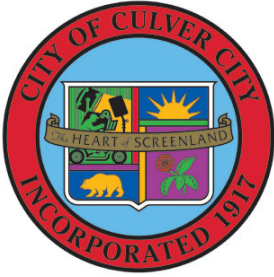


Culver CITY



Fire Department



Standards of Coverage 2009

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Cover Photo: Culver City
Firefighters operate at the
scene of a brush fire at
Pepperdine University in
Malibu, CA.

Section 1: Introduction

Centrally located between the Pacific Ocean and downtown Los Angeles, Culver City is approximately five square miles with a nighttime population of 38,800 and a daytime population estimated at over 200,000. Population density is approximately 7376 residents per square mile. Predominantly residential with 17,500 households in low to moderate residential zones and 2,200 businesses; 40% comprised of professional, managerial, education, health/social services and less than 5% manufacturing. At 94 feet above sea level, the climate for Culver City is mild with no real extremes in temperatures during the year. Winter average temperature is 56.5, the summer average temperature is 71.7, and rainfall averages 13.32 inches.

Culver City was founded in 1917 and is governed by a five member City Council and managed by a City Manager, assisted by 9 department heads. The Fire Department was formed in 1922. Today, the Culver City Fire Department, led by Fire Chief Jeff Eastman, consists of six divisions; Office of the Fire Chief, Fire Prevention, Emergency Preparedness, Communications (City radio shop), Emergency Medical Services (EMS), and Fire Suppression. There are a total of 72 Fire Department employees; 62 sworn personnel, 2 civilian fire prevention specialists and 8 support staff. The annual operating budget is approximately \$14,800,000. The Culver City Fire Department is an all-risk agency that provides a multitude of services to the community. A partial list includes:

Fire Suppression Response	Advanced Life Support Response
Emergency Medical Response	Basic Life Support Response
Vehicle Accident Response	Ambulance Transport Services
Natural Disaster Response	Public Education Services
Hazardous Materials Response	Life Safety Inspections
Swift Water Rescue	Building Plan Check Services
Confined Space Rescue	Fire Investigation Services
Low/High Angle Rope Rescue	Fire Prevention Services

The City is divided into three fire districts and two rescue districts. There are three fire stations, a training facility, a telecommunication facility (radio shop), and both the Fire Prevention and Fire Administration components are housed within City Hall. First line apparatus include three engine companies, one truck company, two paramedic rescue ambulances, and one command vehicle. Reserve apparatus include three engines, one truck, one rescue ambulance, and one command vehicle.

The Culver City Fire Department utilizes a three-shift schedule, staffing each shift for a 24-hour period, 7 days a week, 365 days a year. A minimum staffing level of 18 personnel has been established for around the clock delivery of emergency services. The minimum staffing level of 18 provides for engine companies that are staffed with three personnel, the truck company is staffed with four personnel, rescue ambulances are staffed with 2 personnel, and there is one battalion chief/platoon commander. During business hours sworn administrative personnel are available to augment the on-duty shift and personnel recall procedures are in place to facilitate additional staffing when needed.

In 2008, the Department responded to 4,354 calls for emergency service with 9,343 unit responses.

EMERGENCY INCIDENTS:	2008 – YEAR TOTALS
#100 – Fire	108
#200 – Explosions (no fire)	18
#300 – EMS	3,560
#400 – Hazardous Conditions/Materials	65
#500 – General Service	131
#600 – Good Intent	100
#700 – False Alarms	362
#800 – Severe Weather/Natural Disasters	0
#900 – Other	10

Mission Statement:

The Culver City Fire Department is dedicated to providing prompt, quality services through personal growth, respect and support for each other, and for the community.

Core Values:

- Professionalism
- Compassion
- Pride
- Trust
- Character
- Respect



The *Standards of Coverage* are defined as those written policies and procedures that establish the distribution and concentration of fixed and mobile resources of an organization. The purpose of this document is to provide the following:

- A baseline tool for defining service level objectives.
- A descriptive tool for validating fire station locations.
- A management tool for determining apparatus type and staffing levels.
- A predictive tool for helping to determine workload and ideal unit utilization.
- A basis for continually measuring service level performance.

This document is considered a critical component in the pursuit of quality services. The 2009 Standards of Coverage includes the assessment of community risk, incident critical tasks, fire station locations, fire company distribution, company staffing, and the analysis of historical performance data.

Section 2: The Standards of Coverage

Existing Standard of Coverage

The following Standard of Coverage was accepted by the City Council in 1998 and affirmed again during the accreditation process in 2003.

For 90 percent of all Code 3 emergency response incidents, the first due unit shall arrive within five minutes travel time. The first due unit shall be capable of advancing the first hose line for fire attack, or initiating a physical rescue, or providing basic life support for medical incidents.

The Department has consistently met these standards as illustrated by historical performance data. The data was obtained from the Lancet© record management database.

Historical Performance

Year	2004	2005	2006	2007	2008
90 %	4:53	4:36	4:42	4:40	4:43

Travel Time

Travel time is defined by the Commission on Fire Accreditation International (CFAI) as the interval from when units are enroute to the incident to when they arrive on scene. Travel time is a measurement used to evaluate the distribution and concentration of fire department resources. Factors that influence travel time include:

- Fire station location
- Inclement weather
- Traffic congestion
- Circuitous response routes (La Ballona creek or road construction)
- Simultaneous emergencies (concurrent runs)
- Companies out of quarters because they are engaged in training, conducting fire inspections, hydrant maintenance, or teaching at a public education event.

Revised Standards of Coverage 2009

The first performance statement maintains the performance standard established in 1998.

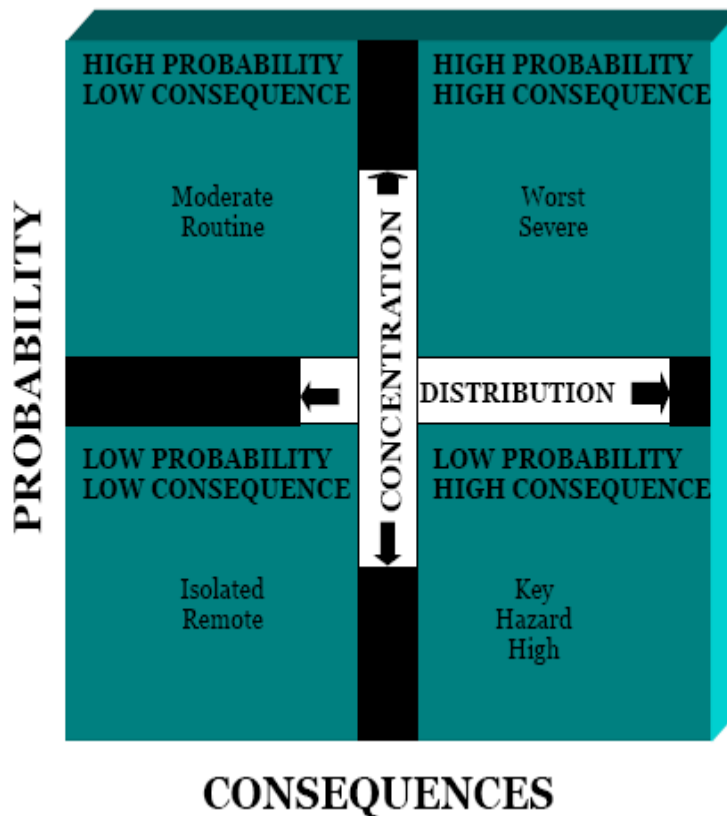
1. For 90 percent of all Code 3 emergency response incidents, the first due unit shall arrive within five minutes travel time. The first due unit shall be capable of advancing the first line for fire attack, initiating a physical rescue, or providing basic life support care/early defibrillation for medical incidents.

These performance statements enhance the standard of coverage by addressing resource concentration.

2. For 90 percent of all structure fire responses, the entire effective response force shall arrive within ten minutes travel time. The effective response force shall be capable of providing 4500 gallon per minute pumping capability and be able to accomplish the necessary tasks to contain a moderate risk fire.
3. For 90 percent of all emergency medical responses, the entire effective response force shall arrive within eight minutes travel time. The effective response force shall be capable of providing early defibrillation and advanced life support care.

