



Marietta's Digital Makeover

Leveraging Historical Assets to Create Future Competitiveness

Technology Infrastructure Group (TIG) Cluster III report extract

Marietta Ohio is a truly unique city that provides elements of history and assets for future growth. As Ohio's first city, Marietta is the birthplace of the Northwest Territory, a pioneer in innovation and progress. Marietta's location at the intersection of the Ohio and Muskingum Rivers made it ripe for industry and commerce from the onset. Now, Marietta is prepared to insert itself at the cross-roads of the digital economy. Marietta's Digital Makeover captures the same spirit of progress that facilitated America's expansion westward by expanding Marietta's presence on-line and in the global economy, transforming again a city with a history of progress.

The charm and history of Marietta provide a wonderful setting to live, learn, work and play. The k-12 schools, universities, access to major highway systems and local industrial, business and public sector leadership make Marietta an excellent place to do business. Marietta has faced significant challenges in 2004 and 2005 from the flooding the city experienced due to historical levels of rain and snow. Marietta expects to overcome the challenges presented by the flood and an economy transitioning from industrial to knowledge & service-based by creating and implementing a technology-based economic development plan and strategy to position Marietta and Washington County for future opportunity and economic expansion.

Building on a foundation of history and progress and leveraging significant community assets, Marietta will utilize technology and broadband to support the business and industry of the future. This report identifies Marietta's strategy to accomplish a digital makeover.

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Project Background

Marietta and Washington County pursued and were selected to participate in a broadband planning project titled the Technology Infrastructure Group (TIG). The TIG project was designed to develop strategies to improve broadband access in five “cluster” groups throughout the Appalachian region of Ohio. The clusters include:

- Cluster I - Coshocton & Tuscarawas
- Cluster II - Guernsey & Noble
- Cluster III - Morgan & Washington
- Cluster IV - Hocking & Perry
- Cluster V - Gallia, Jackson, Meigs & Vinton

David Matusoff and Greg Dunn of SZD Public Policy Consultants, LLC provided project development and management services for the TIG (<http://www.szd.com/services/policy.html>). Steve Heischman provided technical consulting services. The TIG project is funded through an Appalachian Regional Commission grant administered through Ohio Governor Bob Taft’s Governor’s Office of Appalachia, with local financial support from the City of Marietta. Marietta Mayor, Michael Mullen provided local project management support and will continue to advocate for new access to technology in Marietta (<http://www.mariettaoh.net>) Eric Skorma, Marietta’s IT Director provided significant support for the project.

Additionally, the project team wishes to thank Insight (<http://www.corp.insight.com/>) for their generous support of this effort.

Each of the local cluster groups for this project developed individual solutions based on local need. The proposed solution takes into account the local economic development strategy of the counties and would not have been possible without the significant efforts of individuals participating in the project locally.

This project was undertaken in the context of two significant broadband improvement projects within the State of Ohio. The Third Frontier Network (TFN) is a dedicated high-speed fiber-optic network linking Ohio colleges and universities with research facilities to promote research and economic development. Over 1,600 miles of fiber have been purchased to create the network backbone to connect colleges and universities, K-12 schools, and communities together (<http://www.osc.edu/oarnet/tfn/index.htm>).

OH*1 is a statewide effort led by Ohio’s Office of Information Technology (OIT) within the Department of Administrative Services to consolidate all networking for the State Executive Branch agencies, as well as provide broadband access to Ohio’s local governments and court systems. OH*1 is still in the development stages with the potential to begin providing service by the end of 2005 (<http://oit.ohio.gov/cio/OIT10.aspx>).

