

# Public Facilities, Services and Safety Element





## D. Fire-Rescue

### Goal

- ◆ Protection of life, property, and environment by delivering the highest level of emergency and fire-rescue services, hazard prevention, and safety education.
- ◆ Minimize fire hazards resulting from structural or wildland fires.
- ◆ Manage fuel loads in wildland areas.

### Discussion

The Fire-Rescue Department's mission is to serve the City by providing the highest level of emergency/rescue services, hazard prevention and safety education ensuring the protection of life, property and the environment. This includes the delivery of medical advanced life support services through a comprehensive first-responder paramedic system. The Fire-Rescue Department provides paramedics on first responder apparatus as well as ambulances.



*Fire-Rescue Station #15 serving Ocean Beach and surrounding areas*

The Fire-Rescue Department coordinates with other local city and fire district departments, the San Diego County Fire Authority, CAL FIRE, and the federal fire departments from local military installations to provide structural, airport, marine, and vegetation, fire suppression, water rescue, confined space rescue, cliff rescue, and high angle rescue; response to hazardous material, mass casualty incidents, terrorism and weapons of mass destruction; fire and hazard mitigation and disaster preparedness training; and fire prevention and safety education. Figure PF-3, Fire and Lifeguard Facilities, illustrates the location of fire stations and permanent lifeguard towers and local, state and federal responsibility areas. The Fire-Rescue Department has local responsibility within the City except for military installations.

The Fire-Rescue Department has Automatic Aid agreements with jurisdictions adjoining the City. These agreements assure that the closest engine company responds to a given incident regardless of which jurisdiction it represents. Mutual Aid agreements with county, state, and federal agencies further allow the City, and any other participating agency, to request additional resources depending on the complexity and needs of a given incident, such as wildfires.



### *Service & Infrastructure*

Building new or expanded fire and rescue facilities requires significant planning and coordination to address facility location, funding and the timing of development. Typically, a three mile distance between fire stations is sufficient to achieve response time objectives. The topography and terrain throughout the City presents considerable demands on fire-rescue services under various conditions and can also affect response times. Future infill development will place an increasing demand on the capabilities of fire-rescue resources to deliver an acceptable level of emergency service.

The City Council adopted response time objectives included in the 2011 Fire Service Standards of Deployment Study as a framework to guide the Fire-Rescue Department's progress toward meeting the desired level of emergency service standards. This includes additional fire stations and service enhancements in underserved communities. Full implementation is expected to take multiple years and is dependent on identifying revenues for operating and capital costs. The performance measures are provided in Tables PF-D.1 and PF-D.2, and in Policies PF-D.1 and D.2.

The Fire-Rescue Department commissions a Standards of Response Coverage review every five years, or as needed. This report is used to determine the need for additional fire stations by reviewing the adequacy of the current fire station resource deployment system, the risks to be protected and the emergency incident outcomes desired by the community. Service delivery depends on the availability of adequate equipment, sufficient numbers of qualified personnel, effective alarm/monitoring systems, and proper siting of fire stations and lifeguard towers. As fire-rescue facilities and equipment continue to age, new investments must be made to support growth patterns and maintain levels of service to ensure public safety. Evaluation of the need for additional new or expanded fire stations will occur through the Standards of Response Cover Review, community plan updates and amendments as needed.

### *Fire Hazard Planning*

Fire hazard and mitigation are an important component to fire safety and enhances the effectiveness of fire protection. The General Plan addresses wildland fire risk reduction and prevention, and hazard mitigation efforts within Public Facilities, Services, & Safety Element as well as Conservation and Urban Design elements.

The United States Geological Survey provides an internet based mapping application, Geospatial Multi-Agency Coordination (GeoMAC), which allows public access to online maps of current fire locations and perimeters using standard web browsers. Fire perimeter data is updated daily based upon input from incident intelligence sources, GPS data, and infrared imagery from fixed wing and satellite platforms. The GeoMAC web site allows users to display fire information at various scales and detail and print hard copy maps. GeoMAC can be accessed at <https://geomac.usgs.gov>.



