



## **Using MDS entraNET™ radios for improved traffic management.**

### **Background**

The city of Littleton Colorado, a Southern suburb of Denver, utilizes Econolite ASC/2S traffic controllers for control of their traffic intersections. These controllers are connected back to the city office via four wire leased line circuits. With over forty leased circuits, the circuits provided serial data communications via leased line modems, at a data rate of 19200 bps maximum.

### **Challenge**

The city traffic engineers had a desire to migrate the existing traffic controllers from a serial communications to an Ethernet application while reducing ongoing operating costs incurred with the leased point to point circuits.

### **Solution**

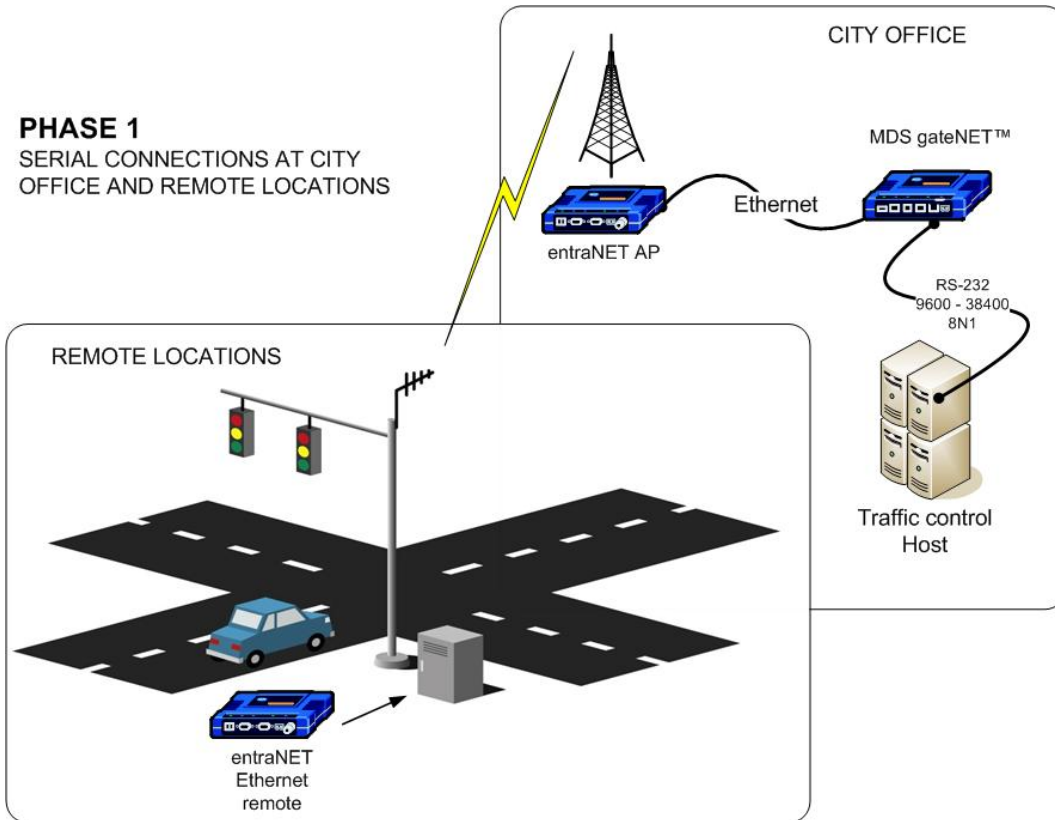
We, Twin Eagle Consulting, proposed the use of a Microwave Data Systems entraNET™ solution with entraNET™ Ethernet remotes in conjunction with a secured extension of the city's Wide Area Network (WAN). Since the planned migration to move the traffic controllers from serial communication to Ethernet, was a number of months off, we proposed the entraNET™ Ethernet remotes, configured to utilize the COM1 port as a default data port, giving the city a path of migration from serial to Ethernet as the Ethernet applications and hardware became available. During the period of migration, we also incorporated MDS gateNETs to interface between the traffic controller's host serial interfaces and the city's WAN. Remote entraNET™ access points were attached to the city's WAN, via Ethernet, while the entraNET™ remotes communicated serially with the traffic controllers.

Once the Econolite Ethernet applications and hardware became available, the traffic controllers were upgraded to allow Ethernet connections, while at the same time the controllers were disconnected from the entraNET™ remote COM1 interface and connected directly to the Ethernet interface on the radio. At the city's main office, the Econolite software was redirected from utilizing serial interfaces to sending data traffic via Ethernet to the remote entraNET™ access points.

Through this project, the return on investment for the city was calculated at two years based upon the direct saving that occurred through the elimination of the leased line point to point circuits. The ROI calculations did not take into consideration the work efforts required to maintain and troubleshoot the leased circuits nor were considerations made with regards to the improved functionality of the traffic controllers being on an Ethernet network. The total solution provided the City of Littleton a fully owned infrastructure that is easily maintained and can be expanded as the city's traffic needs grow and changes and allows the city engineers the ability to access their traffic network via an entraNET™ remote in their vehicle.



**PHASE 1**  
SERIAL CONNECTIONS AT CITY OFFICE AND REMOTE LOCATIONS



**PHASE 2**  
ETHERNET CONNECTIONS AT CITY OFFICE AND REMOTE LOCATIONS

