Costa Mesa Fire & Rescue Paramedics vehicle

Chapter 8:
Safety Element

Introduction

The City of Costa Mesa emphasizes community safety as a foundation for quality neighborhoods, strong business investment, and inviting public spaces. The City fosters safe and secure environments by recognizing potential hazards and developing plans that guard against disruption and threats to the public welfare.

Purpose

The Safety Element identifies and evaluates public health and safety hazards, and provides measures that can reduce unreasonable risks and minimize potential losses in the event of natural or human-caused disasters. The Safety Element addresses emergency preparedness and coordinated response, police and fire protection, and emergency services by:

- Reviewing the regulatory framework that guides public safety planning efforts
- Highlighting key findings and recommendations based on assessed conditions
- Establishing goals with respect to public safety and welfare
- Defining the policies and implementing actions to address public safety issues
- Identifying lead responsibilities for each implementation action

Legal Requirements

Section 65302(g) of the California Government Code requires that General Plans include a Safety Element for the protection of the community from any unreasonable risks associated with wildland and urban fires, flooding, and known geologic hazards. Geologic risks are defined as those associated with geologic hazards such as seismically induced surface rupture, ground shaking, ground failure, tsunamis, seiches and dam failure, and slope instability leading to mudslides, landslides, and subsidence. Importantly, the law requires that the Safety Element address emergency response and preparedness, including evacuation routes, operations associated with military installations, peak load water supply requirements, minimum road widths, and clearance around structures.

Baseline Conditions-2015

Like most coast-adjacent urban communities in California, Costa Mesa is exposed to many natural and human-caused hazards that require attention in the planning process. The City lies approximately one mile from the Pacific Ocean and thus is susceptible to flooding from tsunamis. The Santa Ana River, which runs along the eastern boundary, also presents potential flooding hazards. Additionally, Costa Mesa is exposed to earthquakes and other seismic hazards. Human activities such as the transport and manufacturing of hazardous materials create conditions that require attention.

Geology

Geologic Structure

Costa Mesa lies adjacent to the Downey and Tustin portion of the Coastal Plain, where sedimentary and volcanic rocks in the subsurface attain great thickness. These deposits are composed mainly of volcanic, marine and non-marine sedimentary rocks overlying a basement complex of granitic and metamorphic rock. The plain is immediately underlain by a thick sequence of alluvial sediments, which overlie the older sedimentary and volcanic rocks.

The main development of Costa Mesa is primarily on an uplifted mesa (Newport Mesa) bounded on the west, south, and east by steep cliffs (refer to Figure S-1, *Geologic Units*). Newport Mesa slopes gently northward from an elevation of 80 to 110 feet above sea level at the southern crest of the mesa to less than 40 feet above sea level at the northern boundary of the City. Approximately 80 percent of the City is located on this mesa.

Newport Mesa is the most southerly of a series of discontinuous low hills and plains that extend along the Newport-Inglewood structural zone from the Santa Monica Mountains southeast to Newport Beach. These topographic features are inferred from both physiographic and stratigraphic evidence to be essentially contemporaneous segments of the Sangamon Age (120,000 years Before Present) deformed lower terrace of the Palos Verdes Hills.

Soils

Soils within Costa Mesa are variable, ranging from a predominance of clay with some silty sand in the northern half of the City to a predominance of silty sand with some sand and clay in the southern half (refer to Figure S-2 *Soil Types*). These generalized units were derived from a more detailed soils map contained in the soil survey of Orange County.