### *Climate, Vegetation, and Topography*

Due to climate, vegetation, and topography, the City is subject to both wildland and urban fires. The region's climate and increasingly severe dry periods result in large areas of dry vegetation that provides fuel for wildland fires. Late summer and fall are the most critical seasons for wildland fires when Santa Ana winds bring hot, dry desert air from the east into the region. When the high air temperature, low humidity, and powerful winds combine with dry vegetation, the result can be large-scale fire events. Since these winds push wildland fires westward toward denser development, Santa Ana wind-driven fires have the potential to result in a greater risk of property damage. The City contains over 900 linear miles of wildland/urban interface due to established development along the open space areas and canyons within urban and suburban areas.

### *Major Wildland Fires*

In 2003 and 2007, the City experienced two major Santa Ana wind-driven wildland fires. The 2003 Cedar Fire was the largest wildland fire in California history and burned 280,278 acres countywide of which 28,676 acres were within the City of San Diego. The Cedar fire destroyed 335 structures in Scripps Miramar Ranch and Tierrasanta. The 2007 Witch Creek-Guejito Fires burned more than 197,990 acres countywide of which 9,250 acres were within the City of San Diego. The Witch Creek-Guejito Fires destroyed 365 structures in the Rancho Bernardo community. The City is a participating jurisdiction in the San Diego County's Multi-Jurisdictional Hazard Mitigation Plan. Additional historical data on San Diego wildfires can be found in Section 4.3.7.2 of the countywide plan.

### *Plans, Programs, and Regulations*

- **General Plan.** The General Plan provides policies for protecting communities from unreasonable risk of wildfire. The following policies provide the foundation and support for implementing fire-wise and fire-safe development regulations:
  - Land Use Element Section C. Community Planning including policy LU-C.2.a.4 that addresses the consideration of land uses to hazard areas.
  - Conservation Element Section B. Open Space and Landform Preservation including policy CE-B.6 that addresses the management of the urban/wildland interface;
  - Urban Design Element, Section A. General Urban Design including policy UD-A.3h balances the need to clear natural vegetation for fire



protection to ensure public safety in some areas. UD-A.3.p addresses the design of structures adjacent to open space.

- **Very High Fire Hazard Severity Zone Maps.** The Fire-Rescue Department and Municipal Code contain the fire hazard severity zone maps and identify the fire protection very high fire hazard severity zone and local agency very high fire hazard severity zone for the City area of responsibility. The adopted Fire Hazard Severity Zone Maps from the Department of Forestry and Fire Protection are maintained and codified under Municipal Code §55.9401 and §145.0703(a)(2).

The very high fire hazard severity zones are located throughout the City. Inclusion within these zones is based five factors: density of vegetation; slope severity; five minute fire department response time; road class/proximity, and proximity to fire hydrants and CAL FIRE's vegetation cover and fire behavior/fuel spread model. Based on these factors, the zone encompasses a large portion of the City including most land use designations, major freeways and roads, various structures and major utilities and essential public facilities.

- **Brush Management.** The City's Wildland Management and Enforcement program provides information and guidelines on brush management and weed abatement in wildlands. The City of San Diego Fire Safety and Brush Management Guide summarizes guidelines for brush management in canyon areas and landscape standards. Municipal Code §142.0412 regulates brush management and requires 100 foot defensible space between structures and native wildlands. The City's Landscape Standards acknowledge fire safety is achieved by reducing flammable fuel adjacent to structures. Requirements are included for pruning and thinning native and naturalized vegetation, and revegetation with low fuel volume plantings.
- **Fire Access Roads Policy.** The design and need for fire access roadways for new and existing buildings are regulated by this Fire-Rescue Department policy. Both public streets and private roadways fall under the scope of this policy.
- **Emergency Preparedness Education.** The Fire-Rescue Department has prepared a wildland fire public education action guide that provides a public resource for fire safety advance planning. The City's Office of Homeland Security provides public resources for emergency preparedness planning.