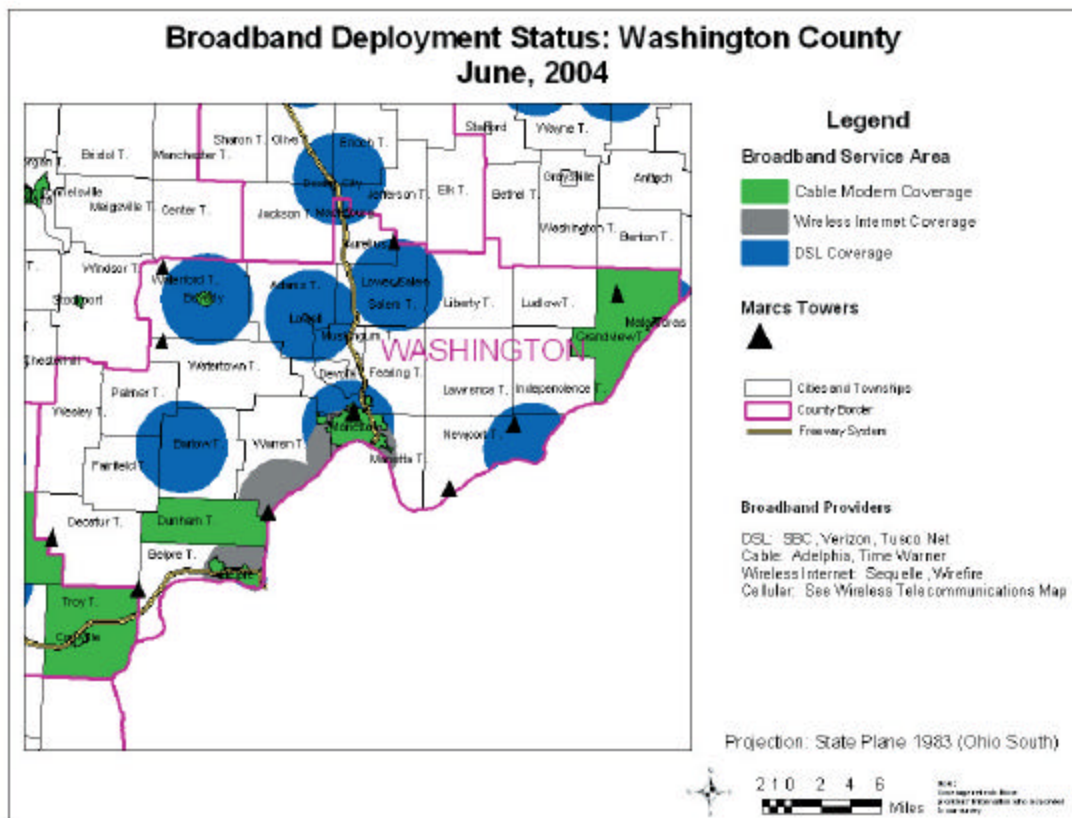
Since the TIG was designed to improve broadband access in rural communities, both projects need to be considered as a potential source for broadband infrastructure improvements within the region. Although the TFN backbone is already constructed with minimal Internet Points of Presence (PoPs) in the Appalachian region, OH*1 or TFN have the potential to extend the network backbone further into the region, thereby extending critical “middle-mile” Internet access into these Appalachian communities. Communities within the region will have to take a wait-and-see approach to connecting

to OH*1, as TFN and OIT develop the policies and pricing structures regarding connecting the network. The State of Ohio needs to develop a policy in cooperation with existing telecommunications providers which will allow TFN/ OH*1 to carry commodity Internet traffic into underserved communities.

Local Broadband Background

Compared to many rural counties, Washington County's businesses and residents have access to a reasonable level of competitive broadband services. As of June 2004, Washington County has DSL services provided through five central offices, cable-modem broadband within the cities of Marietta and Beverly, as well as in two additional townships. Wireless broadband is also available in southwest river corridor of the county. Due to topography and low population densities, broadband investments have not reached significant rural portions of the county. See the map below for coverage areas.

Marietta's Digital Makeover addresses the overall economic development strategy of the community and seeks to extend broadband services in underserved areas. Regardless of broadband extension plan developed through this effort, Washington County must explore ways to leverage the TFN and OH*1 as part of this strategy.



Although broadband may exist at higher levels than many other rural counties, Marietta and Washington County must position themselves to compete in the global economy. Competition for jobs and progress are global and Marietta must create a broadband infrastructure that is world-class.