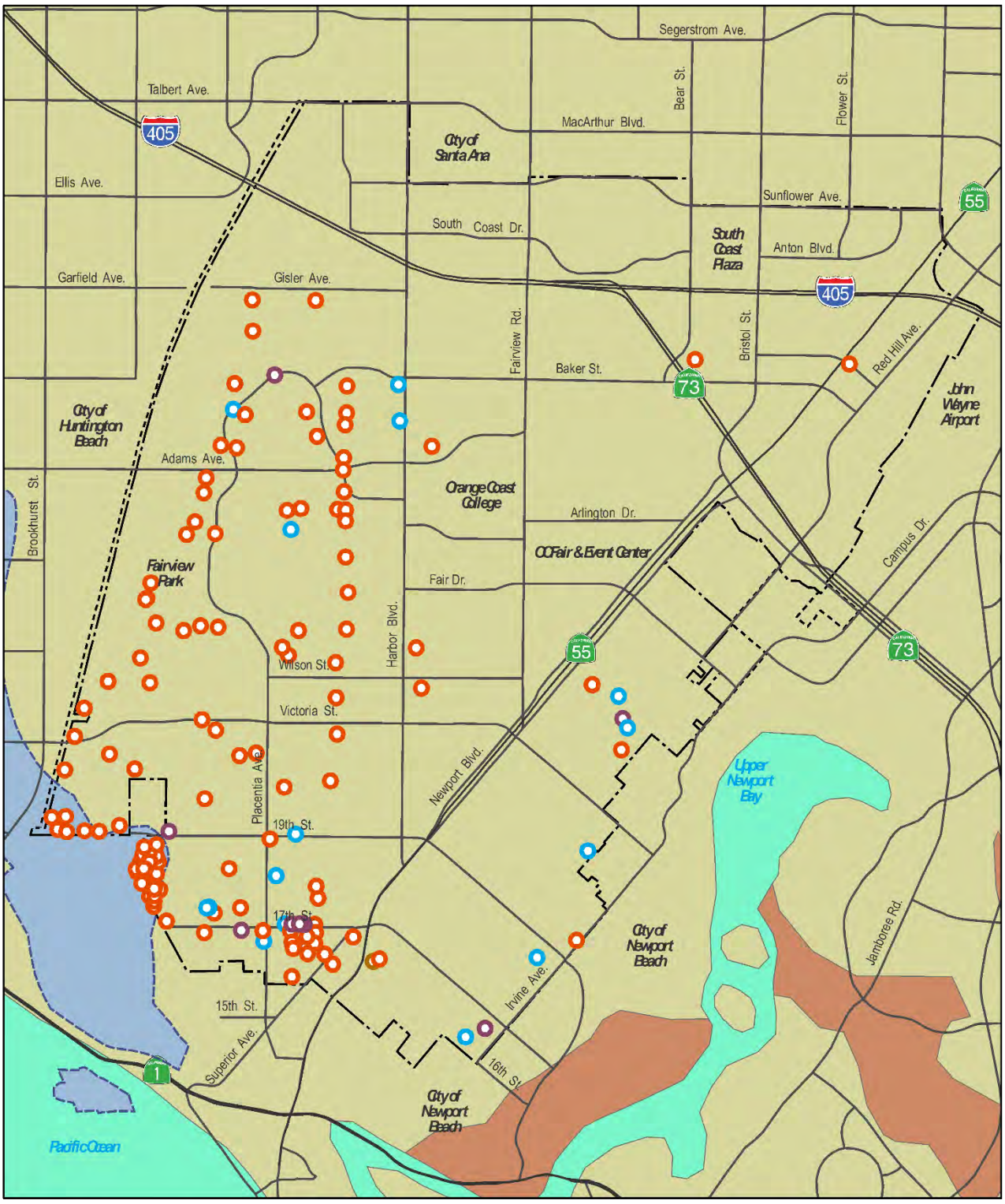
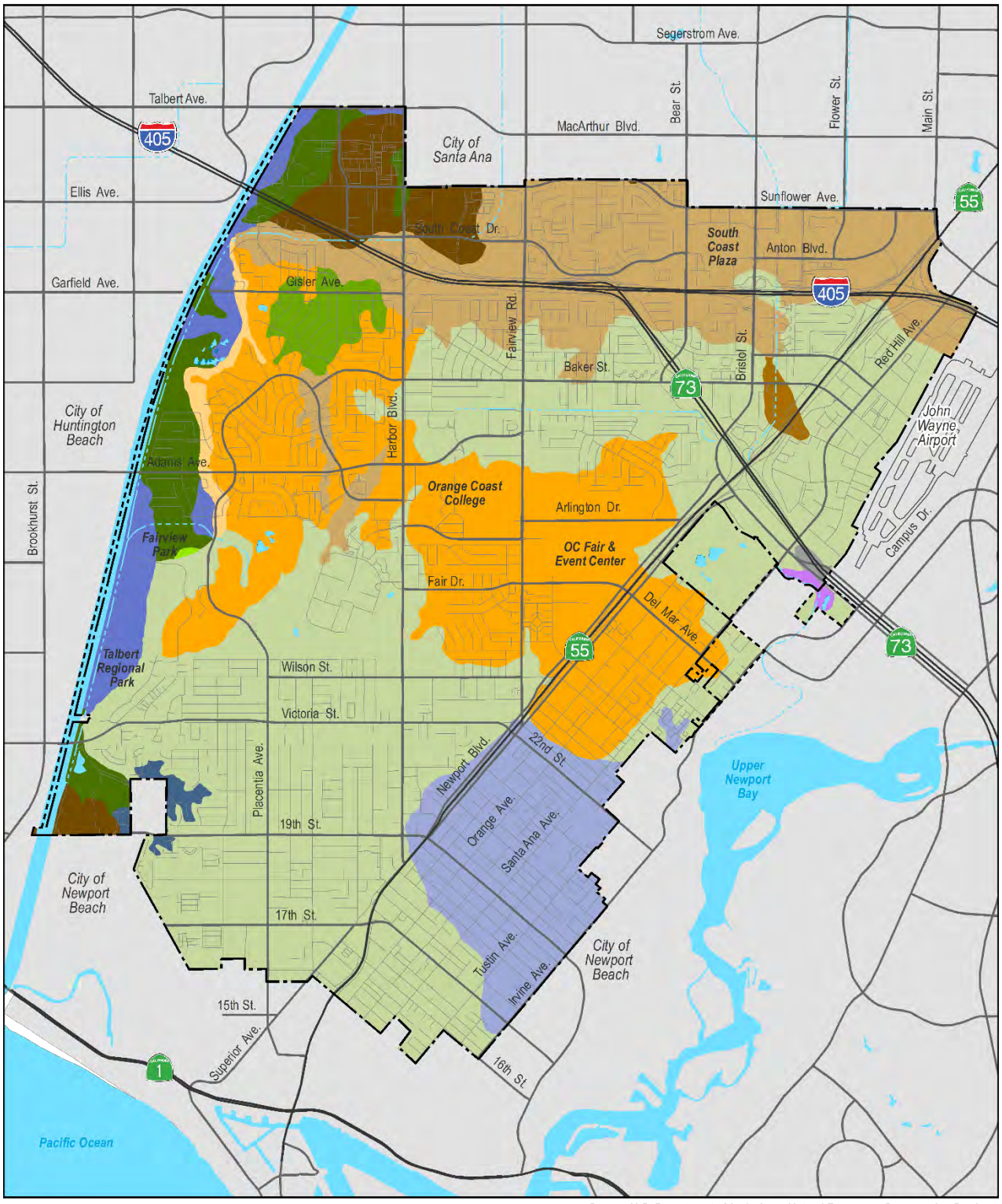


Figure S-1: Geologic Units



Soil Types

- Bosanko clay
- Cropley clay
- Omni clay
- Chino silty clay loam
- Bolsa silt loam
- Myford sandy loam
- Capistrano sandy loam
- San Andreas sandy loam
- Hueneme fine sandy loam
- Marina loamy sand
- Metz loamy sand
- Pits
- Riverwash
- Thapto-Histic Fluvaquents
- Water
- Xeralfic arents

Source: U.S. Department of Agriculture, Natural Resources Conservation Services, Soil Survey Geographic database for Orange, 2008.

0 1,000 2,000 4,000 6,000 8,000 Feet

Figure S-2: Soils

Mineral Resources

Oil

Portions of Costa Mesa overlay the West Newport Oil Field, which is located west of Placentia Avenue, along the City's western boundary (refer to Figure S-1, *Geologic Map*).

Currently the only active oil wells in Costa Mesa operate in the West Newport Field west of Whittier Avenue between 17th and 19th Streets. These wells produce a relatively low quality crude oil and remained in operation through the mid-1990s.

Peat Deposits

Peat deposits are located adjacent to the Santa Ana River and in the vicinity of Upper Newport Bay. The size of the deposits in Costa Mesa is not sufficient to justify extraction. However, peat does provide an unstable base for construction and must be removed prior to development.

Seismic Hazards

Costa Mesa is in the vicinity of several known active and potentially active earthquake faults, including most notably the Newport-Inglewood Fault Zone and the San Joaquin Hills Fault Zone. Other faults such as the San Andreas, Whittier, Elsinore, Palos Verdes, and Puente Hills Faults are predicted to affect Costa Mesa with strong shaking but light damage. An earthquake along these faults may have more indirect impacts such as the need to provide mutual aid, an infusion of those seeking housing, and other mass care or sheltering services.