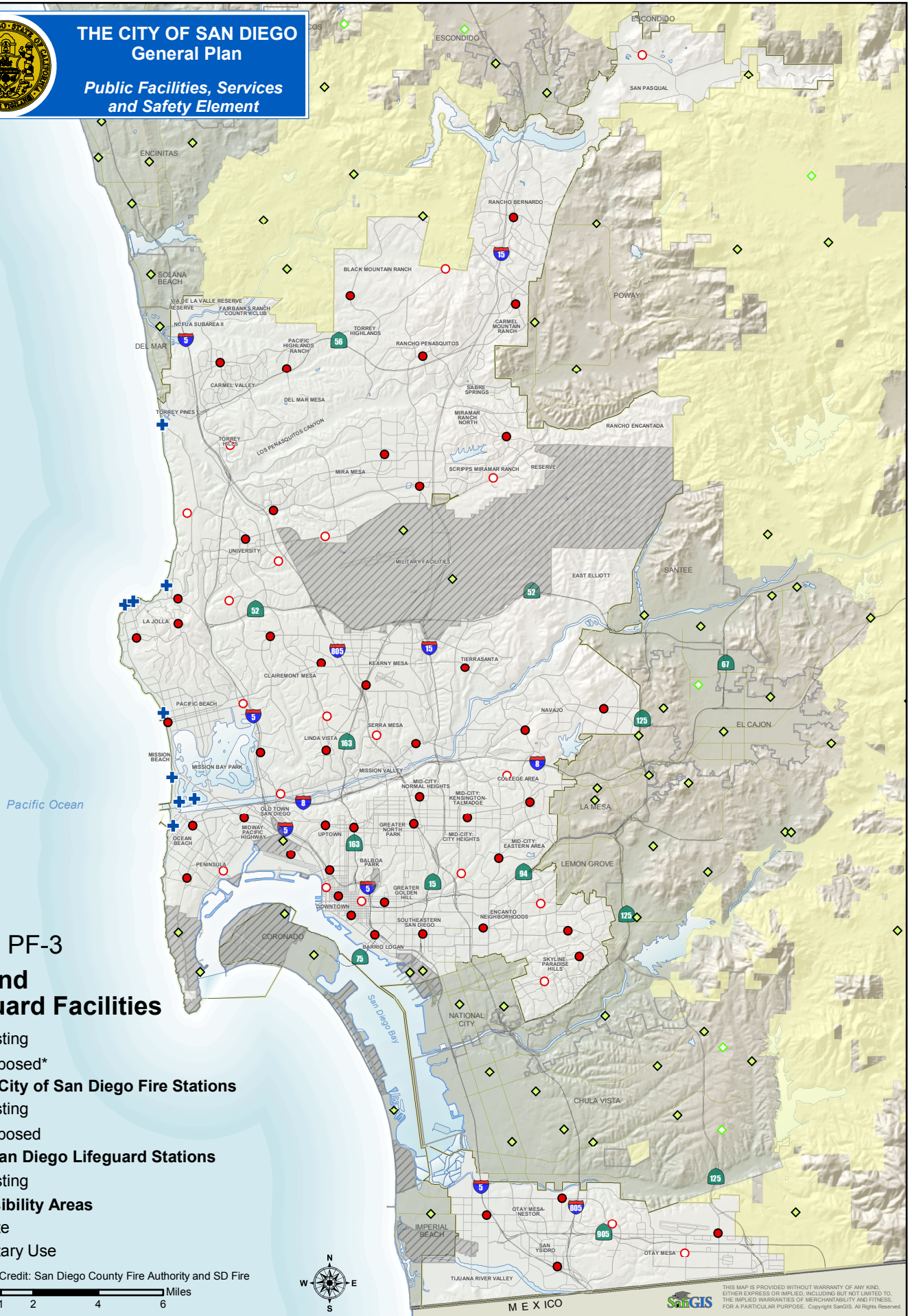
- **Hazard Mitigation & Emergency Preparedness Plans.** The San Diego Fire Rescue Department is responsible for the preparation, maintenance, and execution of Fire Preparedness and Management Plans and participates in multi-jurisdictional disaster preparedness efforts. The San Diego County Multi-Jurisdictional Hazard Mitigation Plan identifies risks posed by natural and manmade disasters including fires, earthquakes, landslides, and floods and ways to minimize damage from those disasters. In the event of a large wildfire within or threatening City limits, they could be assisted by state and federal agencies, or other jurisdictions. Disaster Preparedness, Section P provides additional information and policies related to disaster preparedness and County-wide efforts for emergency service coordination.
- **Fire Service Standards of Deployment Study.** The 2017 study provides recommendations that take into account the challenges posed by San Diego's topography and road network, and the wide range of firefighting, other emergency response, and risks that are present in the City including wildland fires for existing and future needs.