Plan

Marietta's historic downtown provides a unique asset and economic development opportunity for the city. Riverfront cafes and boutique shopping provide a fantastic setting to grow small businesses and generate tremendous foot traffic downtown. Unfortunately, the recent floods, fires and other unfortunate events have forced many small businesses within the main commerce corridor downtown to permanently close their doors. To address this issue and attract small service-based and creative-class businesses back to the city's historical corridor, the Mayor plans to create a wireless downtown and offer free wireless broadband connectivity for one year to new businesses that locate downtown. This action on behalf of the city will encourage business investment from small firms that rely on internet connectivity as a critical component to their business models.

Any effective revitalization plan requires partnerships. To get Marietta's Digital Makeover started, the project team sought partnerships for pilot projects with broadband providers to make investments that can act as a catalyst for change. Marietta's first partnership is with Insight (<http://www.corp.insight.com/>), a full service technology integrator with expertise in hardware, software and communications technologies. Based in Tempe, Arizona, Insight Enterprises, Inc. is one of the largest technology solution providers in the world, with over 4,000 employees worldwide. With sales of \$2.9 billion for the fiscal year ended December 31, 2003, Insight Enterprises is ranked number 537 on Fortune Magazine's 2004 "Fortune 1000" list. Insight is aggressively pursuing local government markets, so a partnership made perfect sense.

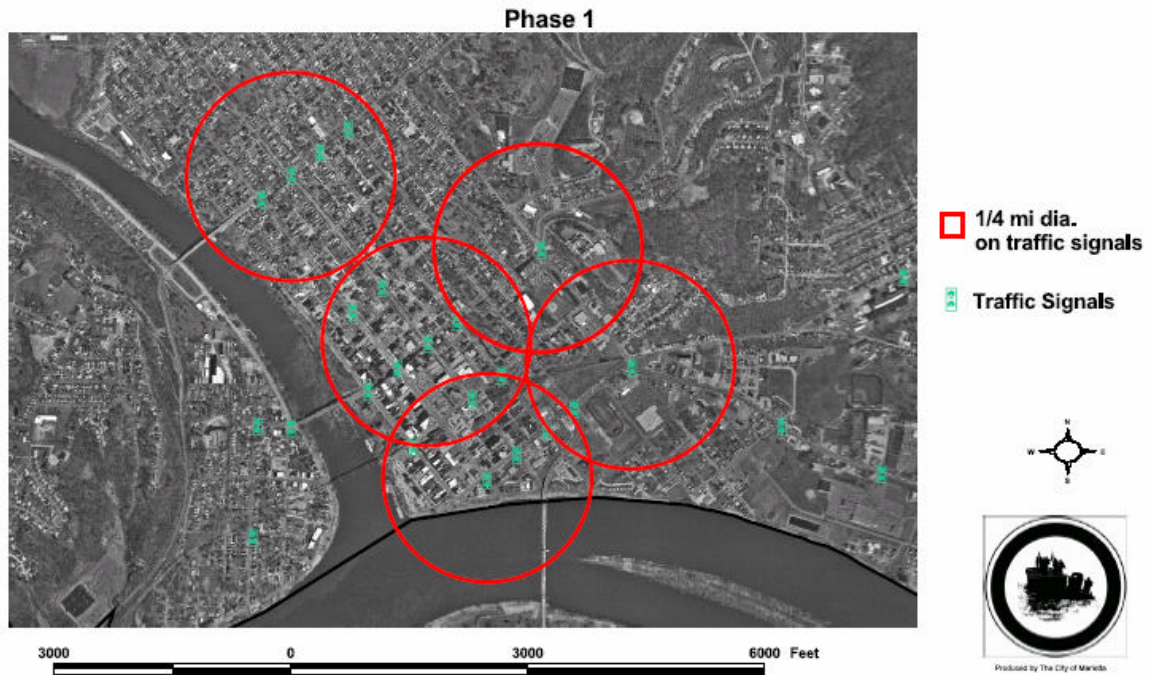
Insight will provide Marietta with wireless equipment at no cost and some at reduced rates, as well as provide design and implementation expertise. Pronto Networks has agreed to supply help desk services for Internet service users below their normal subscription fee. Washington State Community College has agreed to participate in this new partnership with Marietta to provide additional technical support through loaned students who will be gaining valuable training through working on the project.

