

2009 NASCIO Recognition Award Nomination State of Georgia

Nomination Category:

Digital Government: Government to Government

Title of Nomination:

Wireless Communities Georgia

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Executive Summary

High-speed Internet access has become essential for communities to attract business and industry and compete in today's global economy. In 2006, Governor Sonny Perdue introduced a grant program to assist Georgia communities in establishing wireless broadband networks.

Called Wireless Communities Georgia (WCG), the initiative is part of Governor Perdue's commitment to ensuring the availability of broadband connection in every Georgia community. The program is supported by the Georgia General Assembly and managed by the Georgia Technology Authority.

GTA held informational workshops throughout the state and accepted applications from city and county governments and local government authorities. Applications were evaluated by technology and business managers from several state agencies.

Each local government selected and worked with private companies to build a wireless broadband network, championing the project and bringing the necessary community collaboration. Local governments are required to provide a minimum of 25 percent of the project's total cost and provide access to publicly owned rights of way, buildings, communication towers, street lights, traffic signals and other infrastructure needed for the network.

Participating communities have been encouraged to establish private ownership and operation of the networks. Local and state government agencies are the "anchor tenants" of the wireless networks to attract private-sector investment and ensure that the networks are financially feasible and services are affordably priced. Networks are available to customers of all types, including local businesses and residents, for a reasonable fee.

Between 2006 and 2008, the program granted a total of \$6 million to the eight communities selected from the 30 that expressed interest. Three of the first cities to launch their wireless networks through WCG serve as examples of the program's potential to bring positive change to a community: Decatur, located in metro Atlanta, deployed its system on January 2, 2008, covering 3.7 square miles with 190 access points. Dublin, in south central Georgia, deployed on February 27, 2008, with 50 access points across 2.5 square miles. Thomasville, on the Georgia-Florida border, deployed on November 20, 2008, covering 3.5 square miles with 44 access points.

With the support they received from WCG, these communities have built wireless networks that promote economic development, improve the availability and efficiency of public safety and other government services, and expand educational opportunities.

Description of the Business Problem and Solution

Many communities across Georgia's 159 counties, which comprise the largest state east of the Mississippi River, lack what has become an essential in today's global economy: high-speed internet access.

In 2006, Governor Sonny Perdue introduced a grant program to assist Georgia communities in establishing wireless broadband networks. Called Wireless Communities Georgia (WCG), the initiative is part of Governor Perdue's commitment to ensuring the availability of broadband connection in every Georgia community. Supported by the Georgia General Assembly and managed by the Georgia Technology Authority, the program aims to promote economic development, improve the availability and efficiency of public safety and other government services, and expand educational opportunities.

The networks use Wi-Fi as their foundation technology. Wi-Fi is a proven, standards-based technology already in wide use. Many products use Wi-Fi, including laptop computers, tablet PCs and personal digital assistants.

To launch the program, GTA communicated with communities, held informational workshops throughout the state and accepted applications from city and county governments and local government authorities. Applications were evaluated by technology and business managers from several state agencies, including GTA, Georgia Department of Economic Development, Georgia Department of Education and the Georgia Department of Community Affairs. Applications were evaluated on specific criteria including project viability, network facilitation and community benefit.

Each local government selects and works with private companies to build their wireless broadband network, championing the project and bringing the necessary community collaboration. Local governments also must provide a match of 25 percent of the project's total cost and access to publicly owned rights of way, buildings, communication towers, street lights, traffic signals and other infrastructure needed for the network. Grant funds can be used for goods and services that support the aims of the initiative during the two-year lifecycle of the program; WCG is not obligated to fund activities beyond the closeout date.

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Between 2006 and 2008, the program granted a total of \$6 million to the eight communities selected from the 30 that expressed interest. Three of the first cities to launch their wireless networks through WCG serve as examples of the program's

potential to bring positive change to a community: Decatur, located in metro Atlanta; Dublin, in south central Georgia; and Thomasville, on the Georgia-Florida border.

Significance of the Project

Governor Perdue believes that rural broadband access is as important in the 21st century as telephone dial tone was in the 20th century. Wireless Communities Georgia is part of his commitment to ensuring the availability of broadband connection in every Georgia community.

Central to the program is the requirement that wireless networks be public/private partnership. Forging these partnerships created both challenges and innovations, and brought together a wide array of stakeholders: state and local governments, school systems, public and private utilities and IT organizations, community business owners, and residents.

City leaders and officials involved in the WCG program have been clear about the impact it has had in their communities:

- Decatur Mayor Bill Floyd: “This project exemplifies the achievements that can be realized when the state, city, school system, and private institutions come together and work towards a common goal. A project of this scale could not have been successful without the involvement of all parties....This project really is a remarkable achievement that exemplifies a community’s willingness to enhance its quality of life through the use of new and innovative technologies.”
- Dublin City Manager George P. Roussel: “...the citizens of Dublin now live in a community where high speed internet access is not only available, but is free.”
- Thomasville Mayor David Lewis: “We now have public customer, fire, police, city government, and utilities all utilizing our Cisco Wireless Network. Aside from desiring more coverage, to date, we have had nothing but good comments about the functionality of the wireless network.”

Benefit of the Project

WCG addresses a need identified by communities throughout the nation. In addition, the program closely aligns with NASCIO’s top ten Priority Technologies, Applications and Tools: (4) networking, voice and data communications, unified communications.

When WCG was introduced, the state expected that it would offer citizens access to indoor-outdoor wireless internet connections in their communities—most for the first time. Among the anticipated benefits were more efficient governmental services, enhancements to local education, and promotion of community economic development opportunities.

