

Seeing the *Light*

Communities in Catawba County, N.C., supported the growth of optical fiber and cable producers to help maintain the county's manufacturing sector.

BY CHARLES GERENA

Until the growth of the telecommunications industry slowed to a crawl, 40 percent of the world's fiber optic cables reportedly flowed from one place — Catawba County in western North Carolina. Factories in Hickory and Claremont churned out millions of kilometers of these light-carrying communications lines, as well as the optical fibers inside of them.

The initial location of cable and fiber production in Catawba was more a product of chance than design. Through a series of acquisitions and mergers, locally owned plants ended up in the hands of three major suppliers to the telecom industry — Comm-Scope Inc., Corning Inc., and Alcatel.

But executives could have expanded their firms elsewhere when the demand for cable and fiber increased. Instead, they chose to invest in their existing facilities in Catawba. The county had several economic advantages, from its established industrial base to a labor pool that encompasses a four-county metropolitan area north of Charlotte. What ultimately made the difference, though, was the lobbying of government officials who wanted to keep industry alive in Catawba County.

The production of hosiery, furniture, and other goods has been an important part of the county's economy, thanks in part to cheap electricity from Duke Power's hydroelectric plants on the Catawba River.

"We have always been heavily manufacturing oriented," notes Scott Millar, president of the Catawba County Economic Development Corporation. There were 575 manufacturers in the county as of June 2002, the third-highest number in North Carolina.

However, Millar says most of the county's manufacturers could be classified as small businesses. "There are quite a few firms that are two-, three-, or five-person hosiery operations, or small furniture production facilities," he describes.

Employment in the hosiery and furniture sectors has been shrinking for years. Dean McGinnis, Claremont's city manager for the last 15 years, attributes this trend to the same factors that have hurt many labor-intensive industries —

automation and increased competition from less expensive imports. "We have not lost a furniture factory," he notes. "They have just fallen down in the hierarchy" of employers.

So McGinnis and other officials throughout Catawba County have been hunting for other manufacturing sectors that need workers. In particular, they have coveted producers of telecommunications equipment, plastics, and other high-tech goods. These firms are thought to pay higher wages than producers of textiles and other "low-tech" goods. They also are supposedly less likely to relocate abroad to reduce their labor costs. (See sidebar.)

Fiber optic cable and optical fiber production fit the bill for industry-hungry Catawba County. The region had a foot in the door with Superior Cable Corporation, which was founded in Hickory in 1953 and opened a plant in Sherrills Ford in 1966. These facilities would later be sold to new owners, providing the foundation for CommScope and Corning's fiber optic cable production in the county. Also, CommScope's Chairman and CEO Frank Drendel developed strong relationships within the cable television industry.

As the expansion of long-distance telecom markets spurred demand for fiber optic cable and optical fiber in the 1980s and '90s, local officials lobbied cable and fiber companies.

For example, when Alcatel wanted to expand its optical fiber production in the early 1990s, McGinnis says that Claremont got the new factory in 1992 because local officials "offered innovative ideas and incentives." The county bought the land for the factory and sold it to Alcatel, which paid for the purchase out of future tax payments. The city built a sewage treatment plant to accommodate the factory's waste flow.

Then came the rapid expansion of telecom networks during the latter half of the 1990s. Backlogged cable and fiber producers struggled to keep up with demand. Sensing the opportunity at hand, Catawba County and local governments stepped up their efforts to encourage producers "to make their investments here rather than somewhere else," recalls Millar. Grants, work force

The Allure of High-Tech Manufacturing

When recruiting industry, economic development officials often favor producers of high-tech goods. For officials in Catawba and other counties in the Hickory metropolitan area, the focus has been on fiber optic cable and optical fiber manufacturers. Are such firms better for a community's economy than producers of low-tech goods?

One reason that officials give for targeting high-tech manufacturers is that workers earn relatively higher salaries. A June 1999 analysis by the Bureau of Labor Statistics (BLS) showed that at least 10 high-tech industries—from communications equipment to aerospace—paid at least 50 percent more than the median wage for all industries.

A March 2002 BLS report explained why high-tech manufacturers could pay more: they have achieved higher annual growth in labor productivity compared to the industrial sector as a whole. "The benefits for workers from growth in labor productivity are reflected in rising real wages and other compensation," wrote economists Christopher Kask and Edward Sieber in the report. "Over time, trends in real labor compensation tend to parallel trends in labor productivity."

Economic development officials also target high-tech manufacturers because they appear to be less likely to relocate in search of cheaper labor. This is a problem that has plagued communities where furniture and textile factories once played a large economic role.

But the likelihood of a plant relocating doesn't depend on whether the manufacturer is high-tech or low-tech, argues economist Joseph Cortright of Impresa, a Portland, Ore.-based consulting firm. "The issue is whether the plant is doing routine, mass production or something that

it is good at doing in a community."

Cortright says a new product usually requires continued refinement and customization during the production process. Therefore, the manufacturer needs engineers behind the scenes and highly skilled workers on the factory floor. As long as it finds this valuable human capital and other unique resources in a community, it will continue to operate its plant there. As the production process becomes more standardized, however, the product can be made by less specialized, low-wage workers that can be found anywhere in the globe.

Based on this analysis, one could surmise that high-technology manufacturers are less likely to bolt from a community than other producers because their products are more sophisticated. But that's not always the case. For example, the manufacture of compact discs used to be more complicated, says Cortright. "Now, it is a very routine process," so the cost of labor became a more important consideration than the quality of labor. As a result, Sony Disc Manufacturing shut down its plant in Oregon and transferred production to other facilities.

In Catawba County, fiber and cable production is still an exacting process. Equipment must be precisely controlled to produce glass fibers that have few impurities, that are the correct diameter, and that have specific physical and optical properties.