To provide high-speed wireless broadband in Marietta's central business district most affected by the flood and then to the remainder of the community, the project team and Insight designed an approach that leverages public infrastructure and existing bandwidth contracts.

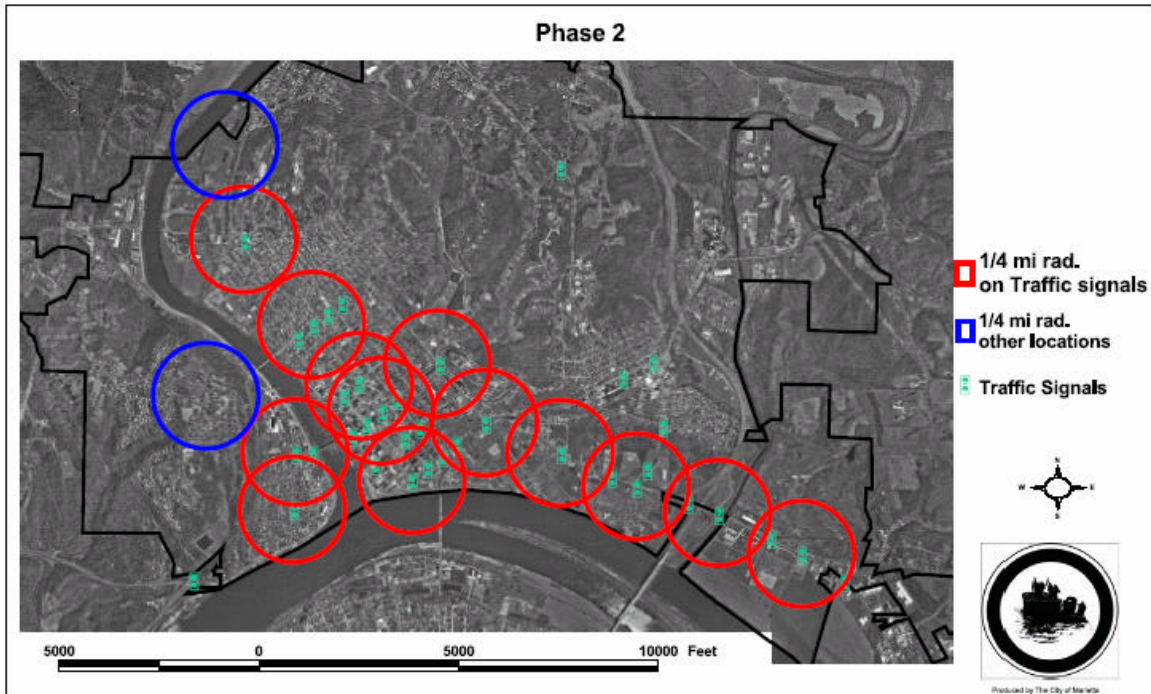
It was determined that a "mesh" type wireless environment was the best solution to cover the city wirelessly. Individual wireless access points can provide both broadcast and backhaul capabilities so that each access point does not have to be linked directly to the wired network. The wireless access points will be attached to traffic signal, light poles or other City owned infrastructure. Marietta previously developed a "Smart" traffic management system utilizing the street-light grid connected by fiber optic cables to effectively monitor and control traffic flow. Excess capacity found in this system can be leveraged for backhaul purposes and where necessary Point to Point Wireless backhaul units will be used. Power for the radios will be provided by locating these access points on city owned infrastructure with existing power sources or augmented through direct attached power panels and power backup units.

