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**ASSESS BROADBAND FEASIBILITY FOR
HARVARD, ILLINOIS**

SUBMITTED BY:



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COVER LETTER

April 5, 2024

Mr. Lou Leone
City Administrator
201 West Diggins Street
Harvard, Illinois 60033
Submission via email to: Leone@cityofharvard.org

Mr. Leone:

Tribal Communications (TC) is pleased to submit our proposal to the City of Harvard(Harvard) to provide broadband feasibility assessment services. We believe TC is uniquely qualified to provide this assessment because:

- TC is passionate and has genuine interest in providing affordable broadband to all – healthcare, educational and safety equity requires sufficient and reliable broadband first and foremost.
- TC has not only provided feasibility assessments to underserved and tribal communities detailing how to expand and improve broadband service in their communities, we have also provided consulting services leading to them creating their own Internet Service Provider (ISP) leading to a profitable service offering as well as one that includes training and employment of residents in broadband related careers.
- We were recently awarded a very similar assessment contract in Brimley Michigan which brings us to two successfully completed assessments and one in progress. Details of these engagements are provided in the past performance section of this proposal.

Our proposal will detail our experience and expertise across broadband from assessment as you require but also with planning and implementation. We look forward to the opportunity to partner with you initially for the assessment as requested by this RFP as well as being positioned to assist you with next steps – securing funding, planning and implementation.

Should you have questions or concerns around this proposal please feel free to reach out to me via email or phone provided below. Please also reference our website for additional details about our team and experience: www.tribalcommunicationsllc.com

Tommy Woods

Tribal Communications/Tribal Solutions Group
twoods@tribalcommunicationsllc.com
404-483-2665



EXECUTIVE SUMMARY WITH OUR UNDERSTANDING

Harvard like many smaller communities requires the benefits of high-speed reliable broadband to support their healthcare, education and tele-working needs. Also, like many smaller communities, this is not available currently as the larger providers that can deliver these services (e.g. Fiber to the Premise - FTTP) do not find it profitable to support these types of services in these communities. As a result, only low performant, high latency services such as ADSL, Satellite, etc., are offered. These services simply do not meet the need of modern tele-medicine, work from home and distant learning applications required to ensure all communities are served sufficiently.

Harvard must also consider their options for acquiring sufficient broadband services. Broadband is now being classified by FCC/NTIA in the following bands:

25MBPS (Down)/3 MBPS (UP) – “Unserved”

Less than 100 MBPS (Down)/20 MBPS (UP) but greater than 5MBPS /3 MBPS – “Underserved”

100 MBPS (Down)/20 MBPS (UP) – Broadband Served

To obtain the required broadband speeds of 100/20 only a few options are available – Fiber and some levels of Fixed Wireless services. Harvard is taking the correct first step of assessing what is available, what is possible and identifying a trusted party such as TC with experience and expertise to detail an assessment of what exists and what is possible as well as the experience and expertise to detail a plan to get to implementation as well.



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COMPANY OVERVIEW

Tribal Communications, LLC (TC) is a Native Owned consulting group with extensive experience evaluating and partnering with Internet Service Providers (ISP) and providing consulting services for Broadband Deployments.

Our mission is to provide world-class consulting services to underserved communities, entities, and enterprises to help solve the unique challenges of bringing reliable high-speed broadband and wireless services to all communities.

TC specializes in identifying government-sponsored financial programs geared towards infrastructure and broadband services, installing future-proof networks that can be easily maintained, and providing access to ISP partnership opportunities. TC creates custom broadband solutions based on related experience and industry best practices. In addition, TC will assist with helping to ensure an excellent customer experience for all Harvard citizens and surrounding communities subscribing to your broadband services.

The TC team has extensive technical expertise - from radio frequency engineering, broadband network design and implementation to operational management, central office transformations, network maintenance as well as training and workforce development. Our technical team has more than 50+ years of combined experience in the evolving industry of telecommunications. The TC team represents know-how in multiple areas of broadband planning & deployment and is accustomed to leveraging new technologies to bring quality service to our clients. The common threads link our team's varying backgrounds in the wide field of telecom experience in rural broadband deployments and our mission & vision of affordable broadband for every community.

