

LAFD's EMS COMPREHENSIVE SPECTRUM

POPULATION GROWTH, GRIDLOCK, CLOSING TRAUMA CENTERS, CHALLENGE EMS PERSONNEL

By
Elizabeth Schaff Sloan

Consider the evolution of a sprawling metropolis. Within the last five years, the city of Los Angeles has experienced overwhelming transformation. Changes include a staggering 7% per year increase in population, nightmarish traffic patterns, frequent closures of hospitals due to financial insolvency, and the virtual collapse of the city's trauma network. Add these factors together, and one finds a profound impact on the Los Angeles City Fire Department's Emergency Medical Service delivery system, the largest pre-hospital, fire-department operated paramedic transportation service in the United States.

"We exist to improve the quality of life for our citizens; that's our job," says Chief Donald O. Manning, Chief Engineer and General Manager of LAFD, and a 34-year veteran of the Department. A straight-forward enough goal, you figure, until you



Los Angeles Skyline: Home to 7 million citizens with over 245,000 EMS incidents per year.

consider that in 1989 alone, there were over 240,000 EMS incidents in a 464 square mile area.

So how do they do it?

From the Bell 412, a \$4 million, 15-place aircraft/air ambulance, to the new automatic defibrillators now present in 36 of the city's 103 engine companies, the LAFD's EMS system has evolved into a network of highly skilled specialists, who utilize their state-of-the-art equipment daily.

By using the Medical Priority Dispatch System (MPDS), the Department is able to effectively and prudently allocate the best resources for an incident.

Compared to earlier years when every call would receive a paramedic unit, the new system now reserves its paramedics for time-critical, life-threatening events.

According to Chief Alan R. Cowen, Chief Paramedic and Commander of the Bureau of Emergency Medical Services for the LAFD, approximately 70% of in-coming calls each year are Basic Life Support (BLS) and 30% are Advanced Life Support (ALS). "What we really need are a lot of transportation units," says Chief Cowen adding, "The MPDS, through a series of specific questions, allows our dispatchers to send the most appropriate resources—equipment and personnel—to an incident."

Department Battles Largest Structural Fire in City's History

For example, last month, "The most appropriate resources" happened to be 400 fire fighters and EMS personnel, when the largest structural fire in the city's history broke out on

a construction site, and spread to several apartment buildings in West Los Angeles.

"We deployed more resources on that fire than on any other single structure fire, including the First Interstate (1988) and the Central Library fire (1986)," says Deputy Chief Donald Anthony, in charge of the Bureau of Fire Suppression and Rescue. The Department's mutual aid plan allowed for additional assistance from

20 Los Angeles County engines, and 5 engines from the Area-A cities (Beverly Hills, Culver City, and Santa Monica).

During this four hour battle, which resulted in the evacuation of over 150 residents, and in which 13 fire fighters required treatment for burns, exhaustion, dehydration, and smoke inhalation, roughly 101 other emergency incidents occurred throughout the city.

Chief Anthony says, "101 emergency incidents in that time period is higher than usual, in that a number of incidents were attributed to this fire. We had fall out of debris and embers as far away as 12 blocks to the south of the fire. We actually had six additional fires that were as far away as six blocks south of the original fire."

Six Helicopters Serve Multiple Purposes

According to Chief Anthony, the Department called in four of its six helicopters that night to down-wind patrol for embers and spot fires. Although none was used specifically as an air ambulance in this incident, the Department has seen a dramatic increase in calls requiring air evacuation.



Chief Alan R. Cowen, Chief of Paramedics and Commander, Bureau of Emergency Medical Services

"We use our air ambulance transports about 60 times per month, or roughly twice a day," says Chief Cowen. Annual flights are expected to surpass 2000 per year in the coming decade. This surge in air ambulance transport can be directly attributed to the impact of trauma center closures, and increased traffic congestion on ground transport time.

"Five years ago, we used the air ambulance maybe once a week," says Chief Cowen. "Because of the trauma center closures, for example, in Playa del Rey or Inglewood there is no trauma center which can be reached within our 20-minute criterion. Either we don't go to a trauma center, or we call for an air ambulance and transport by air to the appropriate facility."

Chief Cowen views the trauma center closures as a critical flaw in the city's health care system. "People have died as a result of trauma center closures. It places great stress on our EMS system to have to shop around for hospitals while patients are going down the tubes."

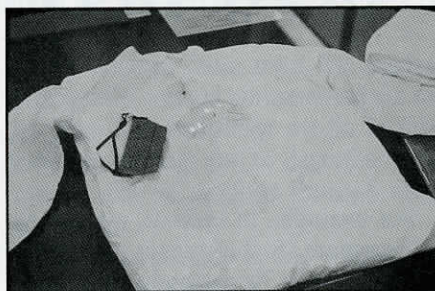
When Queen of Angels, for example, closed its doors to the Department's 58 ambulances in January 1989, the roughly 400 patients per month that were formerly delivered here now have to be disseminated throughout other hospitals in the metropolitan area. "The direct effect is longer transports, longer period of time to respond to a location, and fewer resources available, as a direct result," says Chief Cowen.

Leapfrogging Across The Gridlock of the Freeway

Complicating matters further is the problem of gridlock. Says Chief Cowen, "If you are in Playa Del Rey on a Saturday night, and traffic is packed—the closest trauma center is UCLA—and quite frankly, there is no way you could make the trip in 20 minutes."

