

Project Information

Company: Cajun Broadband Inc

Project Description

General Info

Project #: 239
Project Name: Cajun Broadband (GUMBO 1A) — Bossier Project 1 — Plain Dealing
Total Project Cost: 1,250,000.00
Total project cost per prospective broadband recipient: 2,345.00
Infrastructure cost per prospective broadband recipient: 2,345.00
Number of households to be served: 503
Number of businesses to be served: 30
GUMBO cost per prospective broadband recipient: 1,501.00
Number of GUMBO households to be served: 503
Number of GUMBO businesses to be served: 30
General Location/Parishes: Bossier
Base Speed (Minimum Download/Upload): 100/100
Supported Scalability Speeds (Minimum Download/Upload): 10,000/10,000

Qualifications and Experience:

Provide the following details:

- Number of years the applicant has provided internet services;
- A history of the number of households and consumers, by year of service, to which the applicant has provided broadband internet access, as well as the current number of households to which broadband internet access (at least 25:3 Mbps) is offered;
- The number of completed internet service infrastructure projects funded, in part, through federal or state grant programs, prior to the date of application submittal;
- Whether the applicant has ever participated in an internet service infrastructure project funded, in part, through federal or state grant programs, and if so, for each project, the nature and impact of the project, the role of the applicant, the total cost of the project, and the dollar amount of federal or state grant funding;
- The number of penalties paid by the applicant, a subsidiary or affiliate of the applicant, or the holding company of the applicant, relative to internet service infrastructure projects funded, in part, through federal or state grant programs, prior to the date of application submittal; and
- The number of times the applicant, a subsidiary or affiliate of the applicant, or the holding company of the applicant has ever been a defendant in any federal or state criminal proceeding or civil litigation as a result of its participation in an internet service infrastructure project funded, in part, through federal or state grant programs, prior to the date of application submittal

Cajun Broadband, Inc. ("Cajun Broadband / Applicant") was formed in 2017 (over 5 years) by two founding partners who recognized the need and the potential for locally sourced and serviced broadband internet in their home community. Frustrated by the inability and/or unwillingness of large telecommunication providers to offer their high-speed internet services to rural Acadiana, the founders of Cajun Broadband knew that a different approach would be necessary. Utilizing two towers with antennas and fixed wireless technology, they were able to provide high-quality internet service to their homes and eight other neighboring homes in rural Acadiana — where reliable, high-speed internet was unavailable. After launching the service for themselves and their immediate neighbors, Cajun Broadband began fielding an overwhelming number of inquiries from families and business owners throughout the region who were in desperate need of improved internet service. Cajun Broadband now services seven parishes with their fixed wireless service and has continued to expand its customer base by an average of ten percent every month. In 2019, Cajun Broadband formed C5G LLC — which allowed them to utilize established fiber network infrastructure to provide residential and commercial customers with fiber services, cellular, voice, and networking solutions in all 50 states. Today, Cajun Broadband stands ready to help realize the mission of the newly-formed Louisiana Office of Broadband Development & Connectivity by providing a capable, scalable, and local partner who can provide high-speed internet to underserved portions of the state. Since its founding in 2017, Cajun Broadband has demonstrated rapid, consistent, and scalable growth — while completing more than 150 fiber and fixed wireless broadband hub projects in eight parishes. In this time, Cajun Broadband has secured partnership agreements with 12 municipalities with thousands of residential customers and hundreds of businesses in their customer base compared with the prior year. In July 2022, Cajun Broadband was granted stewardship of almost \$18 million in the first round of GUMBO grant funding — an award that will allow the company to provide local service and support for more than 6,000 new unserved/underserved residential and commercial customers throughout Louisiana. In one of the first uses of federal funding via the American Rescue Plan Act (ARPA) to support broadband in the state of Louisiana, Cajun Broadband is partnering with St. Martin Parish on a \$1.5 million fiber-to-the-home project, including more than 77,000 feet of fiber and provide service to almost 800 homes and businesses. Cajun Broadband has completed 1 federally funded FTTH project. Cajun Broadband has never been a defendant in any criminal proceeding or civil litigation related to its participation in a state- or federally-funded infrastructure programs.