Also, Alcatel and CommScope Inc. operate research and development centers near their plants. "That is a very important indication," notes Cortright. "It signals that [they are] doing higher value-added functions in the community, and those jobs are more likely to stick around."

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training, and other incentives "were developed to facilitate their growth."

Driving through the county's small communities, it's easy to see the growth of the "big three" cable and fiber producers. CommScope, a fiber optic and coaxial cable manufacturer headquartered in Hickory, operates industrial and research facilities in Claremont and Newton that occupy over 1 million square feet. Corning runs its Cable Systems division in Hickory, as well as two cable plants that total more than 800,000 square feet. Alcatel has corporate offices in Hickory, produces cable and fiber at a million-square-foot complex in

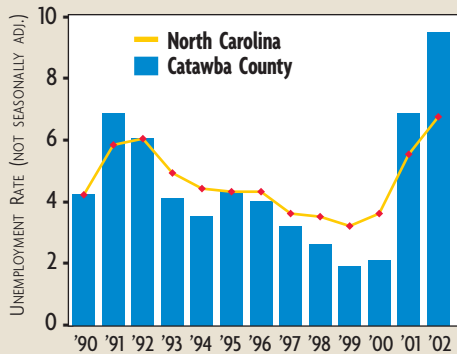
Claremont, and operates a research and development center in the latter city.

Even so, the local economic effects of large manufacturers can be disappointing in "small communities that lack the ability to fully absorb those impacts," wrote Dennis Roth in a January 2000 article for the Economic Research Service of the U.S. Department of Agriculture. "Branch plants in rural communities may not benefit the poor and unemployed because they bring employees with them, hire more skilled immigrants, or stimulate long commuting from other communities."

Indeed, the employment and payroll effects of Claremont's two fiber optic

Fiber Insulation

For a while, the expansion of optical fiber and cable production in Catawba County helped compensate for labor reductions at textile makers and other manufacturers. But the downturn in fiber and cable made the county fare worse than the state in 2001 and 2002.



SOURCE: Employment Security Commission of North Carolina

cable plants are widely dispersed. The city has only 1,000 residents, so the facilities draw laborers from throughout Catawba County and the broader Hickory metropolitan area, which also includes the counties of Alexander, Burke, and Caldwell.

Factory workers spend some of their salaries at commercial establishments in town. McGinnis says this has helped stimulate commercial development. Still, most of their pay goes back home at the end of the workday.

The money spent by the manufacturing plants themselves also leaks out of rural areas, argues Roth. "Because a branch plant has many economic linkages outside the local community, its activities create a much smaller multiplier effect than its urban counterparts."

For example, several suppliers of equipment and components have located sales and service offices in Catawba County, including a Canadian maker of fiber production systems named Tensor. But not many of them operate factories nearby. "They have mostly showrooms and small R&D facilities" in Catawba, says Ken Luterbach, sales and technical manager at Tensor's office in Hickory. Most of their production is done elsewhere in the United States, Canada, and Europe.

Nevertheless, Catawba's cable and fiber plants contribute substantially to

the local tax base. Revenue from utility surcharges, property taxes, and other levies paid by plants helped small cities like Claremont expand municipal services like fire and police protection. While some of this added capacity was needed to keep plant managers happy, residents also reaped the benefits.

Now that the telecommunications industry is retreating, however, the economic punch of Catawba's cable and fiber plants is growing weaker.

Capacity far exceeds the demand, especially on long haul networks. Less than 30 percent of all long haul fiber was activated by 2001, according to a report by the Telecommunications Industry Association.

This has led to fewer communications lines going into the ground and, subsequently, less demand for fiber optic cable and optical fiber. Worldwide fiber production fell an estimated 50 percent in 2002, with the steepest drops in North America and western Europe. In a recent report for KMI Research, Patrick Fay noted that the fiber market has shifted to Asian countries like China where networks are in earlier stages of development.

Not surprisingly, cable and fiber producers have scaled back their production. Corning and CommScope have laid off hundreds of their plant workers and engineers in Catawba County. Alcatel has scaled back its R&D activities in Claremont and mothballed its fiber plant, but continues to produce cable from an adjoining facility.

This retrenchment has added to the job losses in Catawba County's manufacturing sectors. Not adjusted for seasonal changes, the county's jobless rate shot up from 3.5 percent in January 2001 to 9.1 percent in January 2003. "At one point last year, we were recognized for having the highest percentage rate change [in unemployment] over the previous 12 months in the nation," says Millar. "It has been a difficult pill to swallow, from feeling invulnerable to having to look at a lot of other opportunities."

Telecommunications analysts and executives say it will take a while to absorb the industry's excess capacity. But fiber optic cable and optical fiber

producers remain cautiously optimistic. A core demand still exists for their products, driven by the need to improve the quality of networks. Glass fibers transmit data with fewer errors than copper wires, thus reducing the need to re-send data and increasing network performance.

While many long haul networks are fiber based, Corning executives and others believe that the telecom industry is still in the early stages of replacing copper with fiber. Operators of short haul networks, which transmit data between local loops in communities, are still making the transition. And, many of the local loops that connect homes and businesses to central switching stations haven't been upgraded. But in order for telecom carriers to broadly embrace optical fiber, there must be greater demand for the high-bandwidth services that require the capacity and quality of fiber.

Despite these challenges, local officials don't regret fostering cable and fiber production in Catawba County.

"We have not written off the telecom industry," says Millar. "Cable and fiber producers have invested in their work forces and facilities here, and I feel that they will invest here again as they achieve their growth plans in the future." Meanwhile, the county will keep searching for new industry. **RF**

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