Section 3: Risk Assessment

A comprehensive risk assessment was conducted for both fire and non-fire emergencies. The factors used for risk assessment are both physical and theoretical. The two primary components of a risk assessment are an analysis of probability and consequences. Probability is the likelihood that a particular event will occur in a given time period. An event that occurs daily is highly probable. An event that occurs once every century is very unlikely. An assessment of consequences measures the impact of an event. There are three areas of concern when evaluating consequences: 1) life safety (danger to occupants); 2) economic (loss of property, income, historic, or irreplaceable assets); and 3) environmental (irreparable or long term damage to the environment). From the risk analysis, a matrix can be utilized to show hazards based on the probability and consequences of risk.



Community Risk Factors

Community risk factors have an impact on both fire and non-fire related hazards. The evaluation of community risk include the assessment of community demographics and development, geographic planning zones (fire districts), natural hazards, technological hazards, transportation networks, and security hazards.

Community Demographics and Development

City of Culver City	5.26 Square Miles
Permanent City Population	38,800
Weekday (daytime) Population	200,000
Population Density	7376 per square mile
Building Density	2037 per square mile
Road & Highways	125 linear miles

Geographical Planning Zones

For the purposes of fire department analysis and planning the City of Culver City is divided into three geographical planning zones, known as fire districts. Each fire district is served by a fire station and defines the first-due response area for each station. Each fire station is located to ensure effective distribution of resources and limit undue risk from extended responses. An analysis of the demand for services in each fire district is conducted semi-annually by reviewing data on incident type, location, and frequency.

Fire District 1	1.99 square miles
Fire District 2	1.49 square miles
Fire District 3	1.78 square miles

Natural Hazards

The City of Culver City is in a low risk area for natural disasters such as hurricanes, tornados, floods, drought conditions, and severe winter storms. Risks from these types of hazards are low probability/high consequence.

Earthquake

Located in Southern California, the Alquist-Priolo fault runs near the eastern portion of the City and the majority of the City is within a liquefaction zone extending from Marina Del Rey up through the eastern boundary. Risk from earthquake is considered low

probability and high consequence. Response policies have been developed and personnel have received training on earthquake related procedures and tasks. Mutual aid agreements are in place to ensure access to additional or specialized resources. The Fire Department oversees a Community Emergency Response Team (CERT) program. Community members are encouraged to be self sufficient for at least 72 hours and receive training in first aid, use of fire extinguishers, and conducting neighborhood surveys.

Technological/Human Hazards

Hazardous Material Incidents

Hazardous material incidents account for less than two percent of all calls to the Fire Department but could have a large impact on the community. A major hazardous materials release is low in probability with high consequence. There are different types of hazardous materials incidents, ranging from a single engine response (for an abandoned container of motor oil), to a response requiring the Department's entire staff for a major release of hazardous materials. Additional resources are available if needed through the California Master Mutual Aid Plan, by contacting the Area "A" Coordinator, the Los Angeles City Fire Department.

Utility Failure

Risks from a prolonged utility failure are considered low probability and low consequence. Critical City infrastructure and each fire station have emergency power capability and procedures are in place to maintain emergency services.

Transportation Hazards

Air

The City of Culver City has no airport within its boundaries but is located in close proximity to Los Angeles International Airport (LAX) although not within its flight path. Risks from an air transportation emergency are considered low probability and high consequence. The Department is capable of handling small air transportation incidents through current procedures and additional specialized resources are available through the

Master Mutual Aid Plan, by contacting the Area “A” Coordinator, the Los Angeles City Fire Department.

Railroad

The City of Culver City currently has no railway operations within its boundaries. A two to three year construction project slated to be completed in 2011 will bring a light rail system to Culver City. Once in place the light rail system will be in the low probability/high consequence category. The presence of the light rail system will add to the potential for mass casualty and/or rescue incidents. Existing policies, procedures, and mutual aid agreements are effective for the time being. Detailed assessment of the impact and subsequent change in response procedures and standard operating guidelines will occur prior to the completion of the light rail project.

Highway

Culver City provides emergency services to a portion of the 405 Freeway as it passes through the City. There are 120 linear miles of streets and 5 miles of highway in Culver City. Motor vehicle accidents are in the high probability/low consequence category. Some highway/street incidents do have the potential to be in the low probability/high consequence category if the incident involves hazardous materials, transit, etc.

Pipelines

There are underground pipelines carrying oil, gasoline and natural gas beneath Culver City. While there has been a significant event involving these pipelines in the early 1970’s, risk associated with pipelines is in the low probability/high consequence category. The Department is capable of handling small pipeline incidents through current policy and additional specialized resources are available through the California Master Mutual Aid Plan.

Security Hazards

Civil Disorder

Located within the Los Angeles basin, Culver City is at risk of being affected by civil unrest that impacts Los Angeles (e.g. Watts riots, Rodney King riots, etc). Although the

probability of any such event is low, the consequences are high. Generally a police issue, fire departments do attempt to extinguish fires and treat the injured when safe to do so. In the past, Culver City has teamed up with Los Angeles Fire Department and operated using the policies, tactics and procedures developed for riot situations (task force configurations with law enforcement escort).

Terrorism

Located within the Los Angeles basin, the Culver City is at risk of being involved in a terrorist attack involving Los Angeles or a smaller, localized event such as a local mall or movie studio. Specific targets have been identified and 'pre-planned.' Copies of these pre-plans are carried in the command vehicle. All members are trained to the awareness level and many have had extensive additional training. Depending on the nature of the event - chemical, biological, radiological, nuclear, or explosive - the department has acquired some detection capability. Acts of terrorism are considered to be in the low probability/high risk category.

Fire Risk Assessment

In general, fire hazards are related to the characteristic type and layout of a city's development. The majority of Culver City is devoted to residential or low-rise commercial development composed predominantly of wood-frame construction. Data indicates that of fires involving structures, over 80 percent occur in residential and small commercial buildings. There are 12 mid-rise and five high-rise buildings, and over 70 high occupancy buildings and/or buildings housing immobile populations that require special fire logistical demands. Culver City has two areas that can be considered wildland/urban interface where the growth and spread of fire may begin in the brush but quickly enter an urban context; brush fires can quickly develop into significant urban fires if not immediately suppressed.

The fire risk analysis takes into account fire potential (probability), life hazards and economic impact (consequences), occupancy use, construction features, fire protection systems, fire flow requirements, and community risk factors. Based upon this analysis of

existing and potential community risk, in addition to the probability and consequences of these events, the following hazard levels have been established:

- **High Risk:** These properties are typically substantial structures that in an emergency may bear the risk of large loss of life, loss of economic values to the community, or large property loss. Office buildings, low and midrise hotels, hospitals (Brotman Medical Center), schools, large shopping centers (Westfield Mall), large apartment or condominium complexes (100+ units), large commercial buildings (>9,999 square feet), senior citizen housing (Rotary Plaza), and convalescent homes are examples of high risk occupancies.
- **Moderate Risk:** Moderate hazard areas are also known as typical hazards. Most of Culver City falls into this category. One and two family dwellings and small commercial occupancies (< 10,000 square feet).
- **Low Risk:** Small structures that are remote from other buildings are considered low hazard occupancies. Examples include small detached garages and sheds. Also included in this category are vehicle fires, rubbish fires, and small vegetation fires.
- **Special Risk:** High rise and movie studio sound stages are classified as special risk because they present a risk to life or property above that of the surrounding area and the unique challenges firefighters face when combating fires in these types of buildings.

Fire Flow

The evaluation of water supplies needed once a structure has become fully involved is known as fire flow and is a vital component of assessing fire risk. The fire flow evaluation does not address other equally important issues such as occupant risk and content vulnerability to fire. Fire flow requirements are factored into the risk assessment. The City of Culver City has established minimum fire flow requirements and total water supply needed for existing structures and other anticipated fire locations.

Non-Fire Risk Assessment

The non-fire emergency services provided by the Culver City Fire Department include Emergency Medical Services (EMS), hazardous materials response, and technical rescue response. Risk assessment for non-fire hazards incorporate many of the same factors evaluated during the fire risk assessment, including historical demand for these types of services, community characteristics, and demographics. Non-fire hazards often present multiple risk types, i.e. fire - hazmat - EMS or technical rescue - EMS. Compound incidents require staffing that address all components of the incident.

Emergency Medical Services

Requests for Emergency Medical Services (EMS) are the most frequent type of service provided by the Culver City Fire Department. EMS incidents account for over 80% of emergency activities and correspondingly have the greatest impact on Culver City resources. The residential and daytime population is a significant factor in assessing the probability of EMS incidents. As the population of the Culver City increases and ages, the demand for EMS will increase proportionately. From 1998 to 2008 the demand for Emergency Medical Services doubled. There is a wide range of EMS incident types. The following hazard levels have been established for EMS risk:

- High Risk: Multi-victim incidents with 5 or more patients.
- Moderate Risk: Cardiac Arrest and severe injuries (trauma center criteria).
- Low Risk: Injured and ill persons, without airway, breathing, or circulatory problems.