Financial Background:

- Provide five years of financial statements, pro forma statements, or financial audits to ensure financial and organizational strength regarding the ability of the applicant to successfully meet the terms of the grant requirements and the ability to meet the potential repayment of grant funds. If the applicant has been in business for less than five years, provide documentation for the number of years in business
- Indicate whether the applicant, a subsidiary or affiliate of the applicant, or the holding company of the applicant has ever filed for bankruptcy

Since its founding in 2017, Cajun Broadband has experienced consistent, measurable growth in its customer base — and that has translated to a strong financial outlook year-over-year. Cajun Broadband has never filed for bankruptcy protection. Additionally, to its knowledge, the Applicant's partners and/or affiliates have never filed for bankruptcy protection.

Partnerships:

Provide the identity of any partners or affiliates if the applicant is proposing a project for which the applicant affirms that a formalized agreement or letter of support exists between the provider and one or more unaffiliated partners where the partner is one of the following:

- a separate private provider of broadband service, requiring a formalized agreement; or
- a nonprofit or not-for-profit, or a for-profit subsidiary of either, and the applicant is:
 - being allowed access and use of the partner's infrastructure, on special terms and

- conditions designed to facilitate the provision of broadband services in unserved areas, requiring a formalized agreement;
- utilizing a matching financial and/or in-kind contribution provided by one or more partners, requiring a formalized agreement; or
- a parish, municipality, or school board, or any instrumentality thereof, may qualify as a nonprofit for the purposes of the GUMBO grant program. Letters of support by a parish, municipality, or school board, or any instrumentality thereof, supporting an application may be submitted as part of an application. A letter of support does not require a formalized agreement.
- Provide a brief narrative explaining how the partnership or affiliation will facilitate deployment and reduce cost per prospective broadband recipient. For applications or project areas where the nonprofit or not-for-profit partner provides only matching financial support, that information can be documented in the budget section within the relevant application or project area.

Private Service Provider(s): Cajun Broadband enjoys mutually-beneficial agreements with separate, private "middle mile" service providers, including, but not limited to, Conterra, AT&T, COX, Uniti, and Lumen. Cajun Broadband also has a long-term master service agreement with CTB Fiber Optics Services — a best-in-class optical cable installation provider that services major telecommunications companies and ISPs in nine states across the United States.

For work being performed by Hudson Initiative or Veterans Initiative qualified applicants or contractors, provide documentation and/or a formalized agreement.

Cajun Broadband is a certified Disabled Veteran-Owned Business. Additionally, Cajun Broadband is an approved Hudson Initiative vendor (No. 17050) and the proposed team includes nine additional Hudson Initiative-certified vendors. Shute Health & Wellness LLC (22596): Company Medical Services Splash Creative Products (14235): Print Production / Collateral Fulfillment Vaulted Security LLC (23257): Credit Card Processing Page50 Digital Marketing & Media LLC (23274): Marketing J&R Underground (23351): Subsurface Installation Epic Change, LLC (23112): Insurance Payroll Sync (23346): Payroll Processing S. Daniels Consulting (20401): Process Development AP Lenard (22733) : Job Supplies

Project Area

Assessment of the Current Level of Broadband Access in the Proposed Deployment Area

Describe the current level of service within the area and provide the data source or methodology used to capture this information. Raw data may be submitted as part of the assessment. If data is available to support differences between advertised and transmission speeds, applicants may also submit applications for areas where transmission speeds are less than 25:3 Mbps.

It is estimated that approximately 11.2% of Bossier Parish residents do not have access to broadband service. Through its non-branded customer outreach, Cajun Broadband is constantly canvassing regions of Louisiana that are in need of improved broadband availability. Attached: ConnectLA-provided DSL Address Data for GUMBO Round 1A submissions.

Services

Provide a description of service options to be provided:

Service Name	Upload/download speed	Date of 1st Availability	Data Cap	# of recipients	Price
Family	100 Mbps / 100 Mbps	12/01/2022	N/A		78.00

Ultimate	200 Mbps / 200 Mbps	12/01/2022	N/A	115.00
Community Partner	100 Mbps / 100 Mbps	12/01/2022	N/A	0.00

Marketing

Provide documentation for applicant engagement to connect consumers with community education forums, multimedia advertising, and marketing programs.

