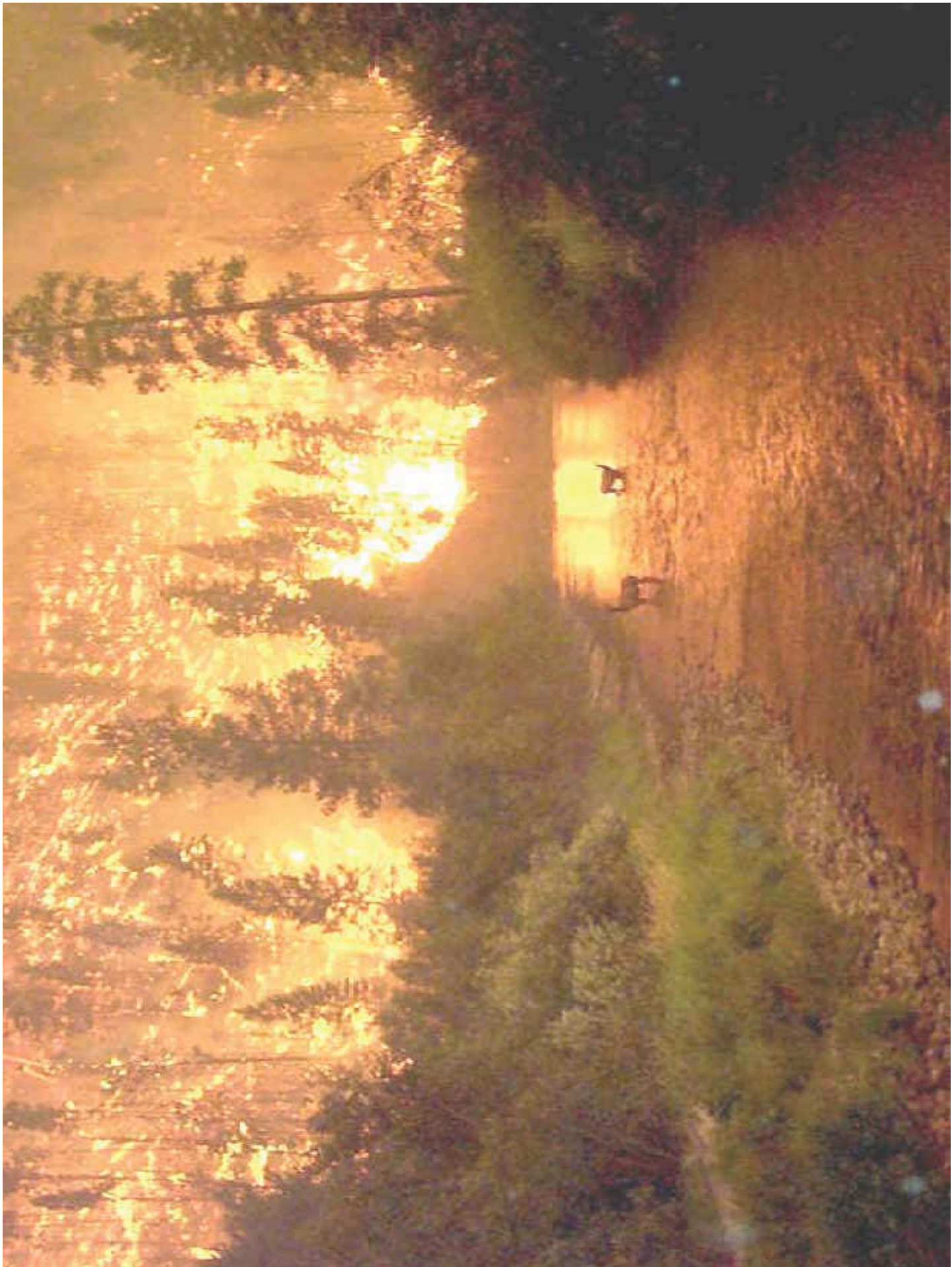


WIRELESS COMMUNICATIONS: A Firefighter's Lifeline

John Penido, Fire Chief
City of San Marino, CA

FIREFIGHTERS DEPEND UPON WIRELESS COMMUNICATIONS

A Day in the Life of a
Firefighter



AUTOMATIC VEHICLE LOCATOR

- CAD selects the closest unit to respond based upon data provided by GPS/AVL



STATION ALERTING

- Industry standards require at least two methods for alerting fire stations
- Usually two separate radio systems



