

Broadband USA Applications Database

Applicant Name: Darke County, Ohio

Project Title: Western Ohio Wireless Broadband Network

Project Type: Middle Mile

Executive Summary

Q8 – Western Ohio Wireless Broadband Network – Project Executive Summary (This is also provided under Uploads as Supplemental 1) Darke County, Ohio, working with P&R Communications, the region’s most experienced wireless broadband vendor, proposes to construct a combination fixed–and–mobile broadband Middle Mile network across most of Darke County to improved access to broadband services to underserved areas of the county. This comprehensive project will include an aggressive broadband education and awareness program to the general public and county anchor institutions to stimulate the adoption of broadband service by public safety agencies, county residents, educational institutions and local businesses promoting economic development and job creation. It includes a very strong business model to guarantee long–term sustainability with an eye toward future expansion. MIDDLE MILE PROJECT: This project utilizes advanced Motorola Wireless Broadband technology enabling multiple Last Mile providers to use the network to provide end users with high–quality, affordable broadband. The project’s MOTOMESH technology will be a particular benefit for law enforcement agencies and emergency service providers throughout the county, giving first responder’s secure and dedicated 4.9GHz mobile broadband connectivity for databases, reports and video. The network will also offer a scalable, flexible high–quality broadband solution that will encourage economic and job growth and improvement in medical treatment and educational opportunities, all the while preserving the traditional rural nature that has made Darke County so attractive to its residents. Darke County will partner with P & R Communications, a Dayton Motorola dealer with decades of experience in serving on–going communications needs of municipal, township and county governments in several Ohio counties, which will oversee the construction of the wireless network and will manage and maintain it RURAL IMPACT: The proposed funded service area includes about 75 percent of Darke County, Ohio, a rural county in the southwest part of the state west of Dayton and bordering Indiana. There are 21,583 households and 1,276 businesses in Darke County, according to statistics compiled by the Ohio Department of Development. The proposed service area includes 15,463 households, including 36,894 residents, according to research conducted by BroadbandUSA.gov. It is estimated that the proposed service area includes approximately 10,200 businesses, computed at a slightly higher percentage than population because of the tendency of business to congregate along main transportation routes that are covered by this broadband plan. Almost all of the anchor institutions and critical community organizations, including the 25 schools (colleges, elementary and secondary schools), 4 libraries, 1 hospital, 18 licensed nursing homes and 5 residential care facilities will be covered by this network, which will also be available to connect to other state–owned and operated broadband networks currently connecting these institutions to Columbus. Darke County is at a crossroads, with 65% of the

population age 25 or older, with 51% of those people between the ages of 25 and 64 – prime years for those in the workforce. Another 34% of the population is under age 25, many of whom represent prime consumers of broadband services. As demand for broadband increases by the year, the service area will grow increasingly attractive as a place to raise a family, or to start or relocate a business. **COMMUNITY NEED:** This project maximizes the opportunities for critical community assets to take advantage of the broadband program in several ways. It is unique in that it includes a comprehensive component to aid law enforcement through both fixed and mobile broadband solutions, which means law enforcement will be able to get real-time updates while on the move around the county. It will reduce County-based operating expenses by incorporating technology-based applications and solutions to mobile workers across a ubiquitous wide-area network, thereby streamlining field processes and procedures and, in the end, reducing taxpayer costs for public service. The network will also offer 25% discounts to all schools, hospitals, and other anchor institutions and critical community organizations as an encouragement for them to subscribe to the broadband network. **MINIMAL ENVIRONMENTAL IMPACT:** This project is careful to create the smallest possible environmental impact to the service area in that it will utilize existing tower capabilities wherever possible, and will require next to no cabling. This wireless project will also avoid the visual pollution common with above-ground cabling strung along poles in rights-of-way. In addition, the proposed solution is most effective for Darke County because the area is intersected by railroad lines that would make it cost-prohibitive and highly impractical for wireline projects because of the complexities and cost of tunneling under tracks. **COST EFFECTIVE:** The wireless system utilizes public radio frequencies that do not require licensing, making it a cost-effective option that can also be constructed in a timely fashion that avoids complicated licensing processes. The project will be able to start almost immediately upon grant approval, and is designed to be completed in two years, well within the three years required by the grant program. This project brings to this rural county, which is all classified as underserved, the tremendous benefits of wireless broadband signals that would not otherwise be available in this area but for these federal programs for which this application is meant because of the low density of population. Without funding from these grant programs, the prohibitive expense of construction on this scale would make it impractical or impossible for either local governments or private industry to undertake on their own, even as this area is in desperate need of just such a broadband solution. **OPEN ARCHITECTURE:** This system will be open to all last mile providers without discrimination. The network is designed to provide services in volumes appropriate for multiple Last Mile users, so that they may provide the broadband services to end users. The service will have an open architecture to accommodate all Last Mile users. The fixed and mobile wireless broadband system will include MOTOMESH Duo, a powerful, next-generation, two-radio meshed network. Part of Motorola's leading-edge MOTOwi4 portfolio of products, it's designed to give providers of high-speed public access and public safety networks the flexibility needed to meet performance, capacity and ROI goals. The mesh network will be deployed along the major population routes, with the canopy microwave broadband system reaching out to the less populated areas of the county, to the extent that almost the entire county will be covered with a wireless signal. After an analysis of the location of key governmental, educational, medical, and other anchor institutions, a coverage plan was developed to deliver the maximum amount of broadband coverage. **BROADBAND EXPERIENCED:** P&R Communications Service, Inc. has great experience in managing such networks. It was founded in 1961 in downtown Dayton, Ohio. As an authorized Motorola Sales & Service Shop (MSS) since its inception,

P&R continues to provide vital two-way and digital radio and wireless broadband communications to the region's largest public safety, local government agencies and private sector commercial businesses. P&R Communications Service, Inc. is now responsible for the operation, maintenance and sustainability of the principal wireless communications networks in multiple counties in Ohio, including Montgomery, Preble, Darke, and Shelby counties. PROJECT COST: This project will cost \$6.74 million in overall infrastructure costs, including installation. A detailed budget is part of this application packet. Based on an analysis of broadband adoption in Darke County conducted by the non-profit group ConnectOhio, an organization commissioned by Ohio Governor Ted Strickland, slightly more than one-third of county residents have some level of broadband service. Using that as a foundation for projecting future adoption, it is reasonable to assume that the same rate of adoption would occur over the course of the next three years, which would include the completion of the broadband construction project. Given that 15,463 households exist in the proposed service area, and given that this project includes a comprehensive promotion, education, and training program, we project that a minimum of 5,154 new subscribers will adopt broadband. Traditional adoption rates show that that number should subsequently grow by 2% or 3% per year. The financial plan for this network is very strong, ensuring long-term viability with a plan to expand in the future. This grant would provide the seed money for a self-sustaining broadband network. The existing Darke County broadband adoption rate of 36%, as found by public opinion research conducted by ConnectOhio, 7,340 of the 20,389 households in Darke County currently have broadband. The new wireless network would spur an estimated increase of broadband adoption by an additional 5,154 households, which amounts to 25% of the total county household population and 36% of the 15,462 households included in the proposed service area. INCREASED EMPLOYMENT: According to a study conducted by the Sacramento (California) Regional Research Institute, given this percentage increase in broadband adoption, Darke County could expect to see a resultant increase in employment of 2,002 jobs over the period of the broadband buildout. Based on the average private sector wages paid in Darke County (\$570 per week, or \$29,640 per year), this would result in an increase in private sector payroll of \$59,339,280. per year.