Ground Shaking

Ground shaking is the phenomenon most often associated with seismic activity. The intensity of ground shaking and relative earthquake damage are heightened with earthquake magnitude, proximity to faults, and the presence of deeper soft soils below the ground surface. The intensity of earthquakes is measured, or expressed, in terms of two scales: the Richter scale and the Modified Mercalli Intensity scale. The Richter scale measures the strength of an earthquake and assigns it a magnitude number using a base-10 logarithmic scale. For example, a magnitude 5.0 earthquake would result in 10 times the level of ground shaking as a magnitude 4.0 earthquake. The Modified Mercalli Intensity scale describes the intensity of an earthquake in terms of observable

impacts, ranging from I (Not Felt) to XII (Extreme). The effects of ground shaking in Costa Mesa will vary considerably depending upon the distance of a seismic event relative to the city. Ground shaking from distant events (more than 40 miles away) will be of a different nature than events that occur within 10 miles. Also, the duration of strong ground shaking is another important factor related to seismic activity.

Five regional major faults—the Newport-Inglewood, San Joaquin Hills, Whittier, San Andreas, and San Jacinto—present a seismic hazards to the City. In addition, the El Modeno, Norwalk, Palos Verdes, 4-S Ranch, and Aliso fault pose lesser seismic hazards due to their localized extent. Figure S-3, *Regional Faults*, locates the fault zones of concern, and the descriptions below provide details about each fault.

Newport-Inglewood Fault. The Newport-Inglewood Fault extends approximately 47 miles south from the Santa Monica Mountains to Newport Beach and traverses Costa Mesa. The fault, considered the most active in California, roughly parallels the coastline from the Santa Monica Mountains until just south of Newport Bay, where it heads offshore for an unknown distance.

- **Newport-Inglewood – Rose Canyon Fault Zone**. The fault is seismically active and is approximately 3.5 miles wide within the City. The largest earthquake triggered by the fault zone was the 1933 Long Beach earthquake, which had a magnitude of 6.3 (Richter scale). The earthquake resulted in strong ground shaking in Costa Mesa, as well as in other portions of Southern California.
- **San Joaquin Hills Fault.** The San Joaquin Hills Fault is a recently discovered southwest-dipping blind thrust fault originating near the southern end of the Newport-Inglewood Fault near Huntington Beach at the western margins of the San Joaquin Hills. Rupture of the entire area of this blind thrust fault could generate an earthquake as large as M 7.3. In addition, a minimum average recurrence interval of between about 1,650 and 3,100 years has been estimated for moderate-sized earthquakes on this fault.

Figure S-3: Regional Faults

- **Whittier Fault.** The Whittier Fault extends approximately 20 miles from the Whittier Narrows (near Whittier) to the southeast of the Santa Ana River. The fault is located approximately 20 miles northeast of Costa Mesa. The most notable seismic event associated with the Whittier Fault was the 1987 Whittier Narrows quake, measuring 5.9 on the Richter scale. While significant damage occurred in the San Gabriel Valley near the epicenter, properties in Costa Mesa did not experience substantial adverse effects.
- **San Andreas Fault.** The 745-mile San Andreas Fault is the best known among all California faults due to its historic seismic activity and destructive capabilities. The fault is expected to produce a probable magnitude of M 6.8-8.0. The center section of the fault ruptured the ground surface during the 1857 Fort Tejon Earthquake and caused considerable damage over thousands of square miles. The fault is located on the northeastern flank of the San Bernardino Mountains approximately 48 miles from Costa Mesa. It is possible that the future movements along the San Andreas Fault Zone will produce simultaneous ruptures or "double earthquakes." A major earthquake occurs on this zone once every 145 years, and 2002 marked 145 years after the Fort Tejon Earthquake.
- **San Jacinto Fault.** The San Jacinto Fault extends over 180 miles from its junction with the San Andreas Fault in San Bernardino County. It has produced several damaging earthquakes over recorded history. The most notable is the 1940 Imperial County Earthquake. The fault is located approximately 44 miles from the City.

Differential Compaction or Settlement

Differential ground settlement is caused by earthquake ground shaking and is potentially damaging to structures and underground utilities. Differential settlement may occur in sediments where differences in densities in adjacent materials lead to different degrees of compaction during ground shaking. Post-earthquake differential settlement may occur within the known peat deposits located in the City.

Liquefaction

Liquefaction describes a condition whereby saturated, loose, fine-grained sediment assumes a fluid-like state when subjected to intense ground shaking

or other disruptive seismic events. Like landslides and mudflows, liquefaction is a form of ground failure. It can occur when susceptible soils strength and their stiffness decreases during an earthquake, which reduces the soil's ability to support foundations for buildings, bridges, or other structures. Even though Costa Mesa has been subject to strong ground shaking in the past, historical records do not confirm an instance of liquefaction occurring in the City. However, failure due to liquefaction has been reported in the nearby cities of Huntington Beach and Newport Beach. As a result, the potential exists for liquefaction to occur in localized sections within the northwest and western portions of the City, as shown in Figure S-4, *Local Seismic Hazards*.

Ground Cracking, Ground Lurching, Lateral Spreading, and Slope Stability

Most often associated with liquefaction, ground lurching and cracking are caused by moderate to strong ground shaking. Typically, the potential for ground cracking exists within areas of Costa Mesa that have a moderate to high potential for liquefaction and in regions of known peat deposits. The conditions for ground lurching and lateral spreading may be present along the bluffs adjacent to the Santa Ana River and Newport Bay.

Slope stability hazards include landslides, rock falls, mudslides, and avalanches. Since local topography consists of generally flat to gently sloping terrain, the potential for these hazards is minimal. However, the potential exists for earth movement during strong ground shaking along the bluffs along the southern portion of the City.

Surface Faulting

Surface faulting is the rupture of the ground surface along a fault. The only active fault that traverses Costa Mesa is the Newport-Inglewood Fault. Although this fault is defined as active, surface rupture does not appear to be a significant potential hazard since no historic such event has been observed.

Tsunamis

Costa Mesa is three-quarters of a mile inland from the Pacific Ocean at elevations ranging between 30 to 100 feet above sea level. The southern portion of the City sits on bluffs overlooking Newport Beach. Consequently, the potential for tsunamis affecting Costa Mesa is negligible.

Figure S-4: Local Seismic Hazards

However, areas located along the Santa Ana River Channel may be susceptible to the effects of tsunamis that travel up river.