Hazardous Materials

Hazardous material incidents account for 1-2% of responses annually. Hazardous materials are transported on the streets of Culver City and there are 221 businesses that use or store reportable quantities of hazardous materials. Illicit drug labs can be another source of hazardous material incidents. The following hazard levels have been established for hazardous materials risk:

- High Risk: Explosion, natural gas leak inside a structure, transportation accidents involving gasoline or LPG tankers.
- Moderate Risk: Hazardous materials release.
- Low Risk: Natural gas leaks outside of a structure, residential carbon monoxide detector activation, hazardous material investigation.

Technical Rescue

Technical rescue covers a wide range of different types of incidents that include vehicle extrication, confined space rescue, trench collapse, low/high angle rescue, swift water rescue, and building collapse. The following hazard levels have been established for technical rescue risk:

- High Risk: confined space rescue, cave in or collapse with person trapped, rescue from elevated position, vehicle into a building.
- Moderate Risk: Swift water rescue.
- Low Risk: Traffic accident with entrapment.

Section 4: Structure Fire Response

Fire responses account for 6% of all calls to the Fire Department. The most common fire responses within Culver City are for one or two unit residential occupancies, and small commercial buildings.

Task Analysis

Firefighting capability is determined by staffing levels, teamwork, and training. There are specific critical tasks necessary to control low, moderate, and high/special risk fires in a safe, effective manner. All of these tasks will be accomplished for any serious fire. In many instances additional fire companies will be needed to supply added firefighting capability, provide for relief crews, and address other needs such as crew rehabilitation and the provision of medical treatment to fire victims. Additional resources are obtained by utilizing mutual aid agreements with neighboring jurisdictions. This standard response to a structure fire allows the team to set up the equipment and simultaneously handle the tasks of fire attack, search and rescue, ventilation, backup lines, pump operation, water supply and command, all within a few minutes at a moderate risk fire. If fewer firefighters and/or equipment are available (see Section 11: Reliability) mutual aid will be needed to augment the initial Culver City response.

Critical Tasks Necessary for Low Risk Fire Response

3 Person Engine Companies

4 Person Truck Company

2 Person Rescue Ambulances

Task	Number of Firefighters	Company
Attack Line	2	1 st Engine & 1 st Rescue*
Pump Operator(s)	1	1 st Engine
Command / Safety Officer	1	1 st Engine
Minimum Total	4	

* Rescue ambulance in Fire Districts 1 & 3. Truck Company in Fire District 2

Exposure Line

An attack line that is utilized to protect fire exposures. An exposure can be an adjacent room, the floor above, or a building close to the occupancy that is on fire. This requires a minimum of two firefighters.

Pump/Aerial Operator

One firefighter assigned to deliver water under the right pressure to the attack, backup and exposure lines, and to monitor the pressure changes caused by changing flows on each line. This firefighter completes hose connections to the correct discharges and the water supply connections to the correct intake. The pump operator can sometimes manage the hydrant connection alone if the fire engine is near a hydrant, but typical hydrant spacing precludes this. Additionally, the firefighter may operate the aerial device or place ground ladders for rescue, firefighter access/egress, or above-ground water application.

Rapid Intervention Crew (RIC)

A minimum of two firefighters equipped with self-contained breathing apparatus (SCBA) positioned near the point of entry with the sole purpose of rescuing firefighters who become trapped, lost, or in need of rescue. This particular requirement is an Occupational Safety and Health Administration (OSHA) rule.

Search and Rescue

A minimum of two firefighters assigned to search for living victims and remove them from danger while the attack crew moves between the victims and the fire to stop the fire from advancing. A two-person crew is normally sufficient for most moderate risk structures, but more crews are required in multi-story buildings or structures with people who are not capable of self-preservation.

Utilities Shut-off

At least one firefighter must turn off natural gas supply lines, electrical service, and water to the affected structures. Utilities are shut off to enhance the safety of firefighters operating in and around a structure fire and to reduce property damage.

Ventilation Team

A minimum of two firefighters is needed to open a horizontal or vertical ventilation channel when the attack crew is ready to enter the building. Vertical ventilation or ventilation of a multi-story building can require more than two firefighters. Ventilation removes superheated gases and obscuring smoke, prevents flashover and allows attack crews to see and work closer to the seat of the fire. It also gives the fire an exit route so the attack crew can “push” the fire through the opening they choose, thereby keeping it away from endangered people or unburned property. Ventilation must be closely timed with the fire attack. If performed too soon, the fire will get additional oxygen and grow. If performed too late, the attack crew cannot push the fire in the direction they want. Instead, the gases and smoke will be forced back toward the firefighters and their entry point, which endangers them and any victims or unburned property they are protecting.

Water Supply

At least one firefighter must establish a water supply by connecting a 4” supply line to a fire hydrant. For large fires multiple water supplies must be established.

Evaluating Fire Suppression Capability

Firefighters encounter a wide variety of conditions at each fire. Some fires will be at an early stage and others may have already spread throughout the building. This variation in conditions complicates attempts to compare Fire Department capability. A common reference point must be used so that the comparisons are made under equal conditions. The fire service has identified the period of flashover as its common reference point. Flashover is a particular point of a fire's growth that makes a significant shift in its threat to life and property. The goal is to maintain and strategically locate enough firefighters and equipment so a minimum acceptable response force can reach a reasonable number of fire scenes before flashover.

Significance of Flashover

Flashover is defined as the spontaneous ignition of combustible fire gases, occurring in the early stages of most fires. Flashover follows the small, relatively stable, incipient

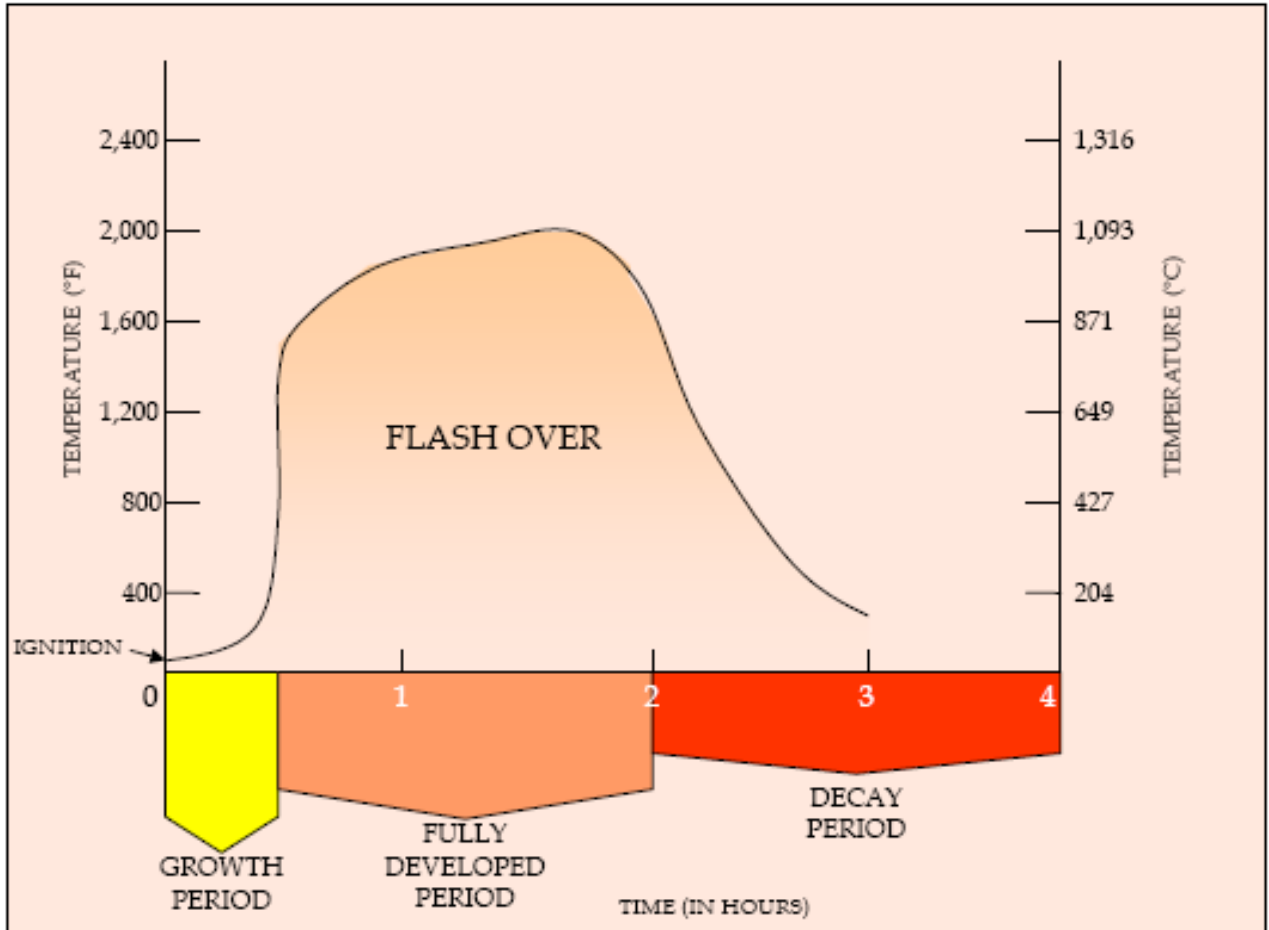
stage of fire development. It occurs when the room of fire origin fills with the superheated gases generated from that fire, quickly raising the temperature of the room. When the room reaches critical temperature, generally 500°F, the room, and all its contents, burst into flame. This instantaneous eruption generates tremendous heat, smoke and pressure that can push the fire beyond the room of origin and into the rest of the structure. Flashover is a critical stage of fire growth for two reasons:

1. No living thing can survive in the room of origin.
2. Flashover signals a quantum leap in the rate of combustion, significantly increasing the risk and resources needed to extinguish it.

Flashover dramatically increases the challenge to Culver City’s resources. It is a leading cause of firefighter death and injury at structure fires. A post-flashover fire burns hotter and moves faster, compounding the search-and-rescue problems in the remainder of the structure at the same time more firefighters are needed for fire attack.

Pre-Flashover	Post-Flashover
Limited to one room	May spread beyond one room
Requires smaller or fewer hoselines	Requires larger or more hoselines
Search and rescue is easier	Compounds search and rescue
Initial assignment can handle	Requires additional resources/mutual aid

Measuring the time to flashover is a function of time and temperature. According to the Underwriters Laboratory (UL) fires double in size and intensity every 30 seconds. Fire growth occurs exponentially. The time it takes for a fire to reach the flashover stage varies depending on building construction, building contents, and fire suppression systems. To minimize the risk to life and property damage, the Department strives to extinguish small fires quickly before they reach flashover.



Effective Response Force – Fires

An “effective response force” is defined as the minimum amount of staffing and equipment that must reach a specific emergency within a targeted travel time. An effective response force should be able to handle fires that are reported shortly after they start and arrive within the maximum prescribed travel time for the full assignment of responding resources.

	Engines	Rescues	Trucks	Battalion Chief	# of personnel
Low Risk	1	1	0	0	5-7*
Moderate Risk	3	2	1	1	18
High/Special Risk	5**	2	2**	2**	28**

* In fire district 2 the truck company provides the additional staffing.

** Additional companies/staffing obtained utilizing mutual aid.

Section 5: Emergency Medical Response

Medical emergencies account for over 80% of all calls to the Fire Department. They range from simple nosebleeds, requiring one basic life support unit, to large-scale multi-victim incidents requiring the entire Department's resources and mutual aid. The typical medical emergency requires one paramedic ambulance, and one engine or truck company (between five and six firefighters).

Task Analysis

The capability to provide quality medical care to a critically ill or injured person is determined by staffing levels, teamwork, and training. There are specific critical tasks necessary to provide effective care to a victim of cardiac arrest (medical worst case scenario).

Critical Tasks Necessary for Initial EMS Response – Cardiac Arrest 2 Person Paramedic Rescue Ambulance 3 Person Engine Company

Task	Number of Firefighters	Company
Supervisor/safety	1	1 st Engine
IV/medication administration	1	1 st Rescue
Documentation/communication	1	1 st Rescue
Airway management	1	1 st Engine
Chest compressions	1	1 st Engine
Minimum Total	5	

An additional unit may be needed to facilitate transport if patient is above the first floor, excessively heavy, or within a complex far from fire apparatus access.

Critical Task Definitions for Cardiac Arrest Emergencies

Airway Management

The placement of a device into the patient's trachea to create a secure, non-collapsible airway and a potential route for medication administration. This action requires one

Advanced Life Support (ALS) provider who will be committed to placement and continuous monitoring. Ventilation is the mechanical or manual inflation of the lungs. This action requires one dedicated person, who will be committed to this task until relieved or upon arrival at the receiving facility.

Chest Compressions

The act of compressing the chest, at a specified location and prescribed rate and depth, to create blood flow by increasing the intra-thoracic pressure and directly compressing the heart. This action requires one dedicated person, who will be committed to this task until relieved or arrival at the receiving facility.

Documentation/Communication

The documentation of patient assessment/treatment and ensures the proper treatment is provided through both online and offline medical control procedures. This person identifies and makes contact with the receiving facility to ensure that the facility is prepared to receive the patient.

IV/Medication Administration

The act of placing an intravenous catheter to provide a non-collapsible route for the delivery of medications and fluids. This task requires one ALS person to secure the IV and utilize it to administer necessary medications and fluid throughout patient care.

Supervisor/Safety

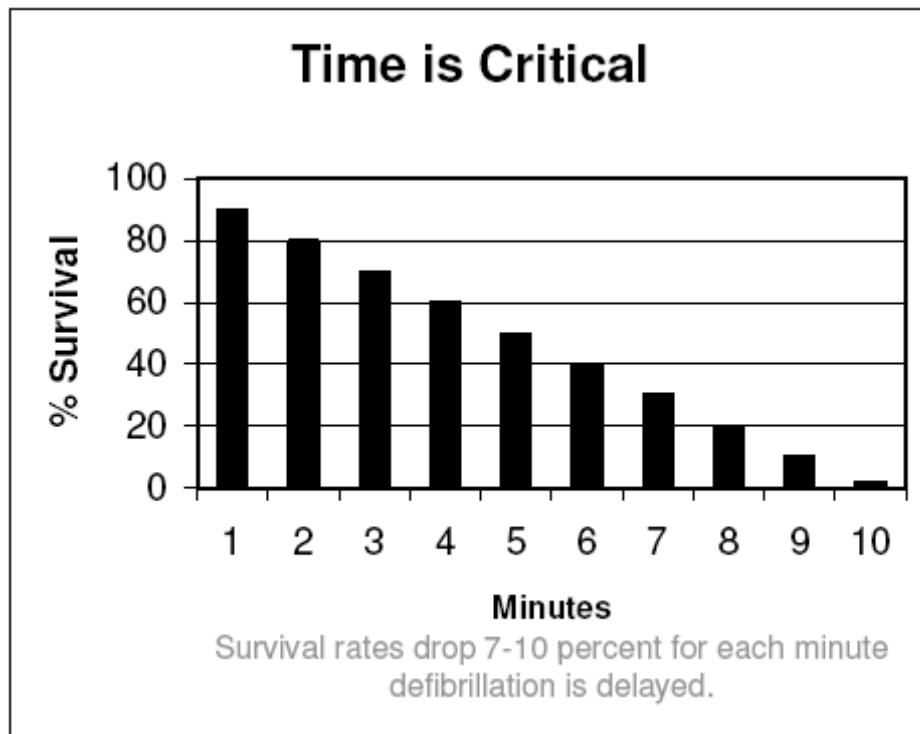
A company officer who is responsible for supervision and monitoring the actions of the personnel. This position is also responsible for ensuring personnel and patient safety. Additionally, this person acts to calm family members or bystanders and help obtain information about the patient and problem.

Evaluating EMS Capability

Similar to fire flashover, Emergency Medical Services (EMS) use a critical time component within which to deploy resources. This point is that of probable brain death after a person's heart stops. During cardiac arrest the brain starts to die in four to six

minutes. Brain damage is usually irreversible after ten minutes. Early defibrillation is vital intervention because it is the only way to successfully treat most sudden cardiac arrests. When cardiac arrest occurs, the heart starts to beat chaotically (fibrillation) and does not circulate blood through the body. For every minute without defibrillation, the odds of survival drop seven to ten percent. A sudden cardiac arrest victim who is not defibrillated within ten minutes has virtually no chance of survival. The shortest possible response times create the highest probabilities of resuscitation.

