

Broadband USA Applications Database

Applicant Name: City of Dayton, Ohio

Project Title: Dayton Digital Development (3D)

Project Type: Last Mile

Executive Summary

The City of Dayton has developed a comprehensive plan, Dayton Digital Development (3D) to address Dayton's significant digital divide issues, enhance economic development and to provide improved municipal, health and educational services. This grant application is made in conjunction with the 3D Sustainable Broadband Adoption Application and the Public Computer Center Application. Taken together, the three applications address Dayton's broadband adoption problem, and if granted will accelerate Dayton's economic recovery. The City of Dayton is a relatively poor industrial city with a population of 166,179 and significant unemployment problems. Dayton's broadband adoption rate is believed to be approximately 23 %. Dayton has recently suffered the loss of a major employer, NCR, and the municipality has been forced to lay off public safety employees as a cost cutting measure. Dayton has prepared this plan in an effort to utilize broadband to arrest Dayton's economic decline and promote growth. The City's plan is to build a hybrid wireless and fiber system to serve the entire city of Dayton, border to border, serving 67,409 (a census household figure of 67,476 is also utilized in this application) households and 18,807 businesses. The system, designed by P&R and Motorola, would provide wireless broadband communications via a dual-radio Wi-Fi unit for use by residences, business, the municipality itself, and other key community facilities. The system would be operated and maintained under contract by P&R Communications, an experienced operator of wireless networks. The residential component would be provided by wireless internet service providers on a non-discriminatory basis using the bandwidth and the backhaul capabilities of the 3D network. P&R is Dayton's private partner in the plan and is providing the engineering and construction for the project. Once the 3D network is built, P&R will operate and maintain the network pursuant to a contract with the City of Dayton. The overall infrastructure cost of the 3D network will be \$14,997,817, with the City contributing \$10,146,772 (\$7,894,858 of the total City contribution will be contributed during the project period). Accordingly, the City is requesting \$7,102,959 in funding through this application. The municipality will utilize the system to provide municipal services. Key community facilities would be connected either by point to point microwave, fiber or by Wi-Fi. This executive summary explains each component of the 3D plan. Residential Service 3D intends to address the low broadband adoption rate in Dayton by creating an opportunity for wireless internet service providers to provide Wi-Fi service throughout Dayton for a reduced rate of \$24.95. This proposed rate is approximately one-half of the broadband rate of the incumbent providers. The plan is to make available to Wireless Internet Service Providers (WISPs) bandwidth on the city's ubiquitous network. The city will charge a wholesale rate for providing the bandwidth and insertion of the bandwidth into the internet of \$6.00 per subscriber. The WISPs would be selected on a non-discriminatory basis and interest has been shown by multiple companies, including

disadvantaged small business owners. Dayton's plan is predicated on the belief that poverty and pricing are holding down broadband adoption. The lower price, plus the fact that the customer and not the WISP, will be providing the reception equipment means that credit checks will not be necessary. Credit checks have been a problem for Dayton's citizens in ordering broadband services from incumbent providers. Incumbent providers will not provide customer premises equipment without a credit check, but a Dayton WISP will. Computer Center/Sustainable Adoption The City also intends to file a sustainable adoption application. Upon receiving grant funding for sustainable adoption, the City will install computer centers in community anchor institutions to promote access, education, awareness, and training for vulnerable population groups where broadband technology has traditionally been underutilized. Automatic Meter Reading The second substantial piece of the 3D plan is for Dayton to utilize the wireless capabilities of the system to provide automated meter reading. As its contribution to the project, Dayton intends to fund \$ 10,146,772 to cover fiber and automated meter reading equipment. The system will include wireless capable meters and meter collection points (Gateway) to deliver the meter use information into the Wi-Fi system. Further, the system will have point to point connectivity with the two Dayton well fields that provide municipal water services for Dayton. The Badger automated meter reading system that Dayton proposes to use will provide Dayton with: * significant costs savings because personnel that currently read meters manually will no longer be needed nor will their transportation vehicles; and * Dayton will be able to monitor water use in real time and identify leaks and other problems associated with water delivery; and * Dayton will be able to provide monthly billing to customers (as opposed to current quarterly payments) which will be both a convenience to customers and will allow to Dayton to receive faster payments. Public Safety Another significant portion of the 3D plan is to provide ubiquitous wireless coverage for the City's public safety forces. The police and fire departments are already using Motorola equipment and this system would be a substantial upgrade in speed and mobility. The City plans to utilize these capabilities in numerous ways including: • Video connection between cruisers and the precinct. • Connection to video cameras inside school buildings. • E-Citation. • Record Creation. • Video Surveillance. • Incident Management. [See Answer 10 for detail] Smart Grid The city also intends to make the system available to Dayton Power and Light (DP&L) and its smart grid project. The City will support DP&L as follows: • Dayton's Wi-Fi system will allow DP&L field crews remote access to DP&L's SCADA system and data bases; • DP&L will use City Wi-Fi to provide broadband to substations; • DP&L will be adding office facilities in Dayton that will utilize the City's broadband network to connect with DP&L's SCADA and computer systems Public Services • Building and housing inspectors in Public Works can use the field deployment of broadband to process remote inspection processes, thus speeding up the productivity of workers from duplicating their record keeping in both paper form and electronically. Faster inspection processing means less follow up calls by office staff and quicker tax revenues for housing and building. Community Anchor Institutions • In addition to the above, the 3D system will provide service the Dayton Public Schools and the City's hospitals, The Regional Transport Authority (RTA) and DP&L. Regarding qualifications, the City of Dayton is a large Midwestern city which operates numerous municipal departments including a large airport, water distribution system, sewer system, police, fire, EMS, etc. The City's annual operating budget for 2008 was in excess of \$168 million dollars. The city is certainly well qualified to build and operate infrastructure. In addition, the City has elected to use P&R Communications as its partner. For 48-years, P&R Communications Service, Inc. has worked with regional and local governments in

designing, deploying, operating and maintaining their wireless communications networks. As documented in the uploaded organizational chart, P&R devotes one-half of its ownership and over 60% of its employee base to wireless communications broadband, design, electrical and radio engineering. The City expects to create more than 8000 residential customers and 658 business customers at the completion of this project. The city also expects that connections will occur with the schools (K-12), hospitals, and the regional transit authority. The City estimates that with the establishment of a city wide Wi-Fi system, 184 jobs will be created due to increased economic development. The proposed 3D system, if funded, will be able to serve all of the citizens of Dayton and perhaps, more importantly, provide a robust infrastructure to support and serve all of the key community institutions while at the same time, providing significant cost savings to the city's water department and supporting green projects, such as automated meter reading and DP&L Smart Grid.