Tribal Communications is a division of Tribal Solutions Group (TSG). TSG specializes in providing a range of services to Tribal nations, entities, and enterprises that support projects in healthcare, education, broadband expansion, and economic development. We are headquartered in Jackson MS. However, our team is located nationwide from Washington state to Philadelphia. Tribal Solutions Group is a privately held company and willing to schedule a review of financials as needed.



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EXPERIENCE – BROADBAND AND FEASIBILITY STUDIES

Assessment of Tribal ISP deploying FTTP

Developed detailed analysis and assessment of Tribal Community sponsored ISP. Evaluated their Fiber Deployment strategy given the terrain and available resources in the region. In addition, evaluated their customer base and expected Average Revenue Per User (ARPU) as well as the take rate for government subsidy such as ACP (Affordable Connectivity Program).

Delivery of 1 Gigabit Broadband and Voice to 1000 locations passed. Deploying Last Mile FTTP technology using Calix E7 technologies. Detailed network plan including planned fiber routes and total fiber miles and detailed routing details developed via ESRI ArcMap GIS. Highways, Primary Roads and Secondary roads were leveraged to ensure optimal fiber routes. Additional sustainability and operations support including NOC systems NMS/EMS as well as Customer Care and Billing Systems.

Results of the Fiber rollout included 1800 fiber GPON served customers with an Average Revenue per Subscriber (ARPU) of \$129/monthly (Industry Average \$80/Month). This effort also resulted in 40 new jobs via worker training programs where local tribal community members were trained in high-demand Fiber Engineering skills.

Assessment of Fixed Wireless Solution - Site Planning , Line of Site and Community Engagement

Worked with local community college that received NTIA funding to assess fixed wireless broadband solution to serve surrounding communities. Evaluated and provided wireless tower site locations considering key factors including backhaul availability, line of sight, and required download and upload speeds. Evaluated community median income and other factors to assess which technologies would provide affordable broadband at required speeds. Project is being implemented based on our recommendations for line of sight and tower placement.



METHODOLOGY/APPROACH

Our approach to this project will be to determine the feasibility of providing Broadband of 100MBPS Down and 20 MBPS Up or as close as possible throughout the community of Harvard. We will provide a detailed plan that outlines a strategy that addresses Technical, Economic, Legal, Operational and Deployment Time.

Technical Factors

The current technologies available to Harvard will be evaluated to determine if it is feasible to improve/reuse existing technologies versus full fiber deployment. This will include Speed Test throughout Harvard across all the available technologies. This will also include evaluation of the terrain. In most cases in remote/rural areas, a hybrid fiber and wireless solution is optimal from a performance and cost standpoint.

Economic Factors

The preferred technology providing the most bandwidth that can scale for future needs will be a Fiber To The Home (FTTH) or Fiber to the Curb (FTTC) solutions. These solutions can be very expensive to install. For this reason, it is critical to understand the demographics of the customer base (e.g. Median Income, Public Assistance Available and number of households that qualify for things like the Affordable Connectivity Program (ACP). Funding for ACP program has been in question lately with current funding expected to expire in 2024. The \$30 per month subsidy is a great benefit, but we must consider, plan, and have mitigation plans for if/when this program ends. We will ensure a business plan/case that will adjust and allow for the end of ACP.