Marketing and customer engagement play a critical role in the adoption of grant-funded projects. Cajun Broadband utilizes a multi-channel marketing approach to build awareness around Cajun Broadband, new service areas, and the overall mission of the Office of Broadband Development and Connectivity. We customize our marketing efforts to fit the unique needs of each individual project. Our promotional efforts often include, but are not limited to the following: Company Website: The Cajun Broadband corporate website is being scaled to serve as a customer education portal, including informative videos, project information, technical information, customer support materials, and interactive tools. Signage: Cajun Broadband utilizes a comprehensive signage campaign to advertise its services in rural areas and along key routes leading in and out of the proposed service areas. This campaign ranges from small-scale yard/property signs and mid-size roadside signs to large-scale billboard advertising. Direct Mail: Cajun Broadband sends direct mail materials to homes in the project service area before, during and after infrastructure has been installed. These materials are typically written to be sensitive to groups who commonly lower literacy rates — avoiding overly technical information in favor of general service awareness. Radio: Cajun Broadband utilizes traditional radio promotion to target potential customers with trusted local radio stations. Live Events / Community Outreach: Cajun Broadband embeds itself into the community it serves — participating and sponsoring local events. This provides an opportunity to build awareness for the products and services available in the area. Social Media: Cajun Broadband maintains an active social media presence as a means of end-user engagement. We also utilize active "social listening" to monitor trends and public perception around internet connectivity within the service area. Paid Digital Advertising: Cajun Broadband utilizes paid digital advertising to ensure visibility with a range of key search terms and key customer targets. Inbound Marketing: Cajun Broadband is implementing a system of individualized web-based landing pages designed to provide a more tailored experience for potential customers. Customer Relationship Management System: Cajun Broadband maintains a CRM system to track and engage with potential and current customers. This system allows Cajun Broadband to actively pursue interested residents and businesses in the service area and establish an ongoing dialogue with its customer base.

Adoption

Provide documentation that shows low-income household service offerings, digital equity or literacy support, or programs or partnerships to provide these services. The applicant should also indicate current participation in, or plans to, accept the federal Lifeline subsidy.

Cajun Broadband is an official Eligible Telecommunications Carrier (ETC) in the Lifeline program — a part of the Affordable Connectivity Program ("ACP"). Our current website provides links and resources associated with the Lifeline program and our customer service representatives have been trained to prompt potential customers to establish their eligibility for the Lifeline program. Essential service providers, schools, and faith-based institutions within the project service area receive our services at no cost. By providing no-cost, reliable internet service to these community cornerstones, we can empower and strengthen the communities we serve by providing access to all residents regardless of ability to pay. Cajun Broadband also employs several measures designed to remove common barriers to access for low-income households, including, but not limited to, the removal of data limits, waiving all fees and charges associated with delayed payment, as well as removing the contract requirement for services. By removing some of the most common barriers to reliable and affordable service, Cajun Broadband is able to support increased digital equity and inclusion — especially for low-income households. Additionally, Cajun Broadband has a very successful and growing profit-sharing program with customers in more than

90 locations. In this arrangement, we offer profit sharing to property owners who allow us to place critical infrastructure on their property which can be utilized to service other broadband customers in the area.

Community Support

Evidence of support for the project from citizens, local government, businesses, and institutions in the community, including letters of correspondence from citizens, local government, businesses, and institutions in the community that supports the project

Cajun Broadband launched a web-based customer satisfaction survey at ConnectAcadiana.com to make public comment and service requests more accessible and simplified. To date, we have received more than 1,400 survey responses across nine different Parishes. More recently, Cajun Broadband has launched Ready4Fiber.com — an online survey and access utility to help underserved and unserved Louisiana residents to learn more about availability of broadband service. Cajun Broadband has been and will continue to work with municipal leaders in areas where larger providers have traditionally not been motivated to provide reliable service because of lack of future scalability and high mobilization cost. This provides local governments the ability to help uplift the residents most in need and support economic development.

Local Workforce

Documentation of a workforce plan prioritizing the hiring of local, Louisiana resident workers, to include a signed letter of intent with a post-secondary educational institution that is a member of the Louisiana Community and Technical College System, containing an obligation upon the applicant, and contractors or subcontractors of the applicant, to put forth a good-faith effort to hire, when possible, recent graduates of broadband-related programs.