Seiches

The absence of any large bodies of water within Costa Mesa and the location of high bluffs adjacent to Newport Bay reduce the possibility of damage from seiche effects.

Key Seismic Hazards Issues

Seismic Hazards

Regional and local fault zones pose significant ground shaking, ground cracking, ground lurching, lateral spreading, differential compaction, and settlement hazards that could result in widespread upset in Costa Mesa in the event of a major earthquake. Properties near the bluffs and Santa Ana River are exposed to seismically induced slope failure and instability.

Liquefaction

Although there is no historical evidence of structural damage to buildings as a result of liquefaction, there have been some recorded events that have occurred in Huntington Beach and Newport Beach. Liquefaction-induced structural damage is more likely to occur in buildings that place heavy loads on their foundations, such as high-rise office or multi-family buildings. Buildings with only lightly loaded foundations, such as single-family homes, or those that spread the load over a larger area, are less susceptible to damage. Liquefaction hazards can be reduced through soil mitigation and structural strengthening. A site-specific liquefaction assessment, performed by a geotechnical engineer or engineering geologist, can address the actual liquefaction potential of the soils.

Seismically Induced Water Waves

If a seismic event were to trigger a tsunami, low-lying areas along the Santa Ana River may be subject to flooding. The amount of flooding would be dependent on the size of the earthquake and strength of the tsunami.

Hydrology/Drainage

Flood Hazards

Costa Mesa sits alongside the Santa Ana River. This regional water feature presents a potential flooding hazard, as it drains Southern California's largest watershed, originating in the San Bernardino Mountains and draining over 3,000 square miles. Significant flood control improvements have been installed along the river course, with the goal of protecting properties along its route from flooding hazards. The Flood Insurance Rate Maps prepared by the Federal Emergency Management Agency (FEMA) identify areas located within the City that are susceptible to 100-year and 500-year floods. In the event of a 500-year flood, the northern and western boundaries of Costa Mesa would be susceptible to flooding, as shown in Figure S-5, *Local Flooding Hazards*. In the event of a 100-year flood, minimal flooding is expected to occur within the flood channels adjacent to the Talbert Nature Preserve.

Dam Inundation

The Santiago Creek Dam and Prado Dam provide flood protection for numerous cities within Orange County, including Costa Mesa. Prado Dam is located at the border of Orange and Riverside Counties, approximately 30 miles from Costa Mesa. Dam construction was completed in 1941, and the U.S. Army Corps of Engineers continues to make phased improvements on the structure. The height of Prado Dam has been raised to 28 feet, and a new intake tower and outlet have been added. Those improvements added 140,000 acre-feet to the basin and increased the dam's level of protection to 190 years.

The Santiago Creek Dam, located near Irvine, is approximately 15 miles from the City. Dam construction occurred in 1931. In the event of a failure at either dam, portions of Costa Mesa are susceptible to potential flooding. These dam inundation areas are primarily located in the northern and western portions of the City, as shown in Figure S-6, *Dam Inundation Areas*.

Drainage Facilities

Local drainage facilities—storm drains, channels, and retention and detention basins—are designed to control and manage storm water and urban runoff and to protect properties from flooding. Engineers size and design local and regional drainage facilities based on historical flooding data and an understanding of how urban development affects storm flows.

Flood Zones

100-Year Flood Zone

Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

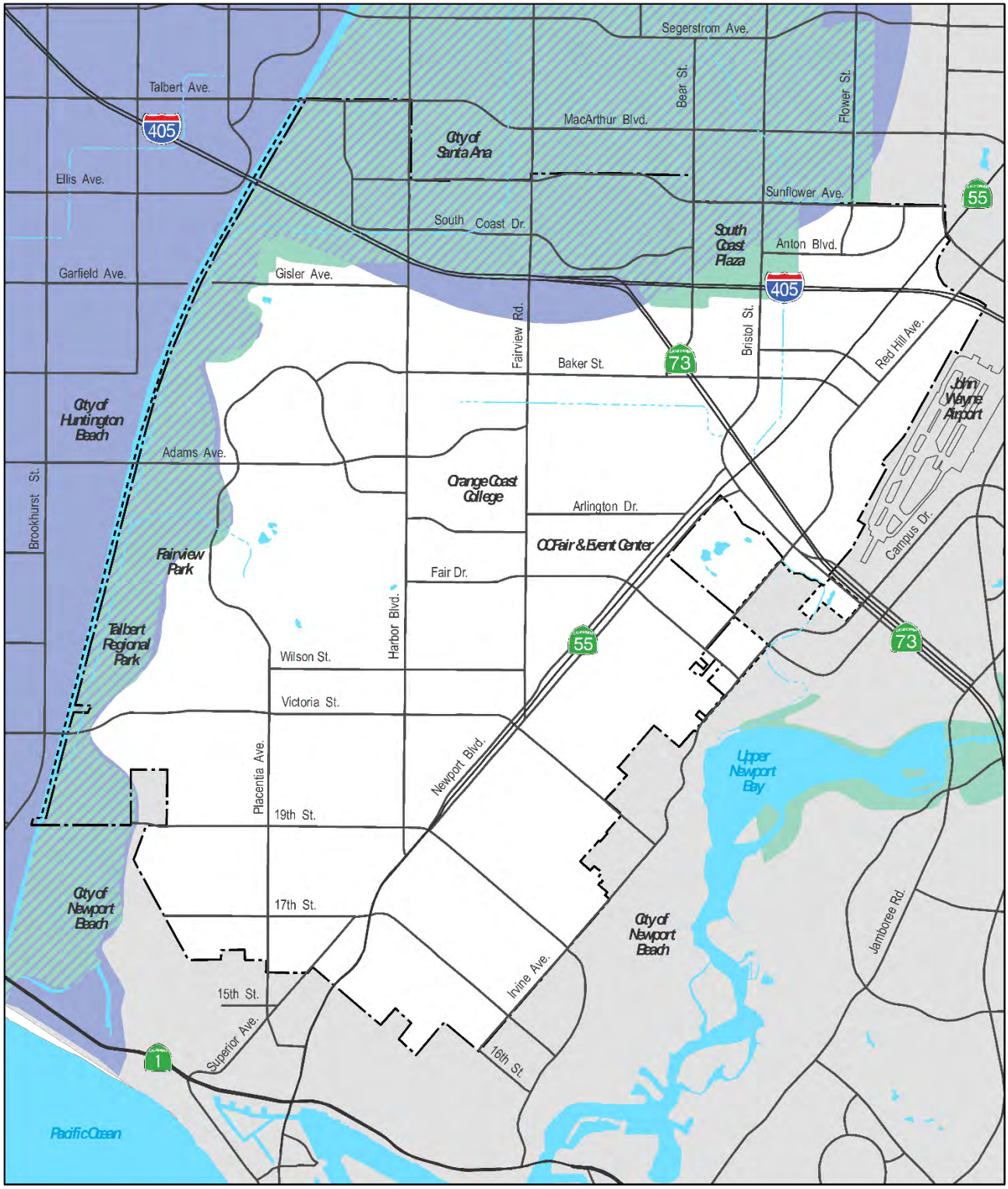
500-Year Flood Zone

Special flood hazard areas subject to inundation by the 1% annual chance flood

Source: Federal Emergency Management Agency (FEMA), National Flood Insurance Program, Flood Insurance Rate Maps (FIRMs), 2009.