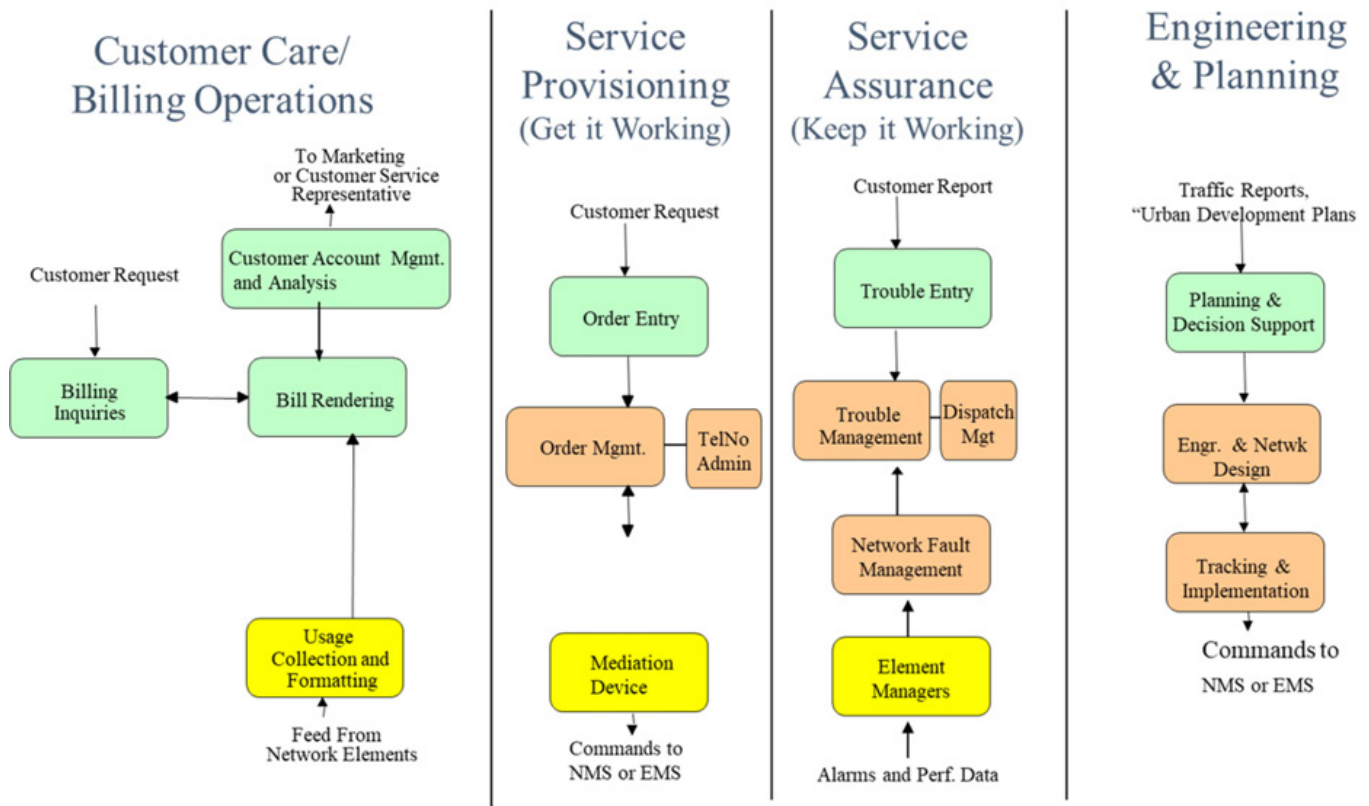
Legal Factors

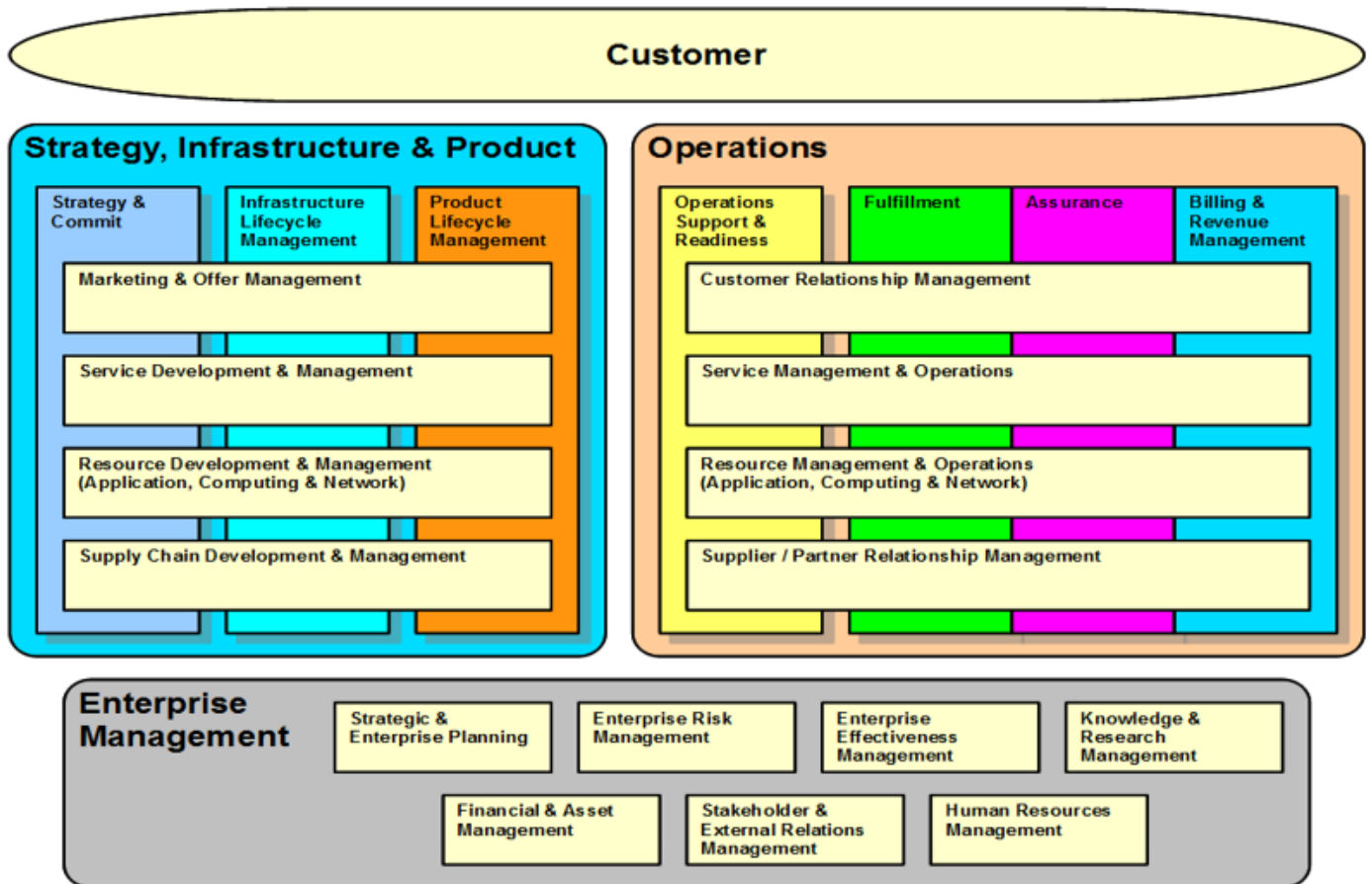
We will evaluate different legal organizational structures that work best for Harvard. There are multiple Legal entities to be considered. Some states impose restrictions on Municipal/Community Based ISPs. The initial view and understanding of HARVARD should allow you to explore all options but we will confirm via our legal assessment.



Operational Factors

Depending on our findings, HARVARD can decide to consider forming an ISP. TC has extensive experience and expertise with Operations of ISP including but not limited to all the key functions and Telecom standard frameworks detailed below. These are used and implemented at the larger ISPs (e.g. AT&T, Comcast and Verizon). TC staff has experience implementing this at the larger ISPs as detailed in our Bios as well as company experience implementing and assessing these functions/standards with ISPs as detailed in our Past Performance.





Scheduling/Timing

Deployment duration of network options will also be considered. Fiber (FTTH or FTTC) which are by far the technologies with the longest deployment window but will be preferred in assessment where it makes sense. Wireless and Satellite options will have substantially shorter deployment windows but may not give the required speeds and scalability to higher speeds over time that Fiber provides.



CRITICAL FACTORS TO BE CONSIDERED

Community Engagement

Residents, Businesses and Anchor Institutions like libraries, community centers and schools must be part of the solution and provide input. Surveys of how the internet is used by the community, where it is used and for what purpose must all be considered as part of the plan. TC will invest time in understanding the nuances of how the community engages the internet.

The additional facet of community engagement will be to communicate via various forms of media the benefits of sufficient and affordable broadband. TC will initiate campaigns via public meetings, social media and mailers to establish “buy in” from the community. TC has the expertise to develop the required websites and establish additional social media presence as required.