# THE CITY OF SAN DIEGO General Plan

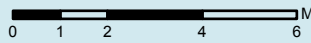
## Public Facilities, Services and Safety Element



**Figure PF-3  
Fire and  
Lifeguard Facilities**

- Existing
- Proposed\*
- Outside City of San Diego Fire Stations**
- ◆ Existing
- ◆ Proposed
- City of San Diego Lifeguard Stations**
- ⊕ Existing
- Responsibility Areas**
- State
- ▨ Military Use

\*Source and Credit: San Diego County Fire Authority and SD Fire





## Policies

### *Fire Service & Infrastructure*

PF-D.1. Locate, staff, and equip fire stations to meet established response times as follows:

- a) To treat medical patients and control small fires, the first-due unit should arrive within 7.5 minutes, 90 percent of the time from the receipt of the 911 call in fire dispatch. This equates to 1-minute dispatch time, 1.5 minutes company turnout time and 5 minutes drive time in the most populated areas.
- b) To provide an effective response force for serious emergencies, a multiple-unit response of at least 17 personnel should arrive within 10.5 minutes from the time of 911-call receipt in fire dispatch, 90 percent of the time.
  - This response is designed to confine fires near the room of origin, to stop wildland fires to under 3 acres when noticed promptly, and to treat up to 5 medical patients at once.
  - This equates to 1-minute dispatch time, 1.5 minutes company turnout time and 8 minutes drive time spacing for multiple units in the most populated areas.

TABLE PF-D.1 Deployment Measures To Address Future Growth by Population Density per Square Mile

	>1,000- people/sq. mi.	1,000 to 500 people/sq. mi.	500 to 50 people/sq. mi. *	Permanent open space areas
1 <sup>st</sup> Due Travel Time	5 minutes	12 minutes	20 minutes	10 minutes
Total Reflex* Time	7.5 minutes	14.5 minutes	22.5 minutes	12.5 minutes
1 <sup>st</sup> Alarm Travel Time	8 minutes	16 minutes	24 minutes	15 minutes
1 <sup>st</sup> Alarm Total Reflex*	10.5 minutes	18.5 minutes	26.5 minutes	17.5 minutes

\*Reflex time is the total time from receipt of a 9-1-1 call to arrival of the required number of emergency units.

PF-D.2. Determine fire station needs, location, crew size and timing of implementation as the community grows.





- a) Use the fire unit development performance measures (based on population density per square mile) shown in Table PF-D.1 to plan for needed facilities. Where more than one square mile is not populated at similar densities, and/or a contiguous area with different density types aggregates into a population cluster area, use the measures provided in Table PF-D.2.
- b) Reflect needed fire-rescue facilities in community plans and associated facilities financing plans as a part of community plan updates and amendments.

TABLE PF-D.2 Deployment Measures To Address Future Growth by Population Clusters

Area	Aggregate Population	First-Due Unit Travel Time Goal
Metropolitan	> 200,000 people	4 minutes
Urban-Suburban	< 200,000 people	5 minutes
Rural	500 - 1,000 people	12 minutes
Remote	< 500	> 15 minutes

PF-D.3. Monitor, and maintain adopted service delivery objectives based on time standards for all fire, rescue, emergency response, and lifeguard services.

PF-D.4. Provide adequate fire station site area (typical site is approximately 0.75 acre) and allow room for station expansion with additional considerations:

- Consider the inclusion of fire station facilities in villages or development projects as an alternative method to the acreage guideline;
- Where density and development constrain site size consider a multi-story station;
- Acquire adjacent sites that would allow for station expansion as opportunities allow; and
- Gain greater utility of fire facilities by pursuing joint use opportunities such as community meeting rooms or collocating with police, libraries, or parks where appropriate.