Cajun Broadband is actively engaging two community college programs in North Louisiana that currently have fiber technician programs. If awarded, we intend to recruit and train graduates of these programs to serve as field technicians in the Plain Dealing area and surrounding localities. BPCC Casey Harvill Program Manager, Workforce Solutions 6220 East Texas Street Bossier City, LA 71111 LDCC Dr. Wendi Tostenson, CWD Vice Chancellor of Education and Student Services Louisiana Delta Community College Additionally, Cajun Broadband is committed to supporting the newly-formed PRO (Professional Resilience Occupation) Louisiana program developed by the Louisiana Watershed Initiative. We feel that telecommunications, connectivity, and broadband access are critically important to the overall resilience of our communities — especially the coastal communities we serve that are vulnerable to an ongoing and increasing number of billion-dollar disasters. Cajun Broadband will also take advantage of the Louisiana Workforce Commission's HiRE program to post technical and administrative jobs to attract capable, local workforce to our proposed projects.

Technical Report

Reporting Requirements

Explain in technical detail the technologies to be used in the proposed project and the broadband transmission speeds offered to prospective broadband recipients as a result of the project. If it would be impracticable, because of geography, topography, or excessive cost to design a broadband infrastructure project that would deliver 100:100 Mbps, the applicant must provide an explanation. Transmission speeds of 100:20 Mbps are the minimum allowable under this grant program.

Fiber optic technology offers a number of well-established advantages over other internet service transmission methods — offering very high bandwidth with reduced threat of spark hazards and electromagnetic-based security breaches. Comparatively, the very thin optical cable is low-maintenance and more densely packed. Cajun Broadband proposes the use of a Gigabyte Passive Optical Network ("GPON"). GPONs are networks that rely on optical cables to deliver information. GPONs are currently the leading form of Passive Optical Networks ("PON") and offer up to a 1:64 ratio on a single fiber. Compared with standard copper wire used in most networks, GPONs are more than 95 percent more energy efficient. In addition to efficiency, GPONs provide low-cost scalability through the use of splitters — making GPONs ideal for isolated population centers. GPON uses access layer technology based on the ITU-T G.984 standard — considered the successor to BPON, which is built on G.983. A single network consists of an Optical Line Terminal ("OLT") belonging to the service provider, a splitter, and as many as 64 Optical Network Units ("ONU"). While the ONU may or may not be located on the end user's premises, it converts the optical signal to electrical or radio frequency signals which connects to the equipment of an individual end user.

- Uses active and passive components
- Supports triple play services (voice, video, and data)
- VLAN based
- Downstream encrypted with AES-128

GPON technology is cost-effective — provided it meets certain conditions. Cajun Broadband utilizes a 1:32 split ratio. The OLT is relatively expensive, so each OLT should have a minimum of 32 ONUs connected to it. Connecting more than 32 ONUs requires the addition of a second port to the OLT — a small cost increase that allows the OLT capacity to increase to 64 ONUs. The Cajun Broadband approach optimizes the number of ONUs connected each OLT to ensure that service does not degrade during peak use. GPONs offer low maintenance costs and a high Mean Time Between Failures ("MTBF"), since the passive components of the technology fail less frequently. This advantage is especially important where maintenance work is less practical or more difficult.

GPON Limits

- Maximum logical reach: 60 km (This is the maximum distance managed by the higher layers of the system (MAC, TC, Ranging), in view of a future physical media dependent (PMD) specification.
- Maximum fiber distance between send/receive (S/R) and receive/send (R/S) points: 20 km
- Maximum differential fiber distance: 20 km
- Split ratio: Restricted by path loss, PON with passive splitters (16-, 32-, or 64-way split)
- Rate: 1.24416 Gigabits/s upload, 2.48832 Gigabits/s download

Explain the scalability of the broadband infrastructure to be deployed to meet future bandwidth needs.