Engineering and Operational Options

TC will assess, evaluate and provide Total Cost of Ownership(TCO) of all viable options for the Harvard Community. These options will include Wholesale/Franchising (Harvard build out of Fiber and resell access to ISPs) , COOP (City Jointly owns fiber with ISP) and Independent ISP (Harvard owns Fiber and builds their own fully independent ISP). TC has extensive experience across all the critical business functions to support either of these options which include the following:



TC will provide detailed planning and cost as well as identify key risk/benefits of each option for Harvard. In addition, TC will detail available Grant/Funding options at Federal (e.g. RDOF, RUS/USDA), STATE(BEAD) as well as non-profits providing grants to address the Digital Divide.



CORPORATE QUALIFICATIONS

- ❑ *High-level project plan and schedule for delivery of the feasibility study.*

Overall Project Timeline: May 1- August 30, 2024 (4 Months)

Phase 1: May 1 through June 15, 2024

Task	Start Date	End Date
Current Fiber Deployment Evaluation	1-May	1-Jun
Conduct Speed Test Round 1	1-May	1-Jun
Identify and Confirm Demographic Data	15-Jun	1-Jul
Legal Analysis of Development and Operational Options	2-Jun	15-Jun
Review Current IT Infrastructure - BSS/OSS Support Requirements	2-Jun	15-Jun

Phase 2: June 15 through August 1, 2024

Task	Start Date	End Date
Detail Fiber and Wireless Deployment Plan	15-Jun	1-Aug
Conduct Speed Test Round 2	1-Jul	1-Aug
Detail - BSS/OSS Support Requirements	15-Jun	1-Aug

Final Report / Assessment - August 30, 2024

- ❑ *Ability to develop a City-wide system IT map of municipal services including, but not limited to fiber/ internet services, wireless point-to-point systems, and wireless cell data usage.*

TC has extensive experience and expertise designing and developing IT/Engineering MAP employing tools such as ArcGIS to provide 3D mapping of Fiber Routes, Wireless tower and coverage areas as well as Last Mile deployments of PON and Ethernet connections. ArcGIS is industry standard tool for these types of deployments and we have extensive experience and expertise with this tool across two of the three projects listed in our Past Performance.

- ❑ *Overview description of the vendor leading the feasibility study including 3-year financial summary.*

SEE "Company Overview" Section

- ❑ *Summary of experience performing broadband feasibility studies or similar broadband projects completed in the past three years.*

SEE "Experience – Broadband and Feasibility Studies" Section



REFERENCES

- ☐ *References/contact information for broadband feasibility studies or similar broadband projects completed in the past three years.*

Customer Name: Wind River Telecommunications

Point of Contact: Patrick Leckrone, CEO, Wind River Hotel and Casino
(575)-318-3008 | p.leckrone@windriverhotelcasino.com

Description: Wind River Telecommunications is a Tribal Owned Broadband Company with 1800+ customers. Wind River contracted Tribal Communications to perform the following services:

1. Creation of Broadband Strategic Plan - Assessment, Planning and Deployment of Fiber to the Premise (FTTP) solution.
2. Review of funding vehicles Rural Digital Opportunity Fund (RDOF) and Connect America Fund 2 (CAF II) and make recommendations on approach to use these funds to build out network
3. Review and make recommendations regarding the operations processes and organization

Period of Performance: March 2023 - Present

Customer Name: Wilco Telecom

Point of Contact: Brigitte Daniel, CEO - (215) 540-3930 | bdaniel@wilcoinc.com

Description: Wilco is working with a community college to build out a Fixed Wireless Broadband service to support underserved metropolitan community. Tribal Communications is providing consulting services for the following: Network Deployment (Backhaul Ordering and Management, Wireless Access Point Deployment, Refurbished PC and Table Distribution) as well as Community Engagement to inform community of new product offering and federal assistance available.

Period of Performance: November 2023 - Present

Customer Name: Bay Mills Indian Community (BMIC)

Point of Contact: Tara Parish – Grants Administrator - (906) 248-8122 | tparrish@@baymills.org

Description: Tribal Communications (TC) has been engaged by (BMIC) to provide an assessment of current broadband technologies (DSL, Satellite, etc..) and provide roadmap of how a Fiber/PON deployment can ensure that everyone in BMIC area has access to at least 100 MBPS down and 20 MBPS up speeds. We will provide detailed Fiber Architecture including exact Fiber routes, Aerial and Buried deployment as well as residential drop positions via ArcGIS software. TC is also provided detailed cost of Fiber Deployment, Community Engagement and Ongoing Operations to position BMIC to obtain Federal grants and pursue other funding options.