PF-D.5. Maintain service levels to meet the demands of continued growth and development, tourism, and other events requiring fire-rescue services.

- a. Provide additional response units, and related capital improvements as necessary, whenever the yearly emergency incident volume of a single unit providing coverage for an area increases to the extent that availability of that



unit for additional emergency responses and/or non-emergency training and maintenance activities is compromised. An excess of 2,500 responses annually requires analysis to determine the need for additional services or facilities.

- PF-D.6. Provide public safety related facilities and services to assure that adequate levels of service are provided to existing and future development.
- PF-D.7. Evaluate fire-rescue infrastructure for adherence to public safety standards and sustainable development policies (see also Conservation Element, Section A).
- PF-D.8. Invest in technological advances that enhance the City's ability to deliver emergency and fire-rescue services more efficiently and cost-effectively.
- PF-D.9. Provide and maintain a training facility and program to ensure fire-rescue personnel are properly trained.
- PF-D.10. Buffer or incorporate design elements to minimize impacts from fire stations to adjacent sensitive land uses, when feasible.
- PF-D.11. Space oceanfront seasonal lifeguard towers every 1/10 of a mile or ten towers per mile.

#### *Wildfire Planning*

- PF-D.12. Protect communities from unreasonable risk of wildfire within very high fire hazard severity zones.
  - a. Assess site constraints when considering land use designations near wildlands to avoid or minimize wildfire hazards as part of a community plan update or amendment. (see also LU-C.2.a.4)
  - b. Identify building and site design methods or other methods to minimize damage if new structures are located in very high fire hazard severity zones on undeveloped land and when rebuilding after a fire.
  - c. Require ongoing brush management to minimize the risk of structural damage or loss due to wildfires.
  - d. Provide and maintain water supply systems to supplies for structural fire suppression.
  - e. Provide adequate fire protection. (see also PF-D.1 and PF-D.2)
- PF-D.13. Incorporate fire safe design into development within very high fire hazard severity zones to have fire-resistant building and site design, materials, and landscaping as part of the development review process.



- a. Locate, design and construct development to provide adequate defensibility and minimize the risk of structural loss from wildland fires.
  - b. Design development on hillsides and canyons to reduce the increased risk of fires from topography features (i.e., steep slopes, ridge saddles).
  - c. Minimize flammable vegetation and implement brush management best practices in accordance with the Land Development Code.
  - d. Design and maintain public and private streets for adequate fire apparatus vehicles access (ingress and egress), and install visible street signs and necessary water supply and flow for structural fire suppression.
  - e. Coordinate with the Fire-Rescue Department to provide and maintain adequate fire breaks where feasible or identify other methods to slow the movement of a wildfire in very high fire hazard severity zones.
- PF-D.14. Implement brush management along City maintained roads in very high fire hazard severity zones adjacent to open space and canyon areas.
- PF-D.15. Maintain access for fire apparatus vehicles along public streets in very high fire hazard severity zones for emergency equipment and evacuation.
- PF-D.16. Provide wildland fire preparedness education for fire safety advance planning.
- PF-D.17. Coordinate with local, state, and federal fire protection agencies with respect to fire suppression, rescue, mitigation, training and education.
- PF-D.18. Coordinate with local, state, and federal agencies to update emergency, evacuation, and hazard mitigation plans, as necessary (also see section PF-P. Hazard Mitigation & Disaster Preparedness).
- PF-D.19. Support city-wide emergency and disaster preparedness education programs. (Also see Section PF-P. Hazard Mitigation & Disaster Preparedness)
- PF-D.20. Locate, when feasible, new essential public facilities outside of very high fire hazard severity zones, including but not limited to, hospitals and health care facilities, emergency shelters, emergency command centers, and emergency communication facilities, or identify construction methods or other methods to minimize damage if these facilities are located in very high fire hazard severity zones.

These policies are implemented through the General Plan Action Plan and the Mitigation Monitoring and Reporting Program for the City of San Diego General Plan Final Environmental Impact Report.