0 1,000 2,000 4,000 6,000 8,000 Feet

Figure S-5: Local Flooding Hazards



Indundation Areas - Potential Flooding Due to Dam Failure

- Santiago Creek Inundation Area
- Prado Dam Inundation Area
- Inundation Areas Overlap

Source: California Department of Water Resources, 2013

0 1,000 2,000 4,000 6,000 8,000 Feet

Figure S-6: Dam Inundation Areas

Master plans identify any existing and future system deficiencies, and define improvements needed to provide a high level of flood protection. The City's Master Drainage Plan identifies numerous specific projects that will improve the storm drain system. Continued implementation of the plan provides the City with appropriate control and management over local drainage concerns.

Sea Level Rise

Scientific data strongly suggests that long-term changes in the Earth's climate over the next century and beyond will lead to the possibility of rises in sea levels around the world. In Southern California, sea level rise could result in increased flooding in low-lying areas along the shoreline, water infiltration into sanitary sewer and storm drain systems that outlet into or near the Pacific Ocean, and an increase in storm drain back-ups. All of these effects could result in more frequent and extensive flooding. Given Costa Mesa's location near the coast and along the Santa Ana River, the City could be expected to experience the effects of sea level rise. As shown in Figure S-7, *Tsunami and Sea Level Rise Hazard Areas*, by 2100 areas along the Santa Ana River may be inundated by unimpeded Pacific Ocean water.

Key Hydrology/Drainage Issues

Localized Flooding

Localized flooding issues are largely addressed through the City's Master Drainage Plan. Local agencies, including Costa Mesa Public Works and the County of Orange Flood Division, must formulate disaster preparedness plans to guard against and respond to large storms that could bring widespread flooding related issues.

Santa Ana River Flood Hazards and Sea Level Rise

Properties along the Santa Ana River are exposed to flood hazards associated with major storm events, possible tsunamis, and longer-term effects of unmitigated sea level rise.

Dam Inundation

Properties in the northern and western portions of the City lie within the inundation paths of Santiago Creek and Prado Dams. The likelihood of dam failure is very low, but cannot be discounted.

Tsunami Inundation

Tsunami Hazard Zone

This tsunami inundation area was prepared to assist cities in identifying their tsunami hazard. It is intended for local jurisdictional, coastal evacuation planning uses only.

Sea Level Rise Impact

Sea Level Rise (Year 2100)

Areas inundated by unimpeded Pacific coastal flooding under a scenario of 100-year flood with a 55-inch (1.4 meters) sea level rise.

Sources: Tsunami: California Emergency Management Agency, California Geological Survey, and University of Southern California, 2009. Sea-Level Rise: California Pacific Institute, Oakland, California, 2009.

0 1,000 2,000 4,000 6,000 8,000 Feet

Figure S-7: Tsunami and Sea Level Rise Hazard Areas

Aviation Hazards

John Wayne Airport, an international airport owned and operated by the County of Orange, borders Costa Mesa on the east, between SR-73 and I-405. The airport has two runways for commercial and private aircraft. In 2015, the airport served 9,386,033 passengers and 269,189 aircraft movements.

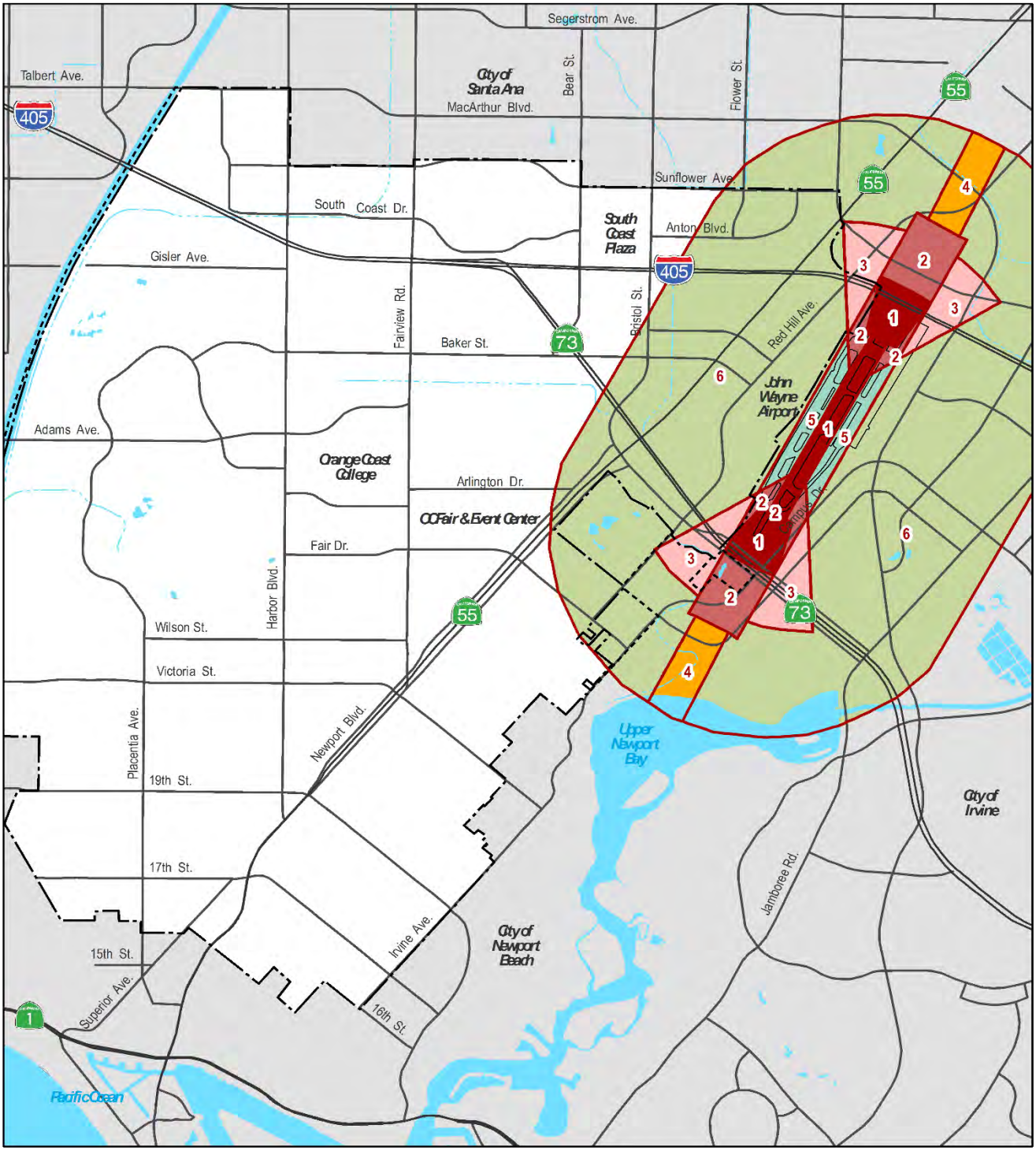
Section 21675 of the Public Utilities Code requires that counties establish an Airport Land Use Commission (ALUC) to develop a comprehensive land use plan for areas surrounding airports. These plans are to contain provisions focused on protecting the public from the adverse effects of aircraft noise, ensuring that people and facilities are not concentrated in areas with aircraft accident potential, and ensuring that structures or activities do not adversely affect navigable airspace. To fulfill the purpose of this plan, the Orange County ALUC has adopted aircraft noise, ground safety, and height restriction policies for land uses in the planning areas contained within the Airport Environs Land Use Plan (AELUP) for John Wayne Airport. Per the AELUP, most land uses and all buildings intended for human habitation are prohibited within the Runway Protection Zone due to severe potential for loss of life and property from accidents and aircraft operations. No portion of the City of Costa Mesa lies within the Runway Protection Zone.

