



encom
WIRELESS

City of Greeley, Colorado

An ENCOM “Then and Now” Success Story





Then

Fifty per cent is a passing grade in some classes, but not in the traffic management offices in the City of Greeley, Colorado.

Until recently, the city of 80,000 in north-central Colorado was leasing phone circuits from a regional telecom giant in order to communicate with its traffic controllers—with the communications rate at some locations dipping as low as that aforementioned 50 per cent.

In exchange, the city was paying an astronomical bill of more than \$90,000 per year—and traffic officials were none too pleased about the situation.

Communications “were not working more than they were working,” recalls Mike Comstock, traffic operations supervisor with the City of Greeley. “And then there was the recurring-cost factor.”

Ken Baltrip, traffic signals supervisor with the City of Greeley, is even more blunt:

“Basically, (the telecom company) quit maintaining their lines. And every time there was a problem, it was my fault, and they were sending me a bill... even though it was their lines that weren't working.”

—Ken Baltrip, City of Greeley

With a highly unreliable communications network for Greeley's Intelligent Transportation System (ITS), the result was inevitable—frustration for motorists and a giant headache for traffic operations.

“If we got a call that a set of lights was not cycling properly, the line was usually down,” says Comstock.

“Traffic signals need to (be synchronized) in order to have a co-ordinated corridor. We had lights that were seconds off, or minutes off in some cases.”

—Mike Comstock, City of Greeley

“Those turned into our problem calls. We had complaints on traffic flow and longer commutes. It also meant higher fuel costs and fuel emissions, if you're sitting at one red light after another.”



Enter ENCOM

The City of Greeley entertained bids from seven wireless communications vendors, choosing ENCOM for its reputation and commitment to its customers' investment, as well as the reliability, flexibility and expandability of its equipment.

ENCOM representatives helped design the initial wireless network and trained City of Greeley personnel to carry out all phases of the network's installation.

Between 2006 and 2008, all 114 traffic controllers in the city were fitted with ENCOM Model 5200 serial radios.

Meanwhile, two 5000ESS Ethernet-to-serial radios were installed on 60-foot-tall Colorado Department of Transportation towers, providing seamless connectivity between the RS-232-based traffic controllers and a dedicated fiberoptic Ethernet link to the City of Greeley works yard.

The flexibility of ENCOM's equipment also helped traffic operations brass clear a rather large hurdle—Greeley's challenging topography—in creating an uninterrupted, city-wide network.

In addition to the abundance of mature-growth trees, a long ridge runs through the centre of the city, perpendicular to most traffic corridors.

One of the key benefits of ENCOM's system, however, is that each radio is programmable as a master, remote or repeater. Thanks to this technology, about a dozen Model 5200 radios were chosen to be repeater sites, in addition to providing communication with their local traffic controller, because of their optimal location for providing wide area network coverage.

As for cost consideration, ENCOM was the clear winner. The price tag for its full city-wide wireless network came in at under \$250,000. By comparison, the City of Greeley, even tapping into an already existing fiberoptic ring, would have been forced to shell out approximately 10 times as much for a wired system using copper and fiber.

"I would say \$2 to \$3 million, probably, using our own fiber ring," notes Comstock. "Putting conduit in, the physical part, is where the big cost would have been."

Now

From its base station at the works yard, the traffic operations centre can now truly control the ebb and flow of Greeley's motorists, with no service interruptions to speak of.

The verdict?

"It's been like night and day, compared to what we were using."

—Mike Comstock, City of Greeley

"My understanding is that the ENCOM system is performing better than it was ever designed to." —Ken Baltrip, City of Greeley

And thanks to ENCOM, the City of Greeley has established a true win-win scenario in upgrading its ITS operations.

ENCOM's field-tested and reliable equipment created a dedicated wireless network that instantly outperformed the old leased phone-line scenario.

And on the bottom line, the ENCOM solution has paid for itself within three years—leaving the City of Greeley with an extra \$100,000 in its coffers annually.

"The City can certainly use that money. Who couldn't?" notes Comstock.





About ENCOM Wireless:

ENCOM, based in Calgary, Canada, provides field-proven, cost-effective wireless data solutions for municipal and industrial clients, with applications in the areas of:

- Intelligent transportation systems
- Public safety communications
- Municipal corporate security and IT networks
- Waste and water management
- Electrical utilities
- Oil and gas

What's Next?

The City of Greeley is already looking at upgrading its traffic management system.

Comstock says the next step will likely be to establish a wireless broadband network, which opens up an array of possibilities—including video monitoring with PTZ cameras, a Traffic Message Channel, conflict monitors and other intelligent traffic devices.

Another Satisfied Customer

What ENCOM provided the City of Greeley:

- A reliable, field-proven dedicated wireless network with a fraction of the cost of wired alternatives, such as copper or fiberoptics;
- A win-win alternative to leased-line scenarios: Instantly outperforming an antiquated, unreliable system, while also saving clients large sums of cash;
- A boost in the data rate and the efficiency of the system;
- Equipment with the flexibility to overcome daunting topographical challenges;
- Protection of its client's investment with one of the best warranties in the business;
- A complete city-wide traffic management network for \$250,000.



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