

## **Broadband USA Applications Database**

**Applicant Name:** NORLIGHT TELECOMMUNICATIONS, INC

**Project Title:** Rural High-Speed Ethernet Network - Northeast Arkansas

**Project Type:** Comprehensive Community Infrastructure

---

### **Executive Summary**

---

Some fifty-nine million Americans, or about 21% of the population, live in rural areas on 80% of the nation's land. Rural America is geographically dispersed and much less densely populated than its metropolitan counterpart, making delivery of public services more challenging. But the health of the nation as a whole is directly linked to the well-being of thousands of rural communities throughout the nation. Rural America provides the food and natural resources that our nation requires, as well as generates the second largest source of U.S. exports. Even with this impressive agricultural productivity, rural America must remain connected to urban communities. According to the Rural Internet and Broadband Policy Group, 'The United States cannot build a healthy economy without considering the interdependent nature of rural and urban areas. When America's rural communities lag behind, the entire nation feels the effects. Taken as a whole, America's rural communities are at risk. Rural Americans are far more likely to be poor, undereducated, sick, and prone to a range of maladies such as drug addiction, depression, and suicide. Of the 250 poorest American counties, 244 are rural.' The deployment of affordable high-speed broadband technology to the anchor institutions that support rural communities could be part of the solution for addressing these economic and social challenges. That is why Norlight Telecommunications, Inc (Norlight) is proposing the construction of a 1,300+ mile fiber optic network throughout the 19 northeastern most counties of Arkansas, to deliver affordable high-speed Ethernet services to this rural area. These services will include turn-key Ethernet connectivity from 10Mb to 10Gb on either a point-to-point or Wide Area Network basis, as well as Internet access, and intra-area and inter-area VLAN routing. The underlying purpose of this initiative is to provide a high-speed broadband infrastructure to a very rural area (86.5%), that can facilitate economic development, the deployment of high bandwidth educational and healthcare application technology to serve the residents of these counties, and access for public safety and county/city government to better inter-network their data and video communications. Norlight Telecommunications, Inc. ('Norlight'), is an integrated full-service provider of telecommunications services that serves school districts, colleges, universities, libraries in the education marketplace, as well as the healthcare industry (doctors, health clinics, hospitals), and city, county, and state government. We offer services throughout an extensive central and southern U.S. regional footprint. We are a facilities-based company that has access to backhaul fiber in 26 states, covering nearly 30,000 miles. Norlight is not a fiber-optic construction company; we engineer and construct fiber networks to enable community anchor institutions to access the broadband capacity and related services they need. Our services are highly reliable and are supported 24x7x365 by redundant Network Operations Centers located in Evansville, Indiana and Brookfield, Wisconsin. Given the establishment of this network, many anchor institutions within this

rural area will have access to affordable state-of-the-art telecommunications technology that metropolitan communities predominantly enjoy. For example among these northeastern Arkansas anchor institutions are 227 K-12 schools; 19 college and university campuses; 20 rural hospitals; 118 Police and Fire Departments, and 80 City/County Government Offices. These anchor institutions support a total population of 572,336 based on the 2000 U.S. Census. Residential household passing's within the reach of this network number 249,435 according to the Census Bureau, with some 25,000 business establishments passed. The proposed serving area is 86.5% rural, 77.7% underserved, with average broadband penetration of 42.4%. To provide reach to these anchor institutions, Norlight has established a service area that includes the geography within the following counties: Baxter, Clay, Craighead, Crittenden, Cross, Fulton, Greene, Independence, Izard, Jackson, Lawrence, Mississippi, Monroe, Poinsett, Randolph, Sharp, Stone, St. Francis, and White. To recover our costs and profit expectations, Norlight expects to sell about 825 customers' access to the proposed high-speed Ethernet Network, including 50% of all of the K-12 school sites within the proposed service area. The estimated customer mix is heavily weighted toward anchor institutions. Because of our conservative nature, in the event this application is approved, we will not draw down on any approved BIP/BTOP funds until sufficient Service Agreement customer commitments are received to reach necessary penetration levels. As that occurs, carrier access to the network will be made available on a non-discriminatory basis at competitive prices, for backhaul transport and special access transport services"to further stimulate economic development in this heavily rural area. Norlight is particularly interested in attracting wireless providers for backhaul transport, as they serve the residential and small business markets with affordable Internet access services. We believe that our proposed network coupled with various wireless provider assets is an excellent technology model for this large rural area. Wireless companies are better suited to pursue sub 10Mb customer needs, while Norlight's proposed Ethernet infrastructure is poised to handle all of the high-bandwidth needs of the area. For any given customer, our Ethernet services are priced to include all required termination equipment at the main hub and at each of the remote sites (turn-key). Norlight offers native Ethernet services from 10Mb to 10Gb speeds. Our solution is faster, more flexible, and less costly than other high speed WANs, advantages that directly benefit subscriber businesses and institutions. The following are a few of the key advantages: 1) The network is non-blocking. Each site gets their full respective subscribed throughput over a circuit that is not shared with anyone else. 2) Customer IT staff have an option for direct control of their aspect of the network. VLAN routing, administration and QoS control can be directly established across the network by customer IT personnel without the need for Norlight involvement. 3) The network is maintained by Norlight's staff of technicians at our Network Management Center in Evansville, Indiana, where technicians are available 24X7x365 to take trouble reports. Norlight has route technicians responsible for the fiber and terminating equipment located at each site premise, who are ready to respond rapidly to problems. 4) There are no queues for the traffic to wait on if the network is busy. The network design enables the dedication of subscribed bandwidth between communication locations, resulting in low latency and a faster network than most rural customers will have previously experienced. 5) Fiber drops will be terminated within each building at a demarcation point (demarc) as defined by the customer. We don't follow the standard operating procedures of the local phone company (LEC), which prescribe this demarc at the minimum point of entrance. Instead, Norlight will establish the demarc within each building at a location of the customer's choice, where a fiber distribution panel (FDP) will be installed to

terminate the fiber in each of the buildings and then patched over to our optical equipment. Norlight's capital budget for this project is expected to be \$42,551,451, of which we will provide a 20% equity investment. Given utilization of 189 miles of existing fiber, total capital cost for the 1,300 mile+ network will be \$31,667 per mile. The initial employment catalyst will be tied directly to the two year construction and business development phase. This will temporarily account for some 25 fiber optic related technician positions and nine other positions needed for ongoing support. Once the network has been on-line and integrated into the communications infrastructure of the towns and villages it serves, the resulting economic development will positively contribute to incremental and sustainable long term employment throughout this nineteen county area. Median household income in the proposed area is \$27,496 based on the 2000 census, some 35% below the national average. Investing in a high-speed broadband communications infrastructure is an obvious antidote, among many others, made possible through BTOP funds that would not otherwise occur given a lack of necessary population density.