The Airport Safety Zone Reference Map, Figure S-8, *John Wayne Airport Safety Zones*, establishes compatibility zones for different land uses and development patterns, as described in Table S-1, *Airport Basic Safety Compatibility Qualities*.

Key Aviation Hazards Issue

John Wayne Airport Safety and Emergency Response

As required by the Federal Aviation Administration (FAA) regulations, the John Wayne Airport must maintain plans for evacuation, handling of hazardous materials, and emergency response. Infrastructure (e.g., fire stations and sheriff substation) and personnel are all located onsite to serve this need. In the event of an aviation hazard, pilots are instructed to navigate along Newport Bay, away from residential or developed area. In the event of an accident, response operations coordination of all available emergency services personnel is to occur.



John Wayne Airport Safety Zones

- Zone 1: Runway Protection Zone
- Zone 2: Inner Approach/Departure Zone
- Zone 3: Inner Turning Zone
- Zone 4: Outer Approach/Departure Zone
- Zone 5: Sideline Zone
- Zone 6: Traffic Pattern Zone

Source: Land Use Plan for John Wayne Airport, Airport Land Use Commission, Airport Environs, 2008.

0 1,000 2,000 4,000 6,000 8,000 Feet

Figure S-8: John Wayne Airport Safety Zones

Emergency Protection and Response

Fire Protection

The Costa Mesa Fire Department operates six fire stations housing almost 100 professional and civilian members. The City's fire stations are located at the following addresses, as shown on Figure S-9, *Public Safety Facilities and Emergency Evacuation Routes*:

- 2803 Royal Palm Drive
- 2300 Placentia Avenue
- 800 Baker Street
- 2450 Vanguard Way
- 1865 Park Avenue
- 3350 Sakioka Drive

The City's Fire Department is responsible for community risk reduction, fire prevention and education, enforcement of fire protection laws, fire suppression, rescue, emergency medical services, hazardous materials response, and weed abatement. The Fire Department seeks to balance these various services through use of built-in fire protection, such as early warning and detection systems, automatic fire sprinklers, fire-resistive design of structures and materials, fire prevention inspections, and public education. In addition, the Fire Department utilizes a variety of emergency planning and preparation strategies to ensure the efficiency of fire and emergency services. The Fire Department also participates in the Orange County emergency warning system.

Safety Facilities and Evacuation Routes

- Fire Stations
- Police Headquarters
- Police Substations
- Evacuation Routes

Source: City of Costa Mesa, 2015.

0 1,000 2,000 4,000 6,000 8,000 Feet

Figure S-9: Public Safety Facilities and Emergency Evacuation Routes

Wildland and Urban Fires

The fire hazard severity of an area is determined based on the type and amount of vegetation (termed "fuel loading"), slope gradient, and weather. Fire hazards increase in the summer and fall when the weather is hot and dry—and especially when Santa Ana wind conditions occur. Areas identified as having a fire hazard are referred to as State Responsibility Areas (SRAs) because the State has the primary financial responsibility of preventing and suppressing fires. The agency responsible for suppressing fires in SRAs is the Department of Forestry and Fire Protection (Cal Fire). No part of Costa Mesa is listed as an SRA or located within the Very High Fire Hazard Severity Zone. Thus, urban and grassland fires within open space areas (such as Talbert Regional Park) represent the only fire risks in the City.

Emergency Medical Services

In addition to fire suppression, rescue, and community risk reduction duties, the Fire Department provides emergency medical services to the community. All fire engines in Costa Mesa double as paramedic engines and provide advanced life support. The ladder trucks are staffed with emergency medical technicians trained to provide basic life support. The program strives to satisfy the goal of responding to 80 percent of emergency calls for service requests within five minutes.

Police Protection

The primary responsibilities of the Costa Mesa Police Department are crime prevention, field patrol, crime investigation, and traffic enforcement. Police Department staff includes sworn officers and civilian support personnel. As of 2014, the ratio of police officers to civilians in Costa Mesa was one police officer for every 1,000 persons.

The Police Department maintains headquarters at 99 Fair Drive in the Civic Center and two substations located at:

- South Coast Plaza
- 567 West 18th Street

The Police Department currently contracts with the Huntington Beach Police Department for airborne law enforcement patrols and related services.