FTTH Technology and Design Methodology: Cajun Broadband ("CBB") plans to use a fiber-to-the-home ("FTTH") project architecture built on a system of Calix passive optical networks and Gigabit Passive Optical Networks ("GPON") — employing and delivering distributed splits at a rate of 1:32. A Passive Optical Network ("PON") is a point-to-multipoint technology that connects an Optical Line Terminal ("OLT") to many Optical Network Terminals ("ONTs") or Optical Network Units ("ONUs"). A PON utilizes passive splitters between the OLT and an ONT — offering wide-ranging flexibility in network design and implementation. The OLT broadcasts traffic downstream to every ONT and each ONT only reads the content specifically addressed to it. From a security perspective, we integrate comprehensive encryption to prevent individual ONTs from eavesdropping on traffic not addressed to them as well as Quality of Service ("QoS") features used to ensure proper service prioritization and delivery. Our FTTH architecture addresses the last mile of service with both active and passive standards. CBB will deploy Calix E7-2 or E3-2 chassis within cabinets, where it will serve the funded passings. A series of 1:32 splitters will be nested in hardened splice closures within clusters of served locations — commonly referred to as Fiber Service Areas ("FSAs"). Each FSA requires a single, dedicated strand back to the cabinet where its service originates. We size our fiber cables with additional splitters to plan for ease of scalability and future growth within the FSA. CBB will employ the Calix E7-2 or E3-2 XGS-PON. Each card supports eight SFPs of XGS PON. As a result, subscribers will be capable of service speeds of 10 Gbps download, 10,000 upload (10 Gbps /10 Gbps). Each SFP is capable of speeds of 10 Gbps download and 10 Gbps upload in total. At the customer premises, CBB will use the Calix Gigapoint ONT as its standard network terminal. The ONT has — in addition to its PON port — one 10-gigabit ethernet port and optionally one voice line. From the ONT, CBB intends to connect to a remotely-managed Calix wireless router. CBB will also offer either a

connected phone directly to the ONT, or connect the ONT to the customer's own internal wiring. The upgrade paths available on a passive optical architecture include both NG PON2 and XGS PON which could be employed through a simple equipment exchange on one or both ends of the connection. Both modify the ITU-T G.989.2 specification and support a maximum of 16 10-Gbps connections on the same strand using DWDM wavelengths. Upgrade frameworks exist that allow for an upgrade to either of these specifications while allowing current subscribers to stay on the current platform — allowing for a less cumbersome upgrade for both owners and subscribers. Lastly, an employed, distributed split model allows for flexibility when upgrades become necessary. Scalability: Broadband and fiber technology is constantly evolving and the ongoing need for adaptation of broadband infrastructure is inevitable. CBB prioritizes the scalable growth of its customer base and their bandwidth needs as a key consideration for our network design approach. For this reason, we employ FTTH and PON for the last mile of service, and Calix as its access technology manufacturer. Every service location will have a dedicated fiber strand between it and the 1:32 splitter, with additional fiber service within each cable capable of lighting additional splitters. We intentionally design our network to feature full-capacity penetration implemented within the last mile. From the last mile to the GPON SFP, CBB plans for a single GPON SFP to serve up to 32 customers — all with the opportunity to receive service at 1 Gbps. In the event that customer bandwidth requirements extend beyond the capability of GPON at a 1:32 split, CBB plans to reduce the split to the subscriber on initial deployment. Then, the E7-2 and E3-2 is capable of utilizing XGS-PON cards — allowing 10 Gbps per PON for a more robust service offering. 10 Gbps supporting as many as 32 customers each taking a package of anywhere from 100 Mbps symmetrically to 10 Gbps symmetrically. From the OLT to the uplink, the Calix E7-2 and E3-2 platform (and specifically CBB's XGSPON cards) are capable of 2 ports-per-card at 10 to 40 Gbps of transport. This gives CBB the added capability of increasing speed as the node becomes utilized.

Provide a proposed construction timeline and duration of the deployment project period. The deployment project period is the time from award of the grant agreement to the time that service is available to the targeted prospective broadband recipients under the grant. Describe estimated timeline, deployment roll-out and number of end-users to be served in each phase (10 percent, 35 percent, 60 percent, 85 percent, 100 percent).

Upon project grant award, Cajun Broadband will begin project immediately (within one month) order the requisite materials for the proposed project. During the lead time for materials, Cajun Broadband begins the permitting and preliminary diligence efforts for the project, including middle-mile build-out. Depending on the availability of material — which can introduce some uncertainty — Cajun Broadband and its partners are able to reliably install 60,000 linear feet of fiber per month. Based on the assumptions above, the proposed Plain Dealing project in Bossier Parish would take approximately 5 months to complete once permit is finalized, the materials are secured, and the middle-mile infrastructure is completed.

