

Broadband USA Applications Database

Applicant Name: AMERICAN FIBER SYSTEMS, INC.

Project Title: Williamson County/AFS Community Broadband Network serving Williamson & Davidson Counties in TN

Project Type: Comprehensive Community Infrastructure

Executive Summary

Opening Statement American Fiber Systems, Inc. ('AFS') in partnership with Williamson County, Brentwood, and Franklin seeks \$9,877,798 in BTOP Middle Mile Infrastructure funding from the ARRA to complete a fiber-based network in the state of Tennessee. The 'shovel ready' build out of the Williamson County/AFS Community Broadband Network ('Williamson/AFS-Net') will connect 69 community anchor institutions in Davidson and Williamson Counties. In addition, Williamson/AFS-Net will provide advanced fiber-based broadband services to the communities, anchor institutions, and businesses along and near the project route. The project is a highly-collaborative public-private effort establishing partnerships between multiple municipal, community organizations, and AFS, an industry leading fiber service carrier, to provide reliable, scalable, and cost-effective high-speed middle mile broadband connectivity. Problem Statement Franklin and the surrounding communities have been hit hard by the deep recession. The two counties comprising the proposed service area have seen unemployment jump from 5.5% in December 2008 to 9.4% in January 2010. While other larger metropolitan areas throughout the US have extensive fiber networks forming the basis of a digital economy, Nashville-Franklin has fallen behind. The Nashville-Franklin MSA ranks 51st among U.S. MSAs in terms of total middle mile fiber mileage. The Nashville-Franklin metropolitan region is in dire need of a major upgrade to the ramps to the information superhighway to foster rapid economic development. The Nashville-Franklin metropolitan region needs to replace these lost jobs with higher paying jobs predicated on the information-based economy, which has gone underdeveloped relative to other areas. Additionally, Tennessee's government facilities and public safety entities are exposed to potential connectivity failures given current limited points of access as well as bandwidth constraints on the existing network. These critical facilities need a high-speed communications network with route diversity available at a reasonable cost to communicate, coordinate, and respond more effectively. In fact, Tennessee's public safety agencies are facing the daunting challenge of adhering to regional interoperability mandates from the Federal government by 2012 while saddled with the handicap of having far less core fiber network than other parts of the USA. Proposed Solution Williamson/AFS-Net will provide a fiber-optic platform that provides the proposed funded service area with a future-proofed, technology-agnostic platform with a lifespan of well over 40 years. It will build 79 miles of new fiber utilizing the local labor force connecting 69 CAIs. In addition, Williamson/AFS-Net will connect with 7 interconnection points along the fiber route ensuring middle mile fiber is available to other communities, CAIs, and businesses. The CAIs connected initially are the highest bandwidth and greatest need facilities defined by project partners. More CAIs will be connected after the funding period as the needs arise. It is expected that that the project will be

complete within 18 months and create 134 jobs. Proof of Readiness Since 2000 AFS has successfully designed and deployed middle mile fiber-based networks in 9 metro markets across the USA, including over 1,110 route miles and 1,764 on-net locations including customer facilities, carrier hotels, central offices, data centers and cell towers. Over the last 5 years AFS has significantly and successfully expanded the networks in all of its markets and completed over 100 fiber projects of varying scale and complexity. For example, AFS and its partners successfully implemented a project for the State of Nevada to connect all of its critical facilities with intercity connectivity between Reno and Carson City. The company's core competency is the successful design, implementation, and operation of fiber networks, which it has demonstrated continuously since its inception. Project Impact The project will connect 38% of schools and libraries, 33% of higher education institutions, and 20% of community colleges in the proposed service area, providing these institutions access to broadband capacity needed to drive innovation. It will also connected 45% of the public safety entities which will enhance planning, coordination, and responsiveness of first responders across all communities and enable more coordinated and efficient law enforcement and emergency response. In addition, the project will create immediate jobs and the bandwidth capacity will enable the creation high-paying 'knowledge jobs' in years to come. Williamson/AFS-Net will dramatically improve last mile broadband access particularly for underserved communities along the fiber route. To accomplish this, Williamson/AFS-Net will enable further competition and investment for Fiber-To-The-Home (FTTH) companies. It will make available 24 strands of dark fiber from its existing backbone along with 24 strands from this proposal to FTTH providers at a lease cost of \$1 for 40 years of use. This will make available, at virtually no cost, more than 135 route miles of backbone fiber to FTTH providers, thus eliminating millions of dollars of costs typically incurred in a network build. This proposal will enable and encourage competition to enter the market, resulting in lower prices, better choices, and increased service reliability. Proposed Funded Service Area & Project Budget The project application contains one proposed funded service area consisting of 79 miles of new fiber build in Franklin and Brentwood. The new fiber build passes communities that include 82,618 households, 10,362 businesses, and 598 CAIs. The project includes existing AFS fiber miles and equipment as in-kind contributions, but these figures are associated only with the new fiber build. AFS will be providing a cash match equal to 16% of the Total Project Cost build cost plus an in-kind contribution of existing fiber facilities and equipment equal to 19%; therefore, the total AFS match is 35%. The Federal BTOP grant request is for \$9,877,798, 64% of the total project cost. Network Components & Service Availability The project will use fiber-optic network cables and equipment from manufactures including Nokia-Siemens and Ciena, which were selected based on quality and reliability. For CAIs and businesses along the fiber, AFS will make the following transport services available: Ethernet private line, virtual private line, virtual LAN, internet access; managed wavelength service; TDM / SONET transport; dark fiber. Bandwidth available ranges from 10Mb to 10Gb and soon 100Gb. AFS is a non-discriminatory open access provider of wholesale transport services to any party interested in purchasing capacity, including carriers, last mile providers, businesses, and institutions. AFS does not discriminate against potential customers and makes available dark fiber strand leases on a non-discriminatory basis to any party. AFS' approach to selling bandwidth adheres to the non-discrimination and interconnection requirements of the BTOP NOFA. Partners & Community Support The project has received overwhelming support from Williamson County, City of Brentwood, and City of Franklin and county and city agencies and community anchor institutions. The attached

letters of support highlight the key benefits of the Williamson/AFS-Net project. Below is short sampling of quotes from project partners and supporters. ' Williamson/AFS-Net will spur job creation. The project "will create new jobs which will contribute to the local economy." Williamson County Manager ' Williamson/AFS-Net will enable better security and public safety. The project 'will enhance public safety functions, including assisting in achieving regional interoperability.' Williamson County Manager