Emergency Response and Operations

The Costa Mesa Disaster Plan serves as the community's Emergency Operations Plan (EOP), which provides guidance during emergency situations and natural disasters. The plan addresses potential large-scale disasters that require a coordinated and immediate response.

The EOP identifies key personnel and agencies in the Costa Mesa Emergency Management Organization that are organized to protect life and property in the community. The EOP also identifies sources of outside support that may be provided by State and federal agencies, the private sector, and through mutual aid by other jurisdictions. In addition, the EOP specifies emergency operations to be implemented during an emergency, assigns responsibilities, and provides an explanation of how the plan is to be administered. These activities involve a number of City departments and facilities, including the Police Department, Fire Department, public health officials, and care and shelter operations. The City's emergency evacuation routes are shown in Figure S-7, *Public Facility Facilities and Emergency Evacuation Routes.*

The Police Chief coordinates all emergency evacuation activities and issues evacuation orders based on information gathered from emergency experts. Evacuation operations are also managed by law enforcement agencies, highway/road/street departments, and public and private transportation providers.

Terrorism/National Security Emergency

Since the terrorist incidents of September 11, 2001, and subsequent terrorist events on U.S. soil, public concern regarding terrorist acts in the United States has understandably increased. The State and federal governments have established protocols and programs for dealing with the aftermath of a terrorist act. In 2001, the State of California published the California Terrorism Response Plan, which identifies and describes how the State and local governments are to plan for and respond to terrorism incidents. The tasks and responsibilities of emergency management are based on two terms: Crisis Management and Consequence Management. Crisis Management refers to the response to people committing an act of terrorism. Consequence Management refers to the response to the potential or actual effects of terrorism. According to the California Terrorism Response Plan, local

governments have primary responsibility for responding to an incident to protect public health and safety (Consequence Management). The Costa Mesa EOP is the City's plan to ensure the most effective and economical allocation of resources for the maximum benefit and protection of the civilian population in time of emergency.

Key Emergency Protection and Response Issues

Crime Prevention and Response

Costa Mesa has set high standards for public safety and protection. As a result, it is one of the safest cities of its size in the nation. To maintain these high levels of public safety, it will be important to continue to evaluate programs, meet response time goals, and support crime prevention through education and sensible project design practices.

City leaders have recognized that particular land uses and poorly maintained properties create conditions conducive to criminal activity. By developing and implementing targeted efforts among all City departments to address problem properties and uses, the City can continue to demonstrate its commitment to maintain community safety standards.

Fire and Medical Safety

The Costa Mesa Fire Department is the first responder to medical emergencies. The request for emergency medical services is the most common response made by the Fire Department, and service demands have increased over time. As the City's population ages and new residents and employees locate in the City, adequate emergency medical response funding, staffing, and station locations will continue to require focused attention.

Emergency and Disaster Preparedness

The City excels in preparing for emergency or natural disaster by having clear, up-to-date plans to expedite response, together with ongoing public outreach and education regarding emergency preparedness. Continuing these efforts will mitigate adverse effects associated with natural and human-caused catastrophes.

Hazardous Materials

Hazardous materials and chemicals are used daily by industries, businesses, and residents. Hazardous material sources include service stations, medical labs, drycleaners, and photo processing centers. Certain businesses may generate larger quantities of hazardous waste, such as chemical manufacturers and electroplating companies. In addition, commonly used household products such as paints, cleaners, oils, batteries, and pesticides contain potentially hazardous materials. Accidental spills or leaks, illegal dumping of hazardous waste, illegal storage, or a transportation accident also could release hazardous materials into the community.

The federal government and State of California require all businesses that store hazardous materials in excess of specified quantities to report their chemical inventories in a Hazardous Materials Management Plan. Businesses are required to report releases of toxic chemicals into the air, water, and land, as well as off-site transfers of waste to another location. Facilities that store hazardous materials are also required to report on pollution prevention activities and chemical recycling. All of these businesses operate under stringent regulations governing the storage, use, manufacturing, and handling of hazardous materials.

The U.S. Environmental Protection Agency (EPA) maintains and publishes a database of properties that handle or produce hazardous materials. The EPA defines a small quantity waste generator as one that produces between 100 and 1,000 kilograms of hazardous waste per month. Small businesses like drycleaners, auto repair shops, hospitals, and metal plating shops usually are defined as generators of small quantities of hazardous waste. As of 2014, approximately 245 small quantity generators operated in Costa Mesa. The EPA defines a large quantity generator as a business that produces over 1,000 kilograms of hazardous waste per month. Large quantity generators include large manufacturing facilities and businesses like chemical manufacturers. As of 2014, 28 large quantity generators were located in Costa Mesa. In addition, the City has four registered transporters of hazardous waste, five leaking underground storage tanks, and one incident listed on the EPA's Toxic Release Inventory database.

Hazardous Waste Management

The Costa Mesa Fire Department is the first responder for any hazardous material emergencies in the community. However, the City contracts with the County of Orange Hazardous Materials Team to respond to major hazardous materials emergencies. The City participates in a countywide interagency coalition to better utilize the expertise and equipment that exists within all participating fire districts. The City also adopted the Orange County Hazardous Waste Management Plan to respond to chemical emergencies, and utilizes collection centers operated by the County for residents to drop off household hazardous waste items.

The Orange County Hazardous Waste Management Plan provides policy direction and action programs to address hazardous waste management issues that require local responsibility. The plan analyzes long-term hazardous waste generation and focuses on the development of programs to equitably site needed hazardous waste management facilities. The plan promotes on-site resource reduction, treatment, and recycling of hazardous materials; and provides for the collection and treatment of small quantity hazardous waste generators. Another important plan component is the monitoring of hazardous waste management facilities to ensure compliance with federal and State regulations.

Key Hazardous Materials Issues

Release of Hazards Materials

The release of explosive, reactive, corrosive, toxic, and flammable materials poses a hazard to life and property and may necessitate evacuations. Federal, State, and local laws, plans, and programs are well in place to guard against upset. Emergency plans and trained personnel provide the most appropriate response to hazardous materials emergencies.

Goals, Objectives, and Policies

The following policies provide strategic directions for City staff and partners, highlighting where time and resources should be focused.

Goal S-1: Risk Management of Natural and Human-Caused Disasters

Minimize the risk of injury, loss of life, property damage, and environmental degradation from seismic activity, geologic hazards, flooding, fire, and hazardous materials. Promote a sustainable approach to reduce impacts of natural disasters, such as flooding and fire.