Rapid response times are not the only factor in providing rapid defibrillation. Sometimes there are delays in accessing a patient located on the interior of a high rise building, condominium complexes, shopping centers, and other occupancies that have a significant walking distance to the patient locations. To address this limitation the American Heart Association promotes citizen CPR and Public Access Defibrillation programs. Though not relevant to the Standards of Coverage it should be noted that the Culver City Fire Department provides CPR training to the community and operates a Public Access Defibrillation program in several City buildings.



Effective Response Force - EMS

As previously defined an “effective response force” is defined as the minimum amount of staffing and equipment that must reach a specific emergency within a targeted travel time. The goal is to maintain and strategically locate enough firefighters and equipment so a minimum acceptable response force can intercede in critical medical emergencies. Based on the cardiac arrest critical task analysis the Culver City Fire Department’s minimum effective response force for a low, moderate, and high risk medical incident are defined below. All Culver City frontline resources and the reserve rescue ambulance have the capability for either Automated External Defibrillation (AED) or manual defibrillation.

	Engines	Rescues	Trucks	Battalion Chief	# of personnel
Low Risk	1	1	0	0	5-6*
Moderate Risk	1	1	0	0	5-6*
High Risk	3	2	1	1	18**

*Truck company responds in place of an engine in some circumstances.

**Patient transport provided by ambulances obtained via mutual aid.

Section 6: Hazardous Material and Technical Rescue Responses

Hazardous Material Incident Response

Hazardous Material incidents account for less than two percent of all calls to the Fire Department but could have the largest impact on the community. Response to these incidents vary from one engine company for an odor investigation to a full assignment (all Culver City units) plus specialized mutual aid resources for a major release. Hazardous materials response is a complex undertaking. Successful mitigation requires a cooperative effort between multiple response and regulatory agencies. Culver City Fire Department provides first responder operational level hazardous material response which include; assessment, command, isolating the product, establishing a safe perimeter, evacuation, containment, and documentation. Specialized hazardous materials resources are available through the California Master Mutual Aid Plan for incidents requiring entry into a “hot” zone or technician level activities.

Effective Response Force – Hazardous Material

An effective response force for low, moderate, and high risk hazardous material incidents are defined below. As previously noted, an effective response force is defined as the minimum amount of staffing and equipment that must reach a specific emergency within a targeted travel time.

	Engines	Rescues	Trucks	Battalion Chief	# of personnel
Low Risk	1	0	0	0	3-4*
Moderate Risk	4**	1	2**	2**	29**
High Risk	5**	2	2**	2**	34**

*Truck company responds in place of an engine in some circumstances.

**Additional companies/specialized resources obtained utilizing mutual aid.

The minimum mutual aid request to meet the demands of a moderate and high risk incident is a “haz mat task force” which includes one haz mat squad, one truck, two engines, and one battalion chief (16 personnel).

Technical Rescue Response

The Culver City Fire Department provides a wide range of technical rescue services to the community. The most common of these incidents is vehicle extrication. Other types of incidents include confined space rescue, trench or building collapse rescue, persons trapped in elevated positions, and swift water rescue (La Ballona flood control channel). With the exception of vehicle extrication, the demand for these services has been historically low. Culver City Fire Department provides awareness, operational, and some technician level rescue services. Specialized technical rescue resources are available through the California Master Mutual Aid Plan for incidents that exceed Culver City Fire Department capabilities.

Effective Response Force – Technical Rescue

An effective response force for low, moderate, and high risk technical rescue incidents are defined below. As previously noted, an effective response force is defined as the minimum amount of staffing and equipment that must reach a specific emergency within a targeted travel time.

	Engines	Rescues	Trucks	Battalion Chief	# of personnel
Low Risk	2	1	1	1	13
Moderate Risk	3	2	1	1	18
High Risk	4*	2*	2*	2*	32*

* Additional companies/specialized resources obtained utilizing mutual aid.

The minimum mutual aid request to meet the demands of a high risk incident is a “physical rescue assignment” which includes one heavy rescue, two engines, one truck, one ambulance, and 1 battalion chief (19 personnel).

Evaluating Hazardous Material and Technical Rescue Capability

Unlike fire and EMS responses there is no nationally recognized time benchmark for hazardous material and technical rescue incidents. Culver City Fire Department resources are situated to ensure that the first due unit arrives in less than 5 minutes 90% of the time. The first due unit has the capability to conduct an assessment of the

situation, assume command, take initial actions, and order more resources if needed. An effective response force, determined by task analysis, has been defined for each type of response.

Section 7: Relevant National Standards

American Heart Association Guidelines

The American Heart Association (AHA) has established that the brain begins to die in four to six minutes without oxygen; damage is irreversible after 10 minutes. Interventions include early cardiopulmonary resuscitation (CPR) and electrical defibrillation. The earlier CPR is initiated, the better the patient's chance of survival. The AHA states that patients receiving CPR within two minutes and defibrillation within four minutes have a 30 percent survival rate. For patients receiving no CPR and delayed defibrillation (after 10 minutes), the survival rate drops to between zero and two percent.

Insurance Services Office (ISO)

The ISO evaluates municipal fire protection in communities throughout the United States. The evaluation of a jurisdiction's fire suppression capability includes an assessment of the dispatch center (10 percent weight), fire department staffing/apparatus/equipment (50 percent weight), and the water system. After calculating the jurisdiction's strengths and/or weaknesses it receives a rating on a one to ten scale. A Class 1 rating is the best classification achievable and 10 represents that no fire protection services are available. The City of Culver City has maintained a Class 1 rating since 1994.

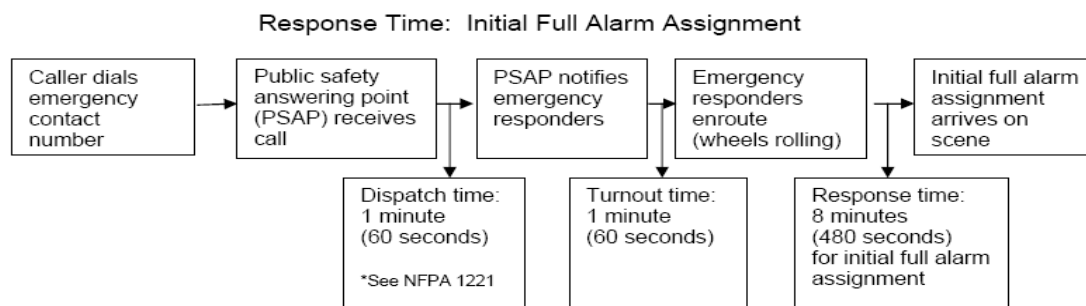
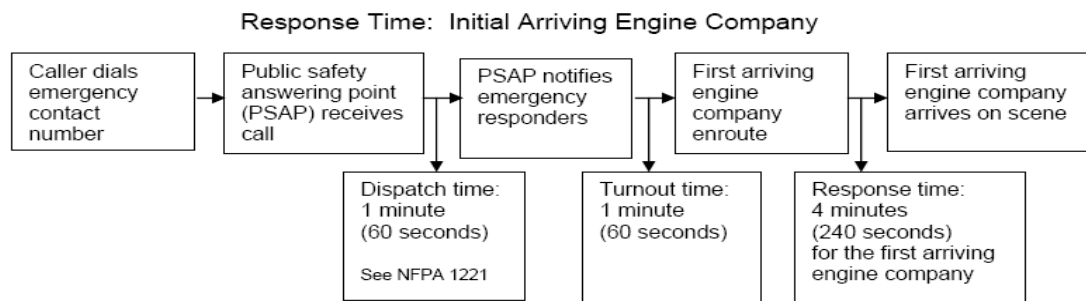
National Fire Protection Association 1710

National Fire Protection Association 1710 is a nationally recognized voluntary standard for the organization and deployment of fire suppression operations, emergency medical operations, and special operations by career fire departments. This standard outlines an organized approach to defining levels of service, deployment capabilities, and staffing. Specifically NFPA 1710 provides standard definitions for fire apparatus, personnel assigned, procedural guidelines within which they operate, and staffing levels needed to accomplish specific tasks on arrival at an incident. NFPA 1710 states that fire departments shall establish a performance objective of not less than 90 percent for each of the following response time objectives:

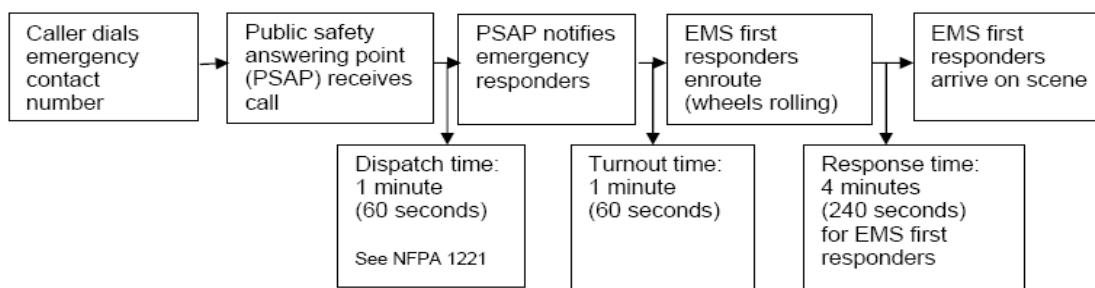
- One minute (60 seconds) for turnout time.
- Four minutes (240 seconds) or less for the arrival of the first-arriving engine company at a fire suppression incident and/or eight minutes (480 seconds) or less for the arrival of a full first alarm assignment at a fire suppression incident.
- Four minutes (240 seconds) or less for the arrival of a unit with first responder, or higher, level capability at an emergency medical incident.
- Eight minutes (480 seconds) or less for the arrival of an ALS unit at an emergency medical incident, where this service is provided by the fire department.

Though the Culver City Fire Department has not formally adopted this standard, the standard has influenced assessment of resource distribution and long term response goals.

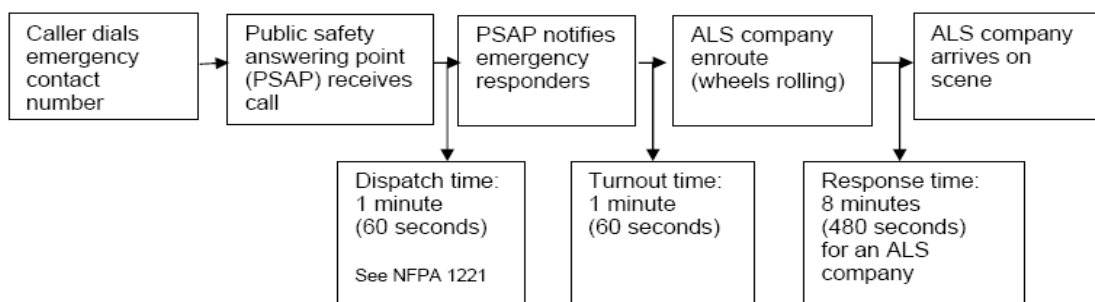
NFPA 1710 Response Standard Diagrams



Response Time: EMS First Responder (with an AED)

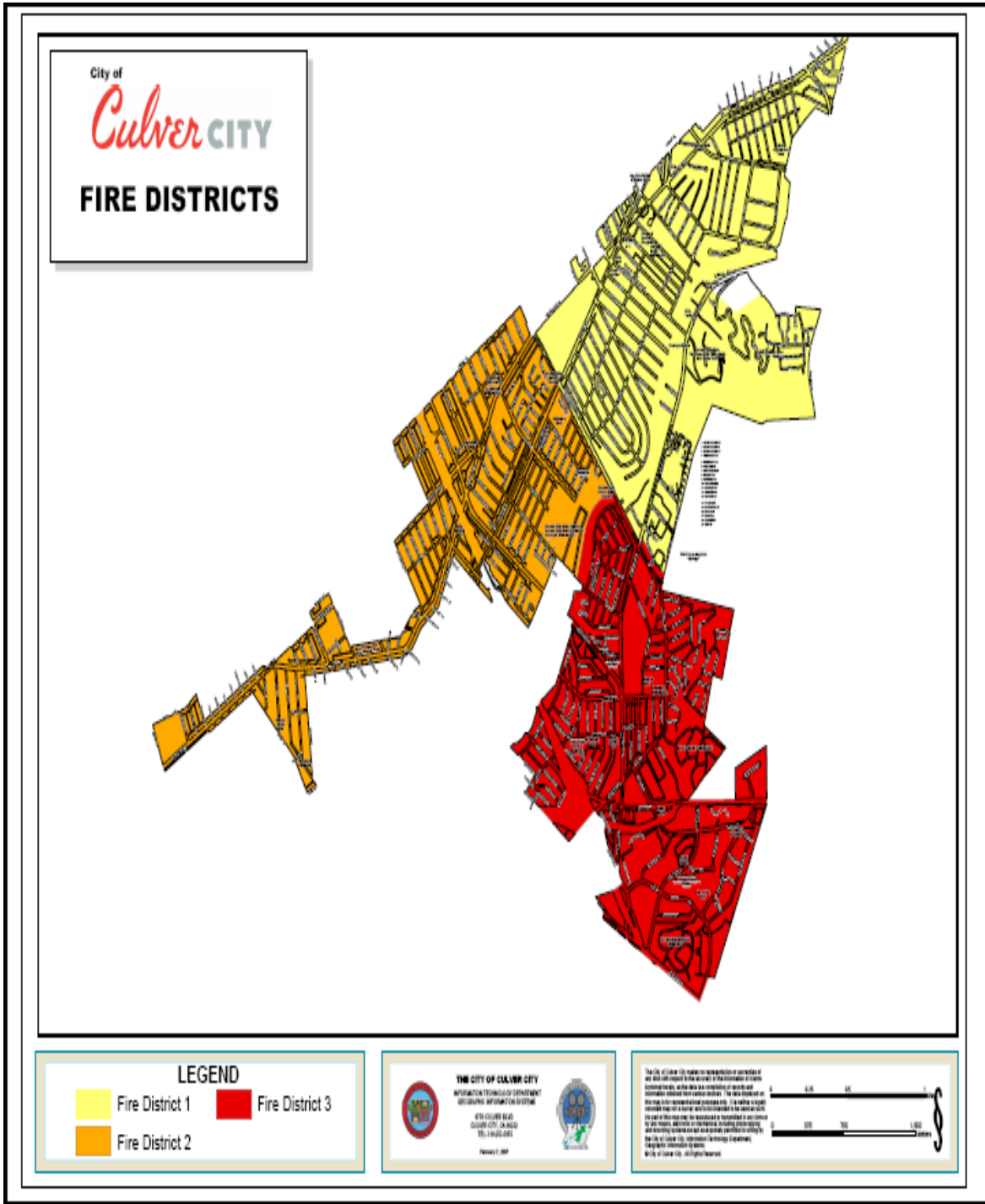


Response Time: ALS Company



Section 8: Existing Deployment of Fire Department Resources

Map of Fire Districts



Location of Resources

Station	Unit	Apparatus	Minimum On-Duty Staffing
Station One	Engine 1	Engine	3
	Rescue 1	ALS Ambulance	2
	Battalion 1	Command Vehicle	1
	Engine 4	Engine	Reserve Unit
	Engine 5	Engine	Reserve Unit
	Engine 6	Engine	Reserve Unit
	Truck 1	Truck	Reserve Unit
	Battalion 2	Command Vehicle	Reserve Unit
	Utility 1	Flatbed truck	Cross staffed
Station Two	Engine 2	Engine	3
	Truck 2	Truck	4
	Rescue 2	ALS Ambulance	Reserve Unit
Station Three	Engine 3	Engine	3
	Rescue 3	ALS Ambulance	2
Total Minimum Staffing			18

Note: A new Fire Station 3 facility is currently under construction and due to be completed in July 2009. The new facility is located on Bristol Parkway approximately ½ mile from the existing station. An analysis of travel distances from the new station site indicates that there will be no increase in travel time. Some district boundaries will be modified slightly to maintain an equally distributed workload.

Deployment Configuration (Alarm Assignments)

Alarm assignments are defined in Article 302.03 of the Fire Department Rules & Regulations and outline the existing deployment of resources for all incidents as follows.

Single Company Alarm (1 Engine – 3 personnel)

- Auto accident requiring clean-up of debris
- Natural gas leaks outside building
- Smoke investigation outside building
- Power lines down - hot wires
- Power pole fire
- Mail box fire
- Fires reported out - investigation
- Lock-out - emergency situation only
- Bomb threats - Code 2 engine company
- Residential smoke/CO detector-no visible sign of smoke
- Hazardous materials investigation

Rescue Alarm Assignment (1 Engine, 1 Rescue – 5 personnel)

- All calls for illness or injury, including routine traffic accidents.