MOBILE COMPUTERS

- CAD transmits incident information to:
 - Station
 - Vehicles
 - Pagers



GPS NAVIGATION

- Aids firefighters responding to mutual aid calls in other communities
- Especially helpful on Strike Team assignments in other counties



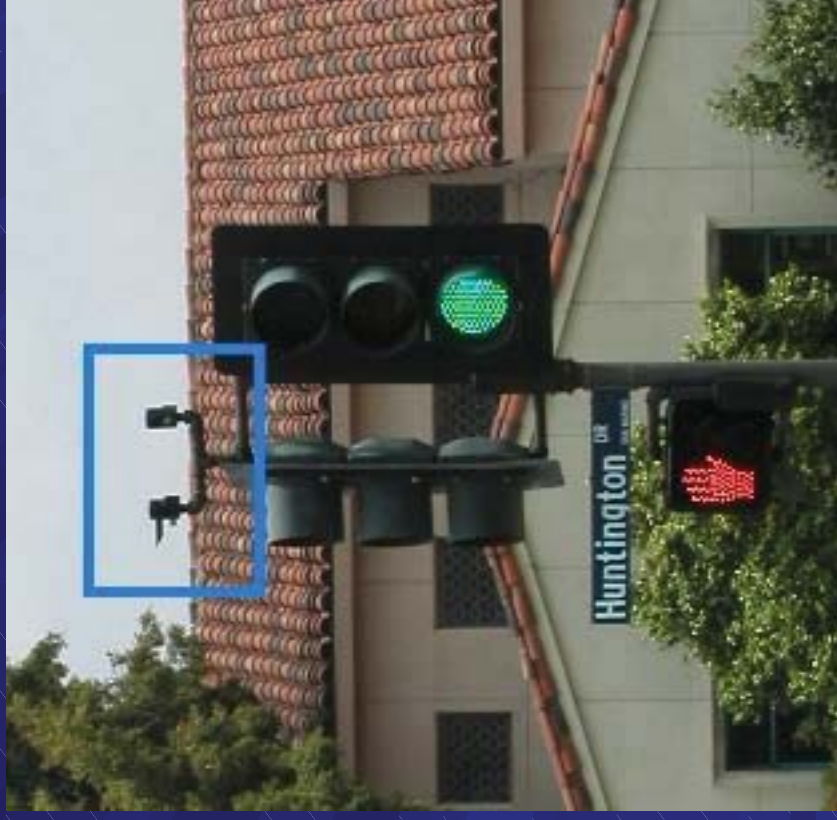
TRAFFIC PREEMPTION

- Optical Emitters or Wireless Transmitters



TRAFFIC PREEMPTION

- Captures Green Signal for Fire Engine
- All Other Motorists See Red Signal
- Fire Engines Encountering Red Signal Must Come to Complete Stop



INFRARED CAMERA

- Allows Firefighters to See Through Smoke



INFRARED CAMERA

- Transmits Images to Command Post





HANDHELD RADIO

- Essential Tool for Firefighter Safety



HANDHELD RADIO

- Distress Signal Alerts Dispatcher
- Identifies Individual in Distress
- Cannot Identify Location



INTEROPERABILITY ISSUES

- Urban Agencies Must Use Multiple Bands



INTEROPERABILITY ISSUES

- Los Angeles County Agencies Use

- VHF (Low Band)
- VHF (High Band)
- UHF
- UHF (TV)
- 800 MHz



CELLULAR CONGESTION

- Cell Phones Unreliable at Major Emergencies
- Incident Managers Need Priority Over Other Users
- Technology Exists, but Carriers Reluctant



EMERGENCY OPERATIONS CENTER

- Radio May Provide the Only Link with the Outside World
 - Report Damage to County and State
 - Request Mutual Aid Resources



EMERGENCY OPERATIONS CENTER

- Broadcast TV is an Effective Periscope
 - Numerous TV Aircraft Provide Multiple Views of Impacted Areas



FIREFIGHTERS NEED

- **More Spectrum**
 - One Band Exclusively for Public Safety
 - Ultra Wide Band for Data Downloads
- **Cell Site Priority**
- **Hardened Communications Infrastructure**
- **Firefighter Locator Devices**