## P. Hazard Mitigation & Disaster Preparedness

### Goals

- ◆ A city and region that, through diligent planning, organizing, and training is able to prevent, respond to, and recover from man-made and natural disasters.
- ◆ Reduced disruptions in the delivery of vital public and private services during and following a disaster.
- ◆ Prompt and efficient restoration of normal City functions and activities following a disaster.
- ◆ A resilient and sustainable community achieved through equity, environment, economy, and governance.

### Discussion

Many natural and man-made events and processes carry the risk of hazard to life and property. Natural hazards arise from a community's many physical relationships to the natural environment. Hazard risk also results from human-caused intentional acts and disruption or failure of technology. A resilient community has the capacity to maintain critical functions during hazard events as well as adapt to and reduce future hazard risks.

Hazard mitigation is any sustained action taken to reduce or eliminate the long-term risk to life and property from hazard events. An effective response to natural and human-caused disasters requires planning, education, coordination and training by multiple government agencies and the public.

San Diego's location within a seismically active coastal region with a semi-arid climate creates potential sources of natural environmental hazards. Significant hazard risks occur due to earthquakes, landslides, wildland fires, and flooding. Climate variability, such as periodic droughts and high volume rain events, increase hazard risks. The San Diego region, as like the state of California, relies on relatively vast infrastructure and higher technological inputs to sustain daily life and the region's economy. Failure of this infrastructure can therefore cause significant disruption and disconnection of necessary public and private services.

#### *Climate Adaptation*

San Diego's Climate Action Plan (CAP) provides measures to reduce human-caused greenhouse gas emissions and enhance carbon storage, or sequestration, as a local response to mitigate global climate change and comply with state and federal legislation



(also see the Conservation Element Discussion on Climate Change). Some degree of climate change will occur regardless of the City's effort to reduce and mitigate greenhouse gas emissions. The City will need to adapt to these changes within the context of the community's environmental and socioeconomic system.

Community resilience is maintaining desired socio-ecological functions when relatively sudden changes occur through implementation of adaptation practices that can reduce vulnerability of human and wildlife populations. Forecasted effects to San Diego from climate change include increased temperatures, precipitation extremes (more severe periods of drought and flooding), and rising sea levels. Exposure to these events can leave a community vulnerable to an increased rate of wildland fires, flooding, coastline erosion, reduced air quality, availability of fresh water, and negative impacts on wildlife. All of these effects can potentially generate multiple concomitant effects on public health and safety.

### *Hazard Mitigation Planning*

The City participates in the San Diego County's Multi-Jurisdictional Hazard Mitigation Plan. The countywide plan identifies risks posed by natural and manmade disasters including fires, earthquakes, landslides, and floods and ways to minimize damage from those disasters. The plan serves many purposes, including enhancing public awareness and understanding, creating a decision tool for management, promoting compliance with state and federal program requirements, enhancing local policies for hazard mitigation capability, and providing inter-jurisdictional coordination. The federal government requires all local governments to create such a disaster plan in order to qualify for disaster relief funding.

The State requires local jurisdictions to integrate climate adaption into the general plan to support the State's overall climate adaption strategy. The City will develop climate resiliency and adaptation strategies and work with stakeholders on amendments to San Diego County's Multi-Jurisdictional Hazard Mitigation Plan to address this issue.

Land use planning, implemented through the City's municipal code, is an important component of hazard mitigation. Site selection that avoids proximity to natural hazards or hazardous facilities, and building construction techniques designed for fire protection, life safety and temporary systems failure, can reduce hazard risks within the built environment.



### *Disaster Preparedness*

The City's disaster preparedness program emphasizes the prevention of, response to, and recovery from natural, technological, and man-made disasters including acts of terrorism. The program is designed to improve the City's ability to protect employees, the community, and the environment; and to enhance its ability to recover from financial losses, regulatory fines, damages to facilities or equipment, and other impacts on service delivery or business continuity.

Prevention of disasters addresses prevention, mitigation, and educational activities which reduce or eliminate a threat, or reduce its impact on life, health, and property. The response efforts incorporate the functions of planning, training, exercising, and execution and are conducted in accordance with U.S. Department of Homeland Security Office of Domestic Preparedness requirements. In the event of a disaster, recovery efforts, including Local Assistance Center (LAC) operations, are generally oriented toward activities that focus on returning to normalcy after an event. Key to recovery is the process of identifying critical services and their dependencies on infrastructures such as buildings, power, communications, and data systems.