Communities have reported results that certainly met—and in many instances surpassed—those expectations. Here are brief summaries of three cities' experiences, along with some of their lessons learned and ideas for expansion:

Decatur

In its grant application, the City of Decatur indicated its intent to be a “virtual laboratory for government, business and technology leaders to learn about, experience and test state-of-the-art wireless equipment”. The city set major goals for the project:

- Provide wireless networking for mobile city staff to enhance productivity (police, fire, public works, inspections, codes enforcement)
- Offer affordable internet access to students to access homework and school network resources
- Provide institutional wireless networking within and beyond campus limits
- Attract and retain businesses in the commercial business district

In support of the goals, the city has several applications in various stages of deployment:

- Video-surveillance and real-time database and records management capabilities for police department
- Internet access for lower-income students at their homes and after-hours instructional applications and content
- Cost-effective portable and mobile connectivity options for Decatur residents and businesses

A project of this magnitude is not without challenges, and Decatur has been willing to share its strategies for addressing issues such as determining the appropriate node density and alleviating interference; overcoming challenges caused by the inability to access poles owned by telecom carriers or fiber networks used by cable providers; and solving problems caused by the city's mature tree canopy.

The city also has advice for other communities interested in building a wireless network:

- Start with a small footprint, roughly one square mile or less, in an area with few physical barriers. Decatur chose to provide good coverage to 80-90% of the city rather than mediocre coverage to the entire city.
- Manage expectations. Educate residents that Wi-Fi will not provide the same reliable experience as DSL or cable modem.
- Find partners with the necessary technical expertise.
- Garner leadership support early.
- Take advantage of population density.
- Develop realistic timelines and use conservative financial estimates.

The community has been pleased with its results. According to the report submitted to GTA: “...citizens have affordable, high-speed internet access throughout the city; schools have opportunities for experiential learning; businesses have alternatives for high-speed data services; visitors have ubiquitous internet access during festivals and

other community events; city employees have opportunities to enhance productivity and customer service; and low-income families have access to school resources not previously afforded.”

Dublin

When Dublin began building its WCG project in December 2006, the city aimed to cover 40 percent of the city limits within two years. From the beginning, project leaders said there was “genuine excitement about the project throughout the community.” The city’s existing IT infrastructure provided a head start. It already had a fiber optic ring used for telecommunications for local schools, government entities, community entities and private businesses, and also was an internet service provider.

Covering Dublin’s 13.5 square miles would have required more than 170 access points. In addition, the area’s thick foliage would impede coverage, leading the city to focus its efforts on its downtown and southside areas and main routes in and through town. After the launch of the network and positive feedback from the community, the city expanded coverage.

Community participation provided a boost. Schools, government agencies, and seventeen businesses allow the city to use space for access points on rooftops or towers located on their property. The coverage area includes every school in the city limits, a mall, public library, medical center, university campus, and major highways and routes through the city.

Dublin police officers can now stay on the road and use their laptops during their entire shifts without having to return to City Hall to sync them up. In addition, the wireless network has brought connectivity to five city government locations that previously had none—the main water plant, ground water plant, public works office, golf course and fire stations. Plans are underway to use the wireless backbone system to connect the city’s water tower to the utility monitoring system, which would save the city \$2000 each month. Also, the city is interested in equipment upgrades which would allow maintenance of its traffic signals to be done remotely using the wireless network.

Project leaders in Dublin consider the wireless network a factor in the downtown area’s economic resurgence. New restaurants have opened, and merchants and industries considering Dublin have expressed interest in the network and what it offers. According to the city’s report to GTA, “the new wireless network will continue to be a tool for the employees of the city, a resource for our citizens and guests of the community and as asset to draw more industry and jobs to our area.”

Thomasville

Because the City of Thomasville owns and operates utilities and network services—electric, water, sewer, gas, sanitation, cable TV, broadband internet, telecom and telephony—the addition of wireless network services through WCG seemed a natural next step.

Public customers, fire, police, city government, and utilities departments are now using the wireless network. Public safety departments are incorporating mobile access routers into their current equipment to access the wireless network and will add cellular cards in the future to expand their ability to roam seamlessly outside of the wireless coverage area and still have access to the network.

The network has provided support in local emergencies as well. For example, the city provided free wireless access to areas affected by a tornado which caused extensive damage to homes. The access was helpful to volunteers and insurance adjusters during the three-week clean-up and assessment period. The city also extended the wireless coverage area to cover a heavily affected area outside the existing coverage area, allowing police and firefighters to access network resources, including e-mail and internet.

Thomasville also uses the network to promote downtown businesses and provide free access to local information and websites to anyone in the coverage area. Through the city's portal page, users can access the welcome center, chamber of commerce, board of commissioners, local hospital, and the Weather Channel.

In each city, Wireless Communities Georgia has had a substantial local impact:

Decatur (\$427,500 grant)

Economic impact (with 25% match): \$160,000+
Current/ additional planned coverage: 3.7 square miles/4.2 square miles
Jobs created: Consulting services for ISP; network design
Computerized city help desk software services

Dublin (\$318,750 grant)

Economic impact (with 25% match): \$125,000+
Current/ additional planned coverage: 2.5 square miles/1.5 square miles
Jobs created: Consulting contract for fiber expansion
Buildout of Wi-Fi system by local telecom
Administrator for outreach computer program

Thomasville (\$500,000 grant)

Economic impact (with 25% match): \$300,000+
Current/ additional planned coverage: 3.5 square miles/1.5 square miles
Jobs created: Computer network engineers
Design engineering and equipment installation
Building schematics software for fire dept.
Contract services for police laptops