Two Unit Alarm Assignment (1 Engine, 1 Rescue or Truck – 5-7 personnel)

- Trash or rubbish fire
- Automobile fire

Three Unit Assignment (1 Engine, 1 Truck, 1 BC – 8 personnel)

- Automatic fire alarms
- Water flow alarms

First Alarm Assignment (2 Engines, 1 Rescue, 1 Truck, 1 BC – 13 personnel)

- Rescue, trapped person(s)
- Cave-in
- Excavation, person(s) trapped
- Person(s) trapped, elevated position
- Grass or brush fire
- Electrical fire or electrical short in building (TV, washing machine, etc.)
- Vehicle into a house
- Traffic accident with entrapment
- Hazardous materials incident

Full Alarm Assignment (3 Engines, 2 Rescues, 1 Truck, 1 BC – 18 personnel)

- Reported structure fires
- Fire in/under/around structure
- Fire near or endangering structure
- Auto fire in or near structure
- Natural gas leak in building
- Smell of smoke in a structure
- Rubbish, brush or grass fire near building
- Serious freeway emergencies: examples:
 - Multiple Victim Incidents (MVI)
 - Accident involving vehicle transporting flammable liquids/chemicals
 - Liquid propane gas spill or leak
- Gasoline leak from tank truck
- Aircraft crash
- Swift Water response
- Explosion

Section 9: Distribution of Resources

The distribution of fire department resources is a crucial component in evaluating service levels. Distribution refers to station locations and directly impacts the travel time of fire department resources. The ISO criteria used to evaluate the distribution of fire department resources assess station location and the relative travel distance to the initial response area. The initial response areas in Culver City are known as fire and rescue districts. There are three fire districts and two rescue districts. ISO awards maximum credit to a jurisdiction that distributes engine companies within 1½ miles of its district boundaries and truck companies within 2½ miles of its district boundaries. The ISO travel distances are measured according to surface routes and are usually irregular in shape as opposed to a simple radius. The station placement in Culver City is validated by the ISO assessment of distribution that indicates 96.6% of Culver City falls within the prescribed travel distance.

Distribution Goals (distribution performance statements)

The distribution goals of the Culver City Fire Department are to arrive early enough to:

1. Contain structure fires prior to flashover.
2. Provide early defibrillation to a patient in cardiac arrest and prevent permanent brain damage.

Historical Performance – Distribution

In addition to the ISO evaluation it is possible to measure the distribution of fire department resources by monitoring response travel times. The ability to achieve and maintain the published travel time standard is evidence that the stations are placed effectively. The historical data on the chart below shows performance for the existing standards of coverage. The data was obtained from the Lancet© record management database.

Travel Time – First Arriving Unit Structure Fire Incidents

Year	2004	2005	2006	2007	2008
90 %	3:51	4:12	4:20	3:30	4:00

Travel Time – First Arriving Unit EMS Incidents

Year	2004	2005	2006	2007	2008
90 %	4:43	4:28	4:20	4:33	4:36

Section 10: Concentration of Resources

Concentration is defined as the spacing of multiple resources arranged so that an effective response force can arrive on scene within sufficient time frames. This addresses the placement of multiple companies at a single station and apparatus staffing levels. An effective response force varies depending on the type of incident and in most cases will mitigate the problem or at a minimum prevent the escalation of the emergency. An effective response force is not necessarily the total number of units or personnel needed if the emergency escalated to the maximum potential. Evaluating the concentration of resources can also be used to measure efficiency. In an ideal system, each resource would cover an equal share of the workload. For example, in a three station department, each station would handle 33% of the workload. While an exact leveling of workload is impossible, extreme variations in workload are not efficient.

Concentration Goals (concentration performance statements)

The concentration goals of the Culver City Fire Department are to provide an effective response force sufficient to:

1. Establish a pumping capability of 4500 GPM at all structure fires.
2. Accomplish all critical tasks identified for moderate risk structure fires and cardiac arrest incidents.

Historical Performance - Concentration

There are two measures of concentration. The first measure is workload by station. The chart below shows that the workload is evenly distributed between the three fire stations. This indicates the current concentration of resources is efficient.

Workload by Fire Station

Fire Station	Call Volume				
	2004	2005	2006	2007	2008
Station 1	33%	32%	32%	32%	31%
Station 2	33%	34%	33%	32%	34%
Station 3	34%	34%	35%	36%	35%

The second concentration measurement monitors the response travel times for the complete effective response force (all responding units). The historical data on the charts below shows performance for the proposed standards of coverage. The data was obtained from the Lancet© record management database.

Travel Times – Entire Response Force (7 units) 10 minutes or less for structure fires

Year	2004	2005	2006	2007	2008
90%	9:34	10:00	7:05	9:26	6:21

Travel Times – Entire Response Force (2 units) 8 minutes or less for emergency medical incidents

Year	2004	2005	2006	2007	2008
90%	6:02	6:12	6:10	6:28	6:27

Section 11: Response Reliability

Response reliability is defined as the probability that the required amount of staffing and apparatus will be available when a call for service is received. If every apparatus were available every time, then the department’s response reliability would be 100 percent. The Culver City Fire Department can provide an effective response force to a multitude of emergency incidents. Increased demands for the fire service with limited or diminishing resources will eventually erode this ability. The Fire Department currently provides an effective response force with 18 personnel per day. Our ability to meet the demands for service can be critically curtailed during times of multiple requests for service or “queuing.” As the number of emergency calls per day increases, or our resources diminish, the probability increases that a needed apparatus will already be busy when a call is received. On these occasions the Department’s response reliability will decrease. In 2008, this occurred 18 percent of the time. In other words, out of 4,354 calls for service last year, we had two or more simultaneous calls 813 times. The data was obtained from the Lancet© record management database.

Reliability Benchmarks

Indicator	Benchmark	2008 Statistics
Total Call Volume	Over 4300/year	4354
Total Fire Calls	Over 180/year	108
Total EMS Calls	Over 3400/year	3560
Other Call for Service	Over 681/year	668
Total Unit Responses	Over 9600/year	9343
Travel Time Standard	Under 90%	91.%
Patients Transported	Over 3000	2207
Transports out of the City	Over 50%	50.7%
Concurrent Calls	Over 13%	18%

The Department is sensitive to its ability to maintain acceptable service levels and has developed a number of statistical ‘red flags’ to monitor performance and define benchmarks for each category. All of the benchmarks defined are dependent on the others

in one way or another. For example, if call volume increases, there will also be an increase in out of service time, total unit responses, and concurrent calls. Increased call volume will also translate into more patients, additional transports, and a greater number of transports out of the City, all of which increases out of service time, more concurrent calls for service, and greater response times due to limited resources. As illustrated by the above chart, four of nine benchmarks were exceeded in 2008.

Section 12: Other Response Time Elements

In every emergency there is a sequence of events that are critical elements in respect to time and the evaluation of the response system. This sequence of events is defined by the Commission on Fire Accreditation International (CFAI) as the cascade of events, and it occurs on every emergency call. The cascade of events includes elements known as call processing time, turn out time, and travel time. Travel time has been defined previously in this document and the historical performance analyzed. This section addresses the response elements of call processing time and turnout time.

Call Processing Time

Call processing time is defined as the interval between answering the 911 call at the dispatch center and the time the dispatcher activates station and/or company alerting devices. Factors influencing call processing time include:

- The proliferation of cell phone use. Emergency calls received from normal telephone lines automatically populate the Computer Aided Dispatch (CAD) system with the incident location (no manual entry required). Emergencies reported via cell phone require that incident information be collected and manually entered into the CAD system, therefore slowing call processing time.
- Calls transferred from other jurisdictions. Emergency calls frequently originate in one jurisdiction only to be transferred to the servicing agency. The Culver City dispatch center receives calls transferred from other agencies including California Highway Patrol, Los Angeles City Fire, and Los Angeles County Fire Dispatch Centers. Incident information has to be collected and manually entered into the CAD system, therefore slowing call processing time.
- Voice Over Internet Protocol (VOIP) phone service. There are an increasing number of residents and businesses that are utilizing VOIP technology for their home or business phones. Dispatchers receiving a 911 call from a VOIP phone must collect

and manually enter incident information into the CAD system, therefore slowing call processing time.