With an overstressed hospital network and a deteriorating trauma system, using helicopters allows the Department to continue to provide appropriate care for the patient. A ground transport time, which could potentially be upwards of 30 minutes depending on the time of day, can be reduced to a 5-minute ETA by using

an air ambulance. Chief Manning says, "By being able to leapfrog across the gridlock of the freeway, or by reaching out farther to an available trauma center we can still provide for that individual or that critically in-



LAFD's communicable disease packet, now standard equipment on every engine co.

jured child."

On a flight in one of the Department's Bell JetRanger III's, this reporter was better able to conceptualize the expansive terrain of the LAFD's EMS system. From San Pedro and the nearby hazardous cliffs of Point Fermin, to the San Fernando Valley, including the areas of West Los Angeles, East Los Angeles, the Pacific Palisades, and Mission Hills,

the city's 376 paramedics (45 of whom are women) have their work cut out for them.

Three of the city's engine companies, the 78th, 79th and 100th are paramedic engine companies, whose dual function includes rappelling. Chief Cowen explains, "Anytime we have a hazardous materials incident or an over-water rescue where we need a helicopter to hoist down a basket, et cetera, the fire fighter-paramedics are the individuals who perform these tasks."

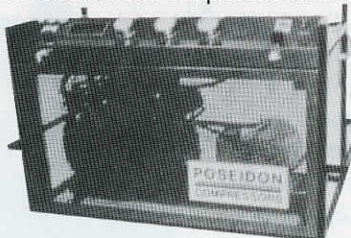
Of the city's six helicopters, three are currently set up as air ambulances, including the Bell 412, and two Bell 205 aircraft. Though used for other purposes as needed, such as dropping 3000 pounds of water on a brush fire, for evacuating personnel from building roofs, or for placing fire attack teams, the city will soon have a full-time, dedicated air ambulance strictly for EMS purposes.

Compared to the current weight maximum of 4500 pounds on the 15-place Bell 412 (a.k.a. Helicopter One or "the Big One"), the future air

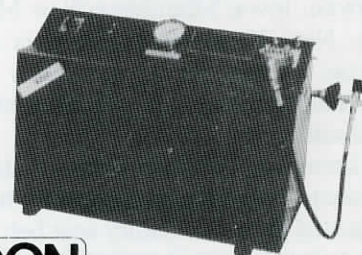
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ambulances will carry only 2 gurney patients. All Department helicopters are two-engine aircraft, for safety reasons.

Special Circumstances of Urban Landing

Landing an air ambulance in the middle of a heavily populated city presents its own set of complexities. If a paramedic or an engine captain assesses the need for an air ambulance to transport a critically injured patient at the scene of a traffic accident, the air ambulance is dispatched to the scene with a flight crew of two, plus two certified paramedics. In addition, a battalion chief and a task force of 10 fire fighting personnel are summoned to establish a safe perimeter and landing site for the aircraft. Landing the helicopter requires a minimum diameter of 100 feet.

Using school yards, parking lots, and sometimes the freeway itself, the Department lands its aircraft several blocks away from the actual incident.

Says Chief Anthony, "There is less confusion, congestion, and havoc from down wash, if we load the patient into a surface ambulance and then transport a block or two to the helicopter. Three to five minutes later, the patient arrives at the trauma center or designated hospital."

Education of Public Essential Task of EMS System

As with many other U.S. cities, Los Angeles has witnessed a tremendous increase in call load. And just as San Francisco's EMS system experienced in the October 1989 earthquake, there is much abuse of the system. Chief Cowen says, "People do not hesitate to call. Now that we use the Clauson protocols (MPDS), we go out on every call. It used to be we'd have about 7% "no send" calls. Under this new test period, we go out on all calls, and that has boosted our load dramatically."

Along with educating the community in appropriate use of the 9-1-1 free access, Chief Cowen supports civilian knowledge of CPR. "Not

only do I encourage citizens to know CPR, there is no question in my mind that it is absolutely essential if we are going to have successful resuscitation." Of the 166 times that the engine-based defibrillators have been used (also known as the EMT-D units) 12 saves have occurred. "Every single one of those saves had citizen CPR given prior to defibrillation by the EMT-D unit. Without CPR, everybody is wasting his time," says Chief Cowen.

Chief Cowen views the EMT-Ds as the shining star of the LAFD, and foresees defibrillators on the walls of theaters, restaurants, and sports arenas in the future. "Currently, the Los Angeles Times building maintains defibrillators on its walls, with specific personnel trained to use the equipment." By July 1991, every engine company in the Department will have a defibrillator.

Fire Services Rightful Host of City's EMS Services

Chief Donald O. Manning believes that the fire service is the rightful host of the Los Angeles' Emergency Medical Services. "Fire service has its roots way before the Roman legions. The pre-hospital care system as we currently know it goes back to the early 1970s. Therefore it's still very evolutionary."

Chief Manning predicts great challenges for the Department, not the least of which will be to continue to provide quality emergency medical care. Of primary concern to him are the department's role in environment issues, and in the education of the public in preparation for disasters such as with the newly formed Disaster Preparedness Division, established after the 1987 Whittier quake.

Chief Manning summarizes, "We need the community's support and understanding, and we need for them to use the EMS system appropriately." He sees a very bright future for his Department. "We will have great opportunity in our second century."

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