

Broadband USA Applications Database

Applicant Name: City of Bessemer, Alabama

Project Title: Bessemer Community Wireless Network

Project Type: Last Mile

Executive Summary

The City of Bessemer, Alabama proposes a last-mile infrastructure project to deploy a fixed wireless network. Our goal is to provide improved broadband access to the underserved areas in our community of 28,542 residents and 1,995 businesses, while creating 142 jobs from deployment of this network. As the governing institution in our area, we have deep insight into the needs of our residents. As an “Entitlement City” close to 90% of all Bessemer residents have incomes at or below 80% of median income for this area. Well over 70% have incomes below 50% of median and at least 40% have incomes in the range of 30% of median income. In addition, 80 % of the children in Bessemer schools are on the free lunch program further illustrating the economic need for our citizens. “Access” to the internet does not exist for families who cannot afford the monthly cost. The City intends to provide a wireless broadband solution that not only improves municipal services, but is affordable to its citizens. This proposed project has support of key anchor institution leaders and critical community facilities (including, but not limited to, schools, libraries, health care providers, public safety agencies, and other community organizations). Several factors create the need for this project: (a) Brighthouse Networks - a local services provider tells us that (according to their records) less than 30% of households in Bessemer subscribe to broadband services provided by them or other’s; (b) with an unemployment rate of 13.7%, that could very well rise, a city-wide Wi-Fi network – through cyber-learning organizations like the National Education Foundation (NEF) will be used to train our citizens basic job and computer skills (c) healthcare providers unable to deliver health education information in a uniform manner to our community, will implement new ways, like virtual medicine, to help the large percentage of our elderly population, diabetic, and/or indigent, (d) Public Safety Departments – through computer-aided dispatch and the latest medical information updates - will improve response times (by up to 20%) and effectiveness, helping to save lives, (e) lower communication rates to Municipal Departments will lower operations costs, and (f) Educators and Economic Development teams, who face increased funding cuts, could implement cost-effective and sustainable outreach tools to support the 27.2% of our population on the low end of the poverty scale. Access to the internet, like access to education is critical to the every child. This program will help provide equal opportunity to all students. Moreover, anchor institutions, critical community facilities, and Public Safety Entities have developed plans to improve their own services to residents based upon enhanced broadband access available through this project. These plans to implement and sustain new services are summarized in Support Letters as part of the documentation for Item #41. For example, our police department would improve its interoperability and obtain improved access to federal and state databases, our library could incorporate remote computers into its Book Mobile, our schools could provide remote learning (a requirement for graduation now in

Alabama) and job training opportunities, and our community's hospital could establish video links from ambulances to hospitals and connect doctors to specialized medical centers located elsewhere. Finally, a key aspect to sustaining the use of this network is to introduce accessible and effective computer and internet training across our community. Through an accompanying Sustainable Adoption Application, we seek funding to support collaboration with the National Education Foundation (NEF) whose mission is to bridge the academic, digital and employment divides. We will gain access to a broad array of online training courses, and to trainers and counselors that will work with our librarians, educators and citizens to conduct end-user training across our entire community. As our children often find themselves without necessary computer hardware to perform simple homework tasks, in later rounds of ARRA funding, we plan to pursue an additional grant for construction of a local community computer center. Due to time and personnel constraints with this grant writing effort, we were unable to develop the documentation necessary at this time. But, it is our plan to use this overall effort to support the personal and professional development of our citizens, and we believe we will deliver better qualified employees to our businesses and will improve the attractiveness of our region to new companies. Our IT and Utilities Departments have the necessary hardware and skills to not only support the City of Bessemer, but the surrounding rural underserved regions north and west of our city limits as well. Many of the smaller cities surrounding Bessemer are in support our effort to win this grant and hope to work with us as we move forward. With this network in place, and the ability for the network to easily expand, our plan is to pursue additional funding at a later date to construct and support this service in these regions as well. The proposed funded service area would cover approximately 40 square miles, 11,417 households and 1,995 businesses would be passed by the network. Maps showing the proposed coverage area are included with this application. The project passes over 2,000 institutions, of which more than 500 indicated their support through the Bessemer Chamber of Commerce and specifically expressed support for the project. We are pleased to have broad support from key community leaders including our Mayor, Chief of Police and Fire, Superintendent of Schools, President of our School Board, Director of Economic & Community Development, Library Director, Director of Public Works, Director of Building Permits, Lawson State Community College and the Bessemer Chamber of Commerce. The involvement and support of these Municipal Departments and Key Anchor Institutions will ensure broad and sustained usage of this wireless broadband network. Another critical participant is one of our local internet service providers who has indicated an interest in buying wholesale access to our network in order to expand their service offerings and to increase their potential customer base. We will offer public internet access through a wireless broadband network with speeds in excess of 1 Mbps upstream and downstream to any user in the serving area with a standard Wi-Fi device. Through the use of the open wireless infrastructure described further herein, any standard Wi-Fi device (used by the public and by Police, Fire, ambulances, city workers, etc.) will be able to access the network across the city limits with a few exceptions where there are no dwellings or businesses. The various applications to use this network are described above and detailed further in the attached Support Letters. The project would provide low cost internet access in a market where average advertised rate for internet service in our area is \$42.95 per month. We forecast subscriber rates, as a percentage of our total population, over 15% in Year 1, 20% in Year 2 and 25% in Year 3. The network would allow interconnection and competitive wholesale access for many different users, including other service providers. From an economic development perspective, a wireless broadband network owned by the City is complementary

to incumbent service providers and a number of mutually beneficial relationships are possible, including use of the proposed network by incumbent wireline operators who wish to complement current services by offering mobile wireless access or by cellular providers who would use wholesale bandwidth access from this network to offload their own 3G networks. We would support network openness consistent with the Internet Policy Statement of the Federal Communications Commission, and we would not favor any particular lawful content or applications over others. Our network management practices would be transparent to the community and posted on public websites. This project utilizes wireless mesh broadband technology to provide the greatest broadband speed possible to the greatest population of users in the area. Specifically, we are proposing an open-standard based unlicensed Wi-Fi (802.11) wireless service utilizing Tropos Networks mesh broadband wireless technology. The architecture will also include other wireless technology, such as point-to-multipoint and point-to-point radios and consumer wireless modems. A unique and innovative feature of this solution is the use of wooden poles with solar power for remote locations that do not have sufficient mounting assets and local power. This fits well with the City's intention to pursue green initiatives. The proposed project will be sustainable on both a short-term and long-term basis. We have selected Honeywell to lead our 18 month project deployment effort. As a \$38 billion diversified technology and manufacturing leader based in Morris Township, N.J., Honeywell has the financial strength and project management expertise to ensure that our project will be a success. Honeywell will work closely with Tropos for project implementation, training, and service management. In addition our IT Department has broad experience with Broadband in general and wireless networks in particular. "Our application to include all maps incorporates confidential information. We will indicate which material is confidential by stating: "Confidential: exempt from disclosure pursuant to 5 U.S.C. § 552(b)(4)." "