- Language barriers. Receiving a 911 call from a non-English speaking customer can require more time to collect incident information.
- Multiple callers for the same incident. Dispatchers frequently receive multiple calls for the same incident compounding dispatcher workload which can lengthen call processing time.
- Simultaneous incidents. The occurrence of simultaneous incidents impacts dispatcher workload and can result in longer call processing times.
- Dispatch staffing levels. Dispatcher staffing levels directly impact call processing time. Adequate staffing must exist to address both call taking and unit dispatching demands. The dispatch center attempts to maintain a staffing level of three dispatchers Monday through Saturday. On Sundays dispatch is staffed with two. Other staffing challenges include adequate coverage when a dispatcher calls in sick and position vacancies. Funding limitations prevent staffing 24/7 with three dispatchers.
- Outdated Technology. The current CAD software (VisionAir[®]) was purchased and implemented in 1998. While staff has made the system work, there are numerous technical issues which have not been resolved. The VisionAir[®] system is built on older technology and as a result, is unstable and prone to introducing program errors when hardware or software is updated. The system also does not provide much flexibility for customization. Dispatchers must perform many tasks manually (which adds to call processing time) that newer CAD systems perform automatically.

The following historical performance data provides a four year snapshot of call processing performance for structure fire and emergency medical incidents. The data was obtained from the VisionAir[®] CAD database.

Historical Performance Data – Call Processing Time for Structure Fires

Year	2004	2005	2006	2007	2008
70 %	2:17	2:14	2:05	2:07	2:09

Current Baseline Performance = 140 seconds or less 70% of the time

Historical Performance Data – Call Processing Time for EMS Incidents

Year	2004	2005	2006	2007	2008
70 %	1:55	1:50	1:55	1:55	1:50

Current Baseline Performance = 120 seconds or less 70% of the time

The 911 dispatch center is managed by the police department. Even though the Culver City Fire Department has never formally implemented a performance standard for call processing time, dispatchers are aware of the importance of a timely response by fire personnel and expedite the processing of information and the dispatching of appropriate units. There are several ongoing projects that reflect efforts by the Police and Fire departments to address the factors listed above and compress call processing time. These projects include an upgrade of the 911 system (hardware and software), the implementation of an enhanced computer aided dispatch and record management system, and the implementation of Mobile Data Computer capability in all emergency apparatus. These projects are discussed in detail later in this section.

Turnout Time

Turnout time is defined as the interval between the activation of station and/or company alerting devices, and the time when the responding crew is aboard the apparatus and responding to the incident location. Factors influencing turnout time include:

- Unit location at time of dispatch. Throughout the day Fire companies are out of the station attending to assigned activities. Personnel may be a short distance away from their apparatus while surveying a building for a Pre-fire Plan, at the

Culver City Transportation Facility for maintenance, etc. Situations such as these are necessary but can increase turnout time while crews get to their vehicles and prepare for departure. Efforts are made to have other fire companies respond in place of affected crews to minimize this type of impact.

- The activities immediately preceding response activation, e.g. training exercises, public education, business inspections, etc. Much of a firefighter's day is dictated by Local and National Standards such as NFPA, OSHA, and the Uniform Fire Code. To that end Fire Department companies are engaged in training scenarios that employ full protective clothing, charged hose lines, and equipment. Fire inspections and hydrant maintenance are conducted by all units on a weekly basis. Crews with their apparatus attend several public events monthly at the community's request. All of these events require a certain amount of time to disengage before responding, but are a necessary part of our organizational function.
- Type of incident. Due to personal protective equipment required (full turnouts vs. gloves and eye protection). Firefighters respond to many different types of calls. Some are fire related and some are medical. Each requires a different level of personal protective equipment for our personnel. Donning structural turnouts is far more time consuming than the latex gloves and eye protection used during medical incidents.
- Station layout. As the size of fire apparatus has increased over the last decade, so has the size of the station to house them. Gone are the days of a residential sized home with an expanded garage serving as a fire station. Culver City's Stations average approximately 10,000 square feet. This adds to a firefighter's travel time within the building to their apparatus during an emergency response.
- Outdated Technology. The current CAD software (VisionAir[®]) relies on data entered manually by the dispatchers. Obtaining turnout times is dependant on receiving

verbal radio messages from the responding units. If a radio message is missed or delayed, the actual turnout time performance is not captured. While our dispatchers have a fair degree of accuracy, on receiving messages the present day computer terminals do not “time stamp” the verbal data. Multiple units responding or concurrent calls add to the probability of missed information.

Fire Department personnel understand the importance of this response element and strive to minimize turnout time. Once notified of a call firefighters move with haste to the apparatus and don the appropriate protective equipment. Some impacts such as training and fire inspections cannot be avoided as these activities are mandatory. Improvements in the dispatching process and technologies are currently underway which will improve turnout time. The following historical performance data provides a five year snapshot of turn out time performance for structure fire and emergency medical incidents. The data was obtained from the Lancet[®] database.

Historical Performance Data – Turnout Time for all Emergency Responses

Year	2004	2005	2006	2007	2008
70 %	2:05	2:02	2:05	1:58	1:59

Current Baseline Performance = 120 seconds or less 70% of the time

Currently, performance does not meet the voluntary standard for turnout times published in National Fire Protection Association Standard 1710. Confidence is not high that the historical data captures the actual performance. The Police and Fire Departments are working to improve dispatch technology and refine data collection. One of the goals for the new CAD system is to compress, or reduce, overall turnout time by giving an exact address automatically on the mobile computers, and more accurately documenting our performance at the dispatch center. The performance data listed above is the best available now; by late 2009 the New World CAD system should reveal more accurate results.

Current Efforts to Improve Call Processing and Turn Out Times

Upgrade of the 911 Receiving System

The City is in the final stages of a complete upgrade (hardware and software) of the 911 receiving system. The 911 system will be completely integrated with the CAD system and automate some dispatcher functions. The 911 system upgrade will also help address some of the issues caused by the proliferation of cell phones. Historically, wireless (cell) phones have had difficulty accessing the appropriate agency during an emergency. Prior to 2008 the California Highway Patrol handled all wireless 911 calls, and then transferred the reporting party to the appropriate provider based on their location. Mistakes would happen; callers did not know where they were, etc. At best the 911 message would have to be repeated when the call was taken a second time. Now, pursuant to Federal Communications Commission Order 94-102 the State of California is working to direct 911 calls to the jurisdiction in which the receiving cell site is located in. Culver City has been the beneficiary of this wireless enhancement since May of 2008. A wireless caller's location is displayed by the latitude and longitude of the receiving cell site which improves accuracy from years prior. Future improvements in wireless 911 reporting will utilize the GPS technology in cell phones.

Upgrade of the Computer Aided Dispatch (CAD) System

The City is in the final stages of a complete upgrade (hardware and software) of the previous Vision Air CAD system with a modern one from New World Systems. As noted above the Vision Air platform required manual entry of data and selection of units to respond. New World CAD is scheduled to begin operating in mid 2009. When a 911 call is received the new CAD will automatically verify the location using GPS layered maps preloaded into the system. Based on the Call for Service type entered and the location, the CAD will suggest the closest available units to respond and document the time the call was received and dispatched. With the previous Vision Air system our dispatchers manually entered times and occasionally had to "search" for available units. In New World, our companies will use a touch screen on a mobile computer to document their response. Those same screens will allow for units to upgrade their status to "on

scene” and “available” when a call is cleared. The CAD system will track those inputs in real time which translates into ease of decision making for our dispatchers.

Mobile Data Capability

Beginning in late 2009, all Culver City Fire Department apparatus will be equipped with mobile computer terminals. These computers will link our Fire and Paramedic companies with the new CAD system. Upon receipt of a dispatch our personnel will proceed directly to their vehicles, view the information along with a GPS linked map on the screen, press “responding” on the touch screen, then drive directly to the location. A benefit of these new features will be the more accurate documentation of all aspects of time relating to an emergency incident. Call Processing will decrease as dispatchers are given the appropriate units to send immediately. Turnout time will improve as crews will have a readable address and directions as soon as they reach their apparatus.

Refine Data Collection and Analysis Capability

The accurate collection and analysis of data is vital. The new CAD program and mobile data capability will enhance the accuracy of recorded data and allow a more detailed analysis of performance. As noted above, the New World CAD system will remove most of the human element of response time documentation. By the end of 2009 Culver City will have a new level of integrity in its reports of performance.

Conclusion

The Culver City Fire Department has established Standards of Response Coverage for both fire and non-fire incidents. The Department will monitor distribution and concentration response performance to ensure that the established objectives are met. The Fire Department, in concert with the Police Department, will continue to work to reduce call processing and turnout times from the baseline 2008 performance levels. The projects listed above represent a nearly two million dollar investment to improve dispatch related technology and processes. The combination of the upgraded 911 system, new CAD system, and linked Mobile Data Computers will lead to significant improvement in response capability.