

URBAN FIRE

A variety of fire protection challenges exist within Orange County. Among these are high-density residential areas, large industrial complexes, high rise buildings, a horse race track, a nuclear reactor at a local university, and the sixth busiest airport in the United States. Additionally, there are numerous urbanized sections located within and directly adjacent to high hazard wildland areas.

The provision of adequate fire protection is directly affected by residential, commercial and industrial growth, all of which are proceeding rapidly in Orange County. Since 1950, manufacturing has replaced agriculture to become the County's primary industry. Industrial development has brought a corresponding increase in the home building industry. The County's rapid growth rate is expected to continue, bringing an estimated 34,000 new residents each year. In Orange County, the population is expected to increase by 216,827 persons during the period 2007-2010, with a corresponding increased demand for fire protection services.

Arson can be a viable terrorist weapon used to attack a specific target or groups of targets within a specific area. A significant high rise fire could impact available fire resources throughout the County while disrupting business and thousands of lives. However, the more prevalent terrorist arson fire would be used to make a political statement like the fire at the Sport Utility Vehicle (SUV) sales lot in West Covina in 2003. This fire was set by environmentalists in protest to the sales of SUVs. The fire itself did not have a large impact on the public in the form of disrupting a way of life, but it did have a political message. Though the incident did not occur in Orange County, it is an indication that such a domestic terrorist incident can occur anywhere at anytime.

Much of the following, which addresses the threat of fire to urban areas, wildlands, and the urban/wildlands interface, has been extracted from the information prepared by the OCFA for the Safety Element of the County's General Plan.

- 1) Some of the most difficult fire protection problems in the urban area are:
 - Multiple story, wood frame, high-density apartment developments
 - Large contiguous built up areas with combustible roof covering materials
 - Transportation of hazardous materials by air, rail, road, water, and pipeline
 - Storage, handling and use of hazardous materials on site
 - Natural disasters

The combination of building materials, population density, and natural conditions can lead to disastrous results. In April 1982, 1,500 people were left homeless when a fire associated with wooden shake rooftops and Santa Ana winds of 50 mph destroyed 525 Anaheim apartments, three houses, and two commercial buildings. The \$50 million in property damage made this one of the most costly fires in Orange County history.

- 2) Other principal factors contributing to major fire losses are:

- Delayed detection of emergencies
- Delayed notification of the fire agency
- Response time of emergency equipment
- Street structure - private, curvilinear and dead-end
- Inadequate and unreliable water supply with poor hydrant distribution
- Inadequate code enforcement and code revisions, which lag behind fire prevention knowledge

The character of the existing built-up area and future land use determines the location of fire stations, number of companies, staffing of such companies, and future fire protection facility needs. Structural conditions also influence the quantity of water needed for fire protection (fire flow) and hydrant distribution.

Features of structural conditions that affect fire control are:

- Type of construction and use of buildings
- Area of building (ground floor area)
- Number of stories
- Type of roof covering material
- Exposures to the building

Fire prevention is the major fire department activity in urban areas; the objective is to prevent fires from starting. Once a fire starts, the objective is to minimize the damage to life and property. Urban fire prevention programs that are designed to achieve this fire prevention objective are:

- Adoption and aggressive enforcement of the most recent Uniform Fire Code
- Development of a comprehensive master plan to ensure that staffing and facilities keep pace with growth
- Plan check of new construction to ensure that all construction features meet code requirements
- Enforcement of the Hazardous Materials Disclosure Ordinance
- Active participation in Subdivision Committee and other planning activities