Implementation Phases

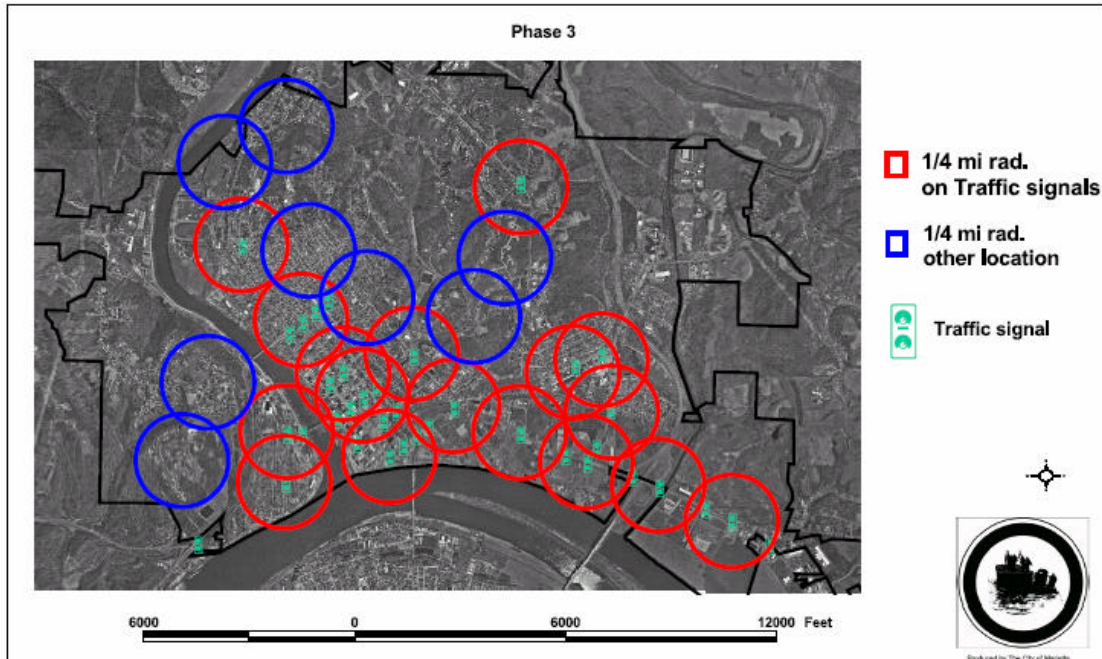
As with most large project it was determined that moving forward in a phased approach to garner experience and fine tune the implementation for repeatable success was the best approach. The Phase 1 map below portrays the initial infrastructure that will include at least five access points propagating wi-fi wireless broadband Internet along the river corridor and in the downtown. This signal will be accessible from a downtown business, a café or even in a boat on the river through a wi-fi equipped laptop, desktop, PDA or wi-fi enabled wireless phone. To ensure signal strength and propagation within the buildings or residences, additional antennas may be installed to funnel the signal into the internal Ethernet connections. Members of local law enforcement and fire, life and safety professionals will be able to start testing the system and garner immediate benefit from its usage in the downtown area.



The Phase 2 map below portrays eight additional access points to extend the reach of the wi-fi network to the north, east and west. Again, the mesh technology allows for access points to backhaul network traffic from one point to the next. Where signal strength or network performance is degraded due to multiple hop scenarios backhaul units will be implemented either using the existing fiber infrastructure or through Point to Point wireless links.



Phase 3 of the wireless project which will extend Marietta’s wi-fi capabilities enabling ubiquitous access throughout most of the city. This particular architecture includes thirteen additional access points beyond Phase 2, for a total of twenty-six access points distributed throughout Marietta.



Conclusion

Marietta's rich history and community assets provide a great backdrop for economic development opportunities. The goal of implementing this system is to provide Marietta's current and future businesses and residents with broadband services on-par with larger urban communities in an effort to compete for business retention and growth. This effort will build on Marietta's legacy and continue to foster an environment that values technology and innovation.

This report identifies a number of ways Marietta can improve access to technology for residents, businesses and delivery of public services. Although many communities understand the importance of technology planning and broadband for future competitiveness, few have the plan in place to effectively change. Marietta is ready to execute its plan.