The City's disaster preparedness efforts also include oversight of the City's Emergency Operations Center (EOC). The effort is responsible for maintaining the EOC in a continued state of readiness, training City staff and outside agency representatives in their roles and responsibilities, and coordinating EOC operations when activated in response to an emergency or major event/incident. Additionally, the City is responsible for the development and maintenance of emergency operational documents and guides for City facilities, Qualcomm Stadium, Petco Park, and potential major events or incidents.

National and international events continue to focus attention on homeland security and public safety issues. The City is coordinating efforts to improve staff's ability to manage vital information and limited resources during a major emergency such as an earthquake, chemical spill, or act of terrorism, through the use of technology. The City is also responsible for securing and managing homeland security and other grant funds

*All emergency responders and Emergency Operation Center (EOC) and Department Operation Centers (DOC) operate under the National Incident Management System (NIMS) and the Standardized Emergency Management System (SEMS). NIMS provides a consistent, flexible, and adjustable national framework within which Federal, State, territorial, tribal, and local governments can work effectively and efficiently together to prepare for, prevent, respond to, and recover from domestic incidents, regardless of their cause, size, location, or complexity. NIMS is required by Homeland Security Presidential Directive (HSPD)-5. SEMS, which integrates NIMS, is intended for managing response to multi-agency and multi-jurisdiction emergencies in California and is required by Government Code §8607(a).*



to enhance its, and the region's, security and overall preparedness to prevent, respond to, and recover from any hazard whether natural or man-made.

## Policies

PF-P.1. Ensure operational readiness of the City's EOC.

PF-P.2. Establish communications with all City elected officials and managers regarding Office of Homeland Security issues.

PF-P.3. Develop and maintain current, integrated, and comprehensive Emergency Operations and Disaster Plans on an annual basis (see also PF-H.3).

a. Prepare and maintain a comprehensive multi-modal evacuation plan.

PF-P.4. Coordinate the development and implementation of a City business continuity plan to ensure the continuity of operations and government in the event of a major disaster or emergency.

PF-P.5. Ensure that citywide guidelines for Operational Conditions (OPCON) are aligned with the U.S. Department of Homeland Security and integrated into each City department's procedures and Emergency Operations Plans.

PF-P.6. Coordinate citywide emergency management and disaster planning and response through the integration of key City departments into the preparedness and decision-making process.

PF-P.7. Develop a comprehensive exercise program consistent with the U.S. Department of Homeland Security Office of Domestic Preparedness requirements.

PF-P.8. Coordinate with other urban area jurisdictions to execute a variety of exercises to test operational and emergency plans.

PF-P.9. Collaborate with other local, regional, state, and/or federal jurisdictions and private entities to plan and promote the integration and improvement of regional response capabilities.

PF-P.10. Facilitate the execution of the City's Community Emergency Response Team (CERT) program to meet the requirements set forth by the Emergency



*City Administration Building Security*



Preparedness and Response directorate of the U.S. Department of Homeland Security and the San Diego Citizen's Corps Council.

- PF-P.11. Ensure that disaster recovery efforts involving the disposal of materials adhere to the policies in Section I of this element.
- PF-P.12. Develop, implement, and sustain a robust disaster preparedness community outreach and education program.
- PF-P.13. As part of the community plan update process, update plans and zoning to limit future development in hazard areas.
- PF-P.14. Continue to participate in and implement the San Diego County Multi-Jurisdictional Hazard Mitigation Plan to further coordinate hazard mitigation planning on a regional level.
- PF-P.15 Collaborate with local, regional, state and/or federal jurisdictions and agencies on climate resiliency and adaptation strategies.
- PF-P.16 Develop a climate resiliency plan that integrates and builds upon the strategies identified in the General Plan and Climate Action Plan.
- PF-P.17 Monitor climate change-related effects with local, regional, state, and/or federal partners to provide information about the effectiveness of existing infrastructure and programs.