Period of Performance: March 1, 2024 - Present



- ❑ *Professional credentials of partner/contractor firms that will be working under the lead vendor.*

N/A

- ❑ *Resumes of key individuals that will be working on the project – project managers, analysts, engineers, and attorneys.*

KEY STAFF PROFILES



James Robinson (Mississippi Choctaw) is a seasoned and experienced executive that has led local, regional and national start-ups, Tribal enterprises, and 8(a) certified companies. He has led multiple development efforts for the Mississippi Band of Choctaw Indians over the course of his career that resulted in expanded housing assets, infrastructure, real estate development, and economic development for the Tribe and surrounding communities. In addition to his work in Tribal operations and administration, James has vast experience across the aerospace, defense, sales, marketing, and product development in the private sector. James received his undergraduate degree from Samford University and his MBA from Tulane University.



Tommy Woods currently serves as the principal senior architect of Tribal Communications providing technical leadership of Tribal's broadband consulting services. With over 30 years of experience as a Telecom/Broadband professional, Woods has led Telecom Architecture and Deployment efforts for all major broadband providers including AT&T, Comcast and Verizon as well as for 5G Broadband providers T-Mobile and Comcast Fixed Wireless. As an architect for these mainstream providers, Woods has had the opportunity to work on major projects which have included Planning and Deployment of Fiber Solutions – Fiber to The Curb (FTTC)



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and Fiber to The Home (FTTH) solutions across the US and Internationally. His experience includes solutions for U.S., Caribbean and European service providers of multiple sizes with various deployment and operational challenges including but not limited to Regulatory requirements, Network Deployment cost as well as Back Office Operations cost. Woods holds a bachelor's degree in computer science from Southern University and a master's degree in computer science from Howard University.



Charles Rice currently serves as Senior Vice-President of Tribal Communications LLC. Tribal Communications, LLC (TC) is a Native Owned consulting group with extensive experience evaluating and partnering with internet service providers (ISPs). Before his current position, Rice served as president and chief executive officer of Entergy New Orleans, LLC, a \$860 million-a-year electric and gas utility. As president and chief executive officer, Rice took over an electric and gas utility that had been in a growth mode since Hurricane Katrina in 2005. Rice was responsible for the company's financial and operational performance, customer service, regulatory and governmental relations, economic development programs, external and internal communications, charitable contributions, and environmental policy. At the core of his operational responsibilities was the management of the company's electric and gas distribution systems to New Orleans customers.



TIMELINE & PRICING

Timeline: May 1, 2024 through August 30, 2024 as detailed below

Phase 1: General Assessment (e.g. Network Assessment, Speed Test, etc.): 45 Days

Phase 2: Detailed/Tailored Assessment (e.g. Market, Economic, Organizational, etc.): 45 Days

Final Report: Comprehensive Report – Findings, Recommendations and Actional Steps: 30 Days

Requirement #	Cost
1. Demand for broadband service	\$21,400
2. Education/community engagement plan	\$25,600
3. Engineering design options	\$38,700
4. Broadband model option(s) recommendation	\$93,300
5. Capital funding options	\$18,500
6. Respondent qualifications	N/A
TOTAL COST	\$197,500



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FINAL STATEMENTS

We are confident that our expertise and experience in the following areas will enable us to provide the comprehensive assessment you require:

- **Broadband Network Planning**
 - Assessing Service Area – Types of Broadband solutions suitable for the terrain - Fiber, Wireless, Aerial , Buried, etc.,,
 - Assessing Potential Customer Base – Median Income, Education, etc....
 - Experienced staff across the board – Fiber Planners, Fiber Installers, Wireless Engineers, etc.
- **Community Engagement**
 - Understanding unique community aspects that define the type of broadband solutions that work best. For example, what are the most popular Community Gathering Locations that would benefit from higher speed broadband than a typical residential location.

It is our goal to serve HARVARD as a trusted partner and “conspirator for good” to ensure affordable, performant and easily accessible broadband is available to everyone in your community.