Background

In an emergency every second counts. Turnout time, an aspect of total response
time, is measured from the moment a fire station is notified of an emergency
until the departure of the first responding vehicle. The National Fire Protection
Association (NFPA) has set the standard for turnout time to a fire at 80 seconds.

Challenges

A large metropolitan fire department wanted to integrate vehicle detection
capabilities into their dispatch and reporting systems. This would enable the
department to better document turnout times and improve asset management.

Solution

Single R-GAGE™ retroreflective radar sensors were installed above each vehicle
bay in the fire stations. Using the on-board DIP switches, the parameters of the
sensing area of each R-GAGE was adjusted to optimize detection of the emergency
vehicles and ignore objects outside of the sensing area.

The sensors emit beams of high frequency radio waves. A fire truck will absorb
fewer radio waves and have a different amplitude signal than a person. Vehicle
presence inside the sensing area alters the time delay of the return signal in a
recognizable way, enabling the R-GAGE to differentiate vehicles from people.

Arrivals and departures of emergency vehicles are detected by the R-GAGE.
The time of each event and vehicle availability status is recorded and sent to the
dispatch system where it is linked to the alert notification time. Dispatchers access
this information to determine how many vehicles a station has available for a fire
call. Documentation confirmed turnout times consistently met NFPA standards
and led to reduced insurance premiums for homes and businesses throughout the

Customer

A fire department with numerous stations spread out over a large metropolitan area

Customer Requirement

Add vehicle detection capabilities to Fire Department dispatch and reporting systems

Banner Solution

R-GAGE™ QT50R-RH radar-based sensors

Why Banner?

Object Differentiation – Solid objects return radar to the sensor in a distinct way, enabling
differentiation between vehicles and people

Customer Benefits

Asset Management – Vehicle detection capabilities provided dispatchers with access
to reliable vehicle availability information

Reduced Insurance Rates – Documenting turnout times demonstrated department
effectiveness and led to reduced insurance premiums for businesses and residents

R-GAGE QT50R-RH Features

- Easy setup and configuration of range, sensitivity and output with DIP switches
- Detects moving & stationary objects
- Ignores objects in the background beyond the retroreflective target

Learn More

Visit www.bannerengineering.com for product
information and to locate a distributor

- R-GAGE QT50R-RH overview