Objective S-1A: ***Work to mitigate and prevent potential adverse consequences of natural and human-caused disasters.***

Geologic and Seismic Safety

Policy S-1.1: Continue to incorporate geotechnical hazard data into future land use decision-making, site design, and construction standards.

Policy S-1.2: Enforce standards, review criteria, and ensure that structures on or adjacent to bluffs are set back sufficiently to preserve the natural contours and aesthetic value of the bluff line and to provide sufficient access for fire protection.

Policy S-1.3: Require geologic surveys of all new development located on or adjacent to bluffs.

Policy S-1.4: Encourage retrofitting of structures—particularly older buildings—to withstand earthquake shaking and landslides consistent with State and historical building codes.

Policy S-1.5: Enforce applicable building codes relating to the seismic design of structures to reduce the potential for loss of life and property damage.

Policy S-1.6: Identify through a study the issue of unreinforced masonry buildings and soft stories and other structures not meeting earthquake standards in Costa Mesa. Provide

assistance if necessary to unreinforced masonry building owners once those buildings have been identified.

Liquefaction and Landslides

Policy S-1.7: Continue to implement the Seismic Hazard Mapping Act, which requires sites within liquefaction hazard areas to be investigated for liquefaction susceptibility prior to building construction or human occupancy.

Policy S-1.8: Consider site soils conditions when reviewing projects in areas subject to liquefaction or slope instability.

Localized Flooding

Policy S-1.9: Continue to consult with appropriate local, State, and federal agencies to maintain the most current flood hazard and floodplain information; use the information as a basis for project review and to guide development in accordance with federal, State, and local standards.

Policy S-1.10: Regularly review and update Article 10 - Floodway and Floodplain Districts of the City's Municipal Code consistent with federal and State requirements.

Policy S-1.11: Improve and maintain local storm drainage infrastructure in a manner that reduces flood hazards.

Policy S-1.12: Continue to develop hazard preparedness plans to prepare for large storms that could bring flooding hazards and other related issues.

Policy S-1.13: Actively promote public education, research, and information dissemination on flooding hazards.

Tsunami and Sea Level Rise

Policy S-1.14: Minimize flood hazard risks to people, property, and the environment by addressing potential damage tsunamis and sea level rise.

Policy S-1.15: Consult with regional agencies and study strategies that employ engineering defensive methods along the Santa Ana River that limit potential flooding hazards from sea level rise.

Dam Inundation

Policy S-1.16: Develop emergency response, early warning notification, and evacuation plans for areas that are within dam inundation areas, where feasible.

Aviation Safety and Protection

Policy S-1.17: Utilize the John Wayne Airport Environs Land Use Plan (AELUP) as a planning resource for evaluation of land use compatibility and land use intensity in areas affected by airport operations. In particular, future land use decisions within the Safety/Runway Protection Zone will be evaluated in light of the risk to life and property associated with aircraft operations.

Policy S-1.18: Comply with Federal Aviation Regulations (FAR) and the John Wayne AELUP requirements relative to Objects Affecting Navigable Airspace.

Policy S-1.19: Use the Federal Aviation Regulations as a guideline to establish the ultimate height of structures as defined in FAR Part 77.

Policy S-1.20: Minimize hazards to aeronautical operations by ensuring land uses do not emit excessive glare, light, steam, smoke, dust, or electronic interference in compliance with FAR regulations and the John Wayne AELUP.

Goal S-2: High Level of Police and Fire Services and Emergency Preparedness

Provide a high level of security in the community to prevent and reduce crime, and to minimize risks of fire to people, property, and the environment.

Objective S-2A: ***Plan, promote, and demonstrate a readiness to respond and reduce threats to life and property through traditional and innovative emergency services and programs.***

Crime Prevention and Response

Policy S-2.1: Promote crime prevention strategies and provide a high level of response to incidents.

Policy S-2.2: Emphasize and prioritize crime prevention strategies, such as pedestrian-scale lighting in targeted areas.

Policy S-2.3: Timely response to incidents and monitoring areas with high crime rates should be part of a comprehensive strategy to reduce crime in the community.

Police and Fire Level of Service

Policy S-2.4: Provide a high level of police and fire service in the community. Secure adequate facilities, equipment, and personnel for police and fire.

Policy S-2.5: Consult with neighboring jurisdictions and partner agencies to respond appropriately to emergencies and incidents in all parts of the City.

Policy S-2.6: Require that water supply systems for development are adequate to combat structural fires in terms of location and minimum required fire-flow pressures.

Policy S-2.7: Require development to contribute its fair share toward funding the provision of appropriate fire and emergency medical services as determined necessary to adequately serve the project.

Fire and Medical Servicers

Policy S-2.8: Regularly update regulations that will protect the community from fire hazards.

Policy S-2.9: Emphasize prevention and awareness of fire safety guidelines to minimize risk and potential damage to life, property, and the environment. In areas designated by the Costa Mesa Fire Department as having a high fire hazard, ensure adequate fire equipment, personnel, firebreaks, facilities, water, and access for a quick and efficient response in any area.

Emergency and Disaster Preparedness

Policy S-2.10: Maintain staff and facilities that will continue to support a coordinated and effective response to emergencies and natural disasters throughout the City.

Policy S-2.11: Consult with neighboring jurisdictions, local employers, and industries to ensure that emergency preparedness

and disaster response programs equitably serve all parts of the City.

Policy S-2.12: Continue to maintain adequate police and fire staffing, facilities, equipment, and maintenance sufficient to protect the community.

Hazardous Materials Operations

Policy S-2.13: Continue to consult with the County of Orange in the implementation of the Orange County Hazardous Waste Management Plan.

Policy S-2.14: Ensure that appropriate in-depth environmental analysis is conducted for any proposed hazardous waste materials treatment, transfer, and/or disposal facility.

Policy S-2.15: Continue to consult with the County of Orange to identify and inventory all users of hazardous materials and all hazardous waste generators, and prepare clean-up action plans for identified disposal sites.

Policy S-2.16: Require the safe production, transportation, handling, use, and disposal of hazardous materials that may cause air, water, or soil contamination.

Policy S-2.17: Encourage best practices in hazardous waste management, and ensure consistency with City, County, and federal guidelines, standards, and requirements.

Policy S-2.18: Consult with federal, State, and local agencies and law enforcement to prevent the illegal transportation and disposal of hazardous waste.

This page intentionally left blank.