X **Wired Infrastructure**

Fixed Wireless

Wired Infrastructure Deployment Reporting Requirements

Describe the general design of the project and deployment plan and include the following:

- Explanation of the existing networks and equipment to be used for the project. If assets are owned by another entity, explain how they will be used for this project and, if applicable, provide a copy of the agreement between the applicant and the owner.
- Total number of miles of project infrastructure deployment, and the number of miles of project infrastructure deployment accounted for by preexisting infrastructure
- Detailed explanation of how the new or upgraded infrastructure will serve the prospective broadband recipients. In the case of the installation or upgrade of a specific site infrastructure, such as a point of presence or fiber hut (fiber), pedestal (cable), or a remote

exchange/DSLAM (DSL), the applicant must include:

- The number of prospective broadband recipients that will be served by that site infrastructure
- The distance from the specific site infrastructure such as a POP, pedestal, or DSLAM to the end user(s) and the expected broadband speed that will be effectively delivered
- Detailed description of the design work needed for deployment, such as, but not limited to, pole work, acquiring or updating easements, and/or property acquisition.

Total Number of Miles of Project Infrastructure: 6 miles Prospective Broadband Recipients Served by the Project Infrastructure: 533 Average Distance Between Customers: .011 miles Existing UNITI infrastructure: 2 Miles (33%) Cajun Broadband installs an OLT to deliver broadband service to an individual ONT/ONU on the customer's property. Cajun Broadband does not anticipate any property acquisition because it installs infrastructure near a middle-mile provider. This project site location will be connected to the middle-mile infrastructure at no cost to the provider or the project. Further, Cajun Broadband has a proven track record of partnering with municipal partners to minimize any costs associated with right-of-way acquisition — except during the permitting process where a state highway is included in the project path. Cajun Broadband utilizes a private, dedicated network server located in New Orleans, Louisiana as well as middle-mile infrastructure to extend service to its proposed projects. Cajun Broadband also has a proven disaster recovery protocol that was deployed during recent storm-related service disruptions. Cajun Broadband was able to re-route its connected accounts to a partner data center located in Dallas, Texas. In the case of Hurricane Ida, this led to a significantly reduced discontinuation of service compared to other, larger ISPs. Further, Cajun Broadband is in the process of developing a broadband resilience protocol that allows our service to be better prepared for the inevitable disasters that effect our region. For this project Cajun Broadband will utilize 2 miles (33%) of existing Uniti fiber to connect back to data center in New Orleans. In an effort to provide fast, reliable internet service to as many customers as possible, Cajun Broadband is constantly strategizing innovative ways to be good stewards of existing financial and infrastructure resources.

Wired Assets

Existing Network	Existing Equipment	New/Upgraded Infrastructure	Installation Type	Num of Recipients	Avg Distance in Miles Between Prospective Recipients	Expected Speed
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Budget

Budget

The project budget should reflect all eligible project costs to be funded through the GUMBO Grant Program. Additionally, the project budget should include the minimum provider funding match of at least 20%, any local government funding match from a parish, municipality, and/or school board, or any instrumentality thereof, and the requested GUMBO Grant Program funding.

See attached project budget. Total Project: \$1,250,000 Cajun Broadband Contribution: \$450,000 (35%) ConnectLA Contribution: \$800,000 (65%; \$1,501 per recipient)

Proof of Funding Availability

Provide a signed letter of funding availability from each source of funds committed for the project. If loan or other grant funds are pledged, a loan/grant commitment letter from each source of funds must be included. Should an applicant be an awardee of Universal Service, Connect American Phase II, Rural Digital Opportunity Fund, or other federal or non-federal funds for the deployment of broadband service, the applicant shall attest as to whether or not the applicant's GUMBO application and associated project's buildout is dependent upon such awarded funds.

Cajun Broadband has secured project financing with St. Landry Homestead Federal Savings Bank in the amount of Four Million Five Hundred Dollars (\$4,500,000.00) for the purpose of supplying matching provider funds for fiber internet service projects in underserved and unserved communities in Louisiana through the GUMBO Grant program.