eliminate the digital divide by 2029 are widely embraced by elected officials, stakeholders, and Louisiana residents. For so long, access has been a primary focus of statewide conversations. Some may indicate access solutions as a panacea. However, more recently, by increasing situational awareness Louisiana realizes broadband adoption hinges on equitable distribution of digital programming that focuses on affordability, digital skills, literacy, and inclusion.

Continuous local engagement has been a pivotal component in developing the 5-year Action and the Digital Equity Plan. Strategies are inclusive of state agency priorities while considering the outstanding local need. To close the existing gap Louisiana plans to leverage its assets. Infrastructure like those operated through electric cooperatives, LONI, and LA DOTD could be leveraged to yield a larger return on future funding. Targeted investment for multi-dwelling units is another key strategy to ensure connectivity in areas that traditionally have been overlooked. Community involvement will also be integral to guiding investment and keeping industry accountable to universal service.

Upon authorization of funding, ConnectLA will launch a concerted effort to offer programs aimed at non-structural broadband solutions. The LA Board of Regents, LOUIS: The Louisiana Library Network and the State Library of LA digital skills pilot program is a prime example. Teaching digital skills is as significant to broadband adoption as offering financial assistance. Removing barriers to inclusion will require distinctive strategies among varying populations including the socioeconomically disadvantaged. These strategies are further highlighted in ConnectLA's Digital Equity Plan.

Unique to Louisiana's 5-year action plan is the need to factor coastal climate resilience. Hardening infrastructure is a priority for mitigating natural disaster impacts. In addition to this, LWIN operated through GOHSEP offers seamless communication to ensure emergency response efforts are operable during a major weather event. Resilient infrastructure zones could be a potential opportunity to offer communities additional emergency response support.

Achieving universal is no small feat, Louisiana's plans- 5-year Action Plan, Digital Equity plan, and BEAD plan – are a first step in the right direction. High-speed internet is critical to be economically competitive

in the future. In 5 years, Louisiana anticipates offering ubiquitous opportunities for telehealth, remote learning and working. Advanced manufacturing, precision agriculture, and innovative solutions for cybersecurity are all part of the vision. The BEAD investment allows Louisiana to remove the barriers for adoption thereby attaining internet for all.