



Traffic Calming Solutions Move Beyond Speed Limits with 3G Communications and Remote Management

A Sierra Wireless® Remote Monitoring Solution

CUSTOMER CRITICAL CHALLENGE

- Traffic calming and safe crossing signage systems required persistent 3G connectivity and remote management for fixed and mobile message boards

SOLUTION

- AirLink® gateways provide 24/7 remote management and instantaneous content updating to innovative traffic signage systems

BENEFITS

- Secure, reliable connectivity
- Remote management of field hardware reduces travel and time required for maintenance
- Built to rugged specifications for harsh environmental conditions
- Portability for re-deployment in cases of retired or out-of-service signs



BACKGROUND

Fortel Traffic, inc. is one of the most innovative companies in the Traffic Industry. With state of the art products such as VCal™ a vehicle calming unit and VSpeed™ Online Software for data collection and programming, Fortel stays ahead of the curve. Fortel Traffic's main focus is on the safety of our streets.



"Previously, our customers were only pulling signage data once or twice a year for analysis. Now with uninterrupted broadband connectivity to signs provided by the AirLink gateways, our customers can go online and use our VSpeed application interface to pull the data as often as they like without having to leave their desks."

Luke Faubion
Regional Sales Manager of Northern California
Fortel Traffic

Business Challenge

Fortel Traffic began its journey in San Jose, CA over a decade ago when the company's Founder and President Emery B. Dyer recognized the need to better control traffic around his children's school zone. Originally developed as an interactive speed limit sign designed to promote driver awareness, Fortel's VCalm® product line has expanded to display warning messages and measure critical traffic data. The ability to measure and record traffic data enables their client base of military, law enforcement and other local, state and federal government organizations to take action to alleviate traffic buildup, avoid potential accidents and provide alerts for community awareness. Fortel Traffic solutions can be found in school zones, in gated communities, on military bases and along both rural and urban roads across the U.S. and in countries such as Brazil, Mexico and the United Arab Emirates.

Fortel Traffic's original VCalm® board design had limited remote connectivity. In order to download captured speed data from the signs or change the display message, a field technician needed to be within close proximity of the sign to download data and upload new instructions from a WiFi enabled pocket PC. Not including travel time or additional parts checks and repairs, the process took upwards of 15 minutes per sign. In San Jose, which has 44 signs, the City estimated that they were paying close to \$80,000 each year to maintain the signs with \$150/hour bucket truck rental and \$150/hour electrician wages.

While developing a next generation safe crossing solution, Fortel Traffic wanted to extend the functionality of its messaging board and ease its customers' maintenance difficulties. The company developed a full matrix display board that reflect a variety of warning messages, such as Curve Ahead, School Zone, Slow Down, or even Amber Alerts. For more flexible content changes and easier data downloads, Fortel connected cellular modems to its boards, enabling remote management and control of the traffic solution. Unfortunately, the modem selected did not provide the data transaction speeds or intelligence that Fortel was hoping for, and the company began its search for a more effective cellular solution.



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Sierra Wireless AirLink® Solution

The City of Elk Grove, one of Fortel Traffic's progressive clients, wanted to use Fortel's signage on large mast arms extending over a road or freeway. Elk Grove needed to connect to the signs remotely to institute critical messaging alerts in real-time, but the city was losing data from the slow and spotty transmission of Fortel's legacy modems. Elk Grove's information technology staff had experienced success with Sierra Wireless' AirLink in-vehicle gateway used in law enforcement vehicles and introduced Fortel to the line of AirLink intelligent gateways and routers.

"Sierra Wireless opened up new opportunities," said Luke Faubion, regional sales manager of Northern California for Fortel Traffic.

Fortel Traffic selected AirLink gateways to upgrade cellular connectivity and remote management capabilities. Using a test AirLink gateway, Fortel worked with Sierra Wireless to analyze exchange rates and connectivity strength. In an hour and a half, the AirLink gateway was up and running with data exchange rates three to four times faster than Fortel's legacy modems.

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To utilize the capabilities of the AirLink Gateways, Fortel worked with the California Highway Patrol (CHP) to develop radar statistics, such as the fastest and slowest speed of a vehicle both approaching and leaving a radar area and a time and date stamp for each transaction, which could be captured by mobile police radar trailers. In addition, the AirLink gateways - working together with Fortel's VSpeed™ Online Software - provide instant critical messaging when content changes are required, for instance in the case of an Amber Alert or speed limits variations due to weather conditions. What once required a trip to each sign can now be done in seconds without a manual re-set.

"Now instead of just being a speed limit sign, our messaging boards can do so much more," said Faubion.

Equipped with radar systems and other detection methods, Fortel's traffic solutions can detect accidents and inclement weather conditions within range of a messaging board. The AirLink gateways allow signage content to be changed remotely and instantaneously to warn of accidents or dangerous driving conditions. Remote



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management also helps Fortel's VCalm® solution provide environmental benefits by changing sign messaging to provide the optimal 'green' travel speeds. By measuring greenhouse gas emissions and determining the time of day and road speeds with the greatest CO2 emissions, light synchronization can allow motorists traveling through six continuous green lights which reduces emissions by fifty percent.

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The VSpeed™ application also works together with AirLink management software to remotely check and view the health of each sign in order to quickly make remote fixes or acquire new parts, if necessary. For the City of San Jose, this means lower maintenance costs due to fewer physical signage visits and the ability to pro-actively schedule repairs to take care of issues in the most efficient manner possible. Based on Fortel's maintenance cost analysis, the company has managed to upgrade its data collection capabilities to on-demand access at a significantly lower cost – saving \$775 annually per sign – than the limited manual wireless methods previously employed, or those of Fortel's competitors.

Results

Fortel Traffic has deployed hundreds of AirLink gateways in conjunction with its traffic solution, and the company is confident that number will only grow.

According to Faubion, the AirLink gateways have opened up a plethora of critical functionality, including GPS location capabilities, proactive sign maintenance scheduling and verification, instant critical messaging (e.g., Amber Alerts, DUI checkpoints, road closures) and pixel verification. The management software has also greatly reduced maintenance costs to Fortel's customers.

"The AirLink gateways are so fast, we would never have been able to communicate at such speeds had we not integrated them into our traffic solutions," said Faubion. "We were forced to make our product faster so that it works better with all forms of connectivity – especially the advanced communications offered through the AirLink products."

About Sierra Wireless

Sierra Wireless is building the Internet of Things with intelligent wireless solutions that empower organizations to innovate in the connected world. We offer the industry's most comprehensive portfolio of 2G, 3G, and 4G embedded modules and gateways, seamlessly integrated with our secure cloud and connectivity services. OEMs and enterprises worldwide trust our innovative solutions to get their connected products and services to market faster. Sierra Wireless has more than 950 employees globally and operates R&D centers in North America, Europe, and Asia.

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