



Chattanooga Skyline (Source: Chattanooga Chamber of Commerce)

Strategic Broadband Infrastructure Investment

Chattanooga, Tennessee

★ Best Practices Case Study

With a population of over 170,000 residents spread along the Georgia border, Chattanooga is Tennessee's fourth-largest city. As the seat of Hamilton County and the center of the Southeast Tennessee region, Chattanooga lies at the convergence of the Cumberland Plateau and the Appalachian mountain range, which together create the dynamic and scenic natural landscapes that have made the city famous. In the last few decades, Chattanooga has also made a name for itself through its economic development initiatives: by combining smart incentives, collaborative leadership, and the enhancement and marketing of its famous quality-of-life. The greater Chattanooga region has attracted over \$4 billion in investments from major companies like Volkswagen Group of America, Amazon.com, Alstom, Wacker Polysilicon USA, and IVS. These companies have located large manufacturing and distribution facilities in the region, bringing thousands of jobs to Southeast Tennessee and cementing Chattanooga's role as a major economic player in the New South.

However, Chattanooga's history was not always so bright. In 1969, a U.S. Environmental Protection Agency report called it the "dirtiest city in America" thanks to air and water pollution from its burgeoning industrial sector. In the following years, changing markets and overseas competition caused many of those industries to vacate the city, undermining its economy and employment base. Only in the past four decades, thanks

to far-sighted regional leadership and major investments in infrastructure and business development, has Chattanooga begun to re-establish itself as a leading Southern economic region.

In the early 2000s, public and private sector leaders set their sights on a new infrastructure element of Chattanooga's development as a modern business hub: a complete redesign of the city's power grid and Internet services that would position it as a national leader in connectivity and green technology. Combining a \$100 million investment from the American Recovery and Reinvestment Act with a \$200 million local bond issue, the city set its municipal Electric Power Board to work implementing cutting-edge live fiber connection technology across its entire grid. Dubbed "Gig City"—the initiative was one of the state's largest and most ambitious infrastructure overhaul projects to date.

Thanks to the contributions of countless local and regional partners, the full Gig City grid went live in 2010. Today, Chattanooga boasts the fastest municipal Internet grid in the entire Western hemisphere, offering up to 1 gigabit (1,000 megabits) per second data speeds—200 times faster than the national average of 5.3 megabit per second. Those blazing fast speeds place Chattanooga among the best connected cities in the world, a major attractor for growing businesses, large corporations, and Internet entrepreneurs alike. The city's investment in broadband infrastructure has positioned



Imagery from Chattanooga's technology campaign (Source: Gig City)

Chattanooga as an emerging technology hub and helped create hundreds of new jobs. The city's rapidly growing entrepreneurial scene now includes dozens of local start-ups along with many new arrivals and entrepreneurs, including a former NASA scientist who invented the NODE, a palm-sized sensor array that reads out to a smart phone, which has garnered national attention.

Since the Gig City project's implementation, Chattanooga and its partners throughout the region have been busy building on its successes. The business accelerator project Gigtank is the only one of its kind plugged into a living fiber network, which the project claims "enables next generation businesses to go to market today." Gigtank participants are granted access to a toolkit of integrated technologies that can be combined, enhanced, and commercialized to support business ideas and initiatives. A complementary program, Geekmove, provides incentives, assistance, and resources to computer developers and entrepreneurs interested in relocating to Chattanooga.

In addition to the city's major strides in Internet connectivity, the Gig City project outfitted Chattanooga's entire power grid with top-of-the-line Smart Grid meter connections. A major innovation in green infrastructure technology, the Smart Grid system allows the Electric Power Board to dynamically assess the power needs of the city down to the block and house scale, reducing wasted energy and helping to match production levels to peak usage. Smart metering has also proved invaluable in crisis management. For example, in July 2012, when a storm knocked out power to 80,000 homes, more than half had their energy restored within three seconds via digitally rerouted connections—compared with seventeen hours on a standard system.

Chattanooga's fiber optic network also serves as the backbone for a superfast wireless infrastructure system, which city officials are using to link and manage traffic signals, water quality monitors, and much more. The system also gives police officers

and firefighters high-speed Internet access while in route. The system has inspired a local company called Global Green Lighting to develop radio-controlled outdoor lighting that delivers tremendous cost savings while giving public officials the ability to adjust the light in real-time. At the same time, the University of Tennessee at Chattanooga's SimCenter Enterprises is developing a system to detect disaster events, project their likely impact, and coordinate public safety deployments and citizen notification in real time.

"The Gig City project has been a major engine driving economic, educational, and sustainable development within Chattanooga," said Beth Jones, Executive Director of the Southeast Tennessee Development District. The unprecedented Internet speeds now available to homes and businesses alike have raised the city's profile on the world scale, and have drawn coverage from CBS, CNN, *The New York Times*, and several international outlets. By transitioning its economy into the 20th century while preserving and enhancing the natural beauty and quality-of-life that made it famous, Chattanooga and the Southeast Tennessee Region have set an outstanding example for all cities and regions poised to invest in similar communications infrastructure.



KEY FACTS: Chattanooga, Tennessee

Population: 167,674 (2010 Census)

Project Description: Broadband infrastructure, business incubation, strategic infrastructure investment, small business support

Partners: Access America Transport, Chambliss, Chattanooga Area Chamber of Commerce, Chattanooga Neighborhood Enterprise, Chattanooga Renaissance Fund, Chattanooga State Community College, Chattanooga Technology Council, The Chattanooga Land Company, The Company Lab (CO.LAB), Delegator, The Enterprise Center, EPB, Geni, City of Chattanooga, Hamilton County, Lamp Post Group, Lyndhurst Foundation, Miller and Martin, National Science Foundation, Pale Dot Voyage, Re tickr, River City Company, Solidus Company, Start Up Tennessee, University of Tennessee Chattanooga