

Chapter 11

Safety Element

11.1 Introduction

The purpose of the Safety Element is to reduce the potential risk of death, injuries, property damage, and the economic and social dislocation resulting from hazards such as fires, floods, earthquakes, landslides and other hazards. The General Plan provides policies and standards for the type, location, intensity, and design of development in areas of potential hazards. The intent of this element is to understand and minimize risks associated with each specific type of hazard so the City government and public may make informed decisions about land use and development throughout the City. The Element includes goals and policies for both the Police and Fire Departments that serve the City of Garden Grove. ~~Background and existing information for the Element can be found in the General Plan EIR.~~



The Orange County Fire Authority responds to fire emergencies, release of hazardous toxic substances, and medical emergencies.

11.2 Authority for Element

The State of California Government Code Section 65302(g)(1) requires that a General Plan include

~~“...”~~ A safety element for the protection of the community from any unreasonable ~~risk~~risks associated with the effects of seismically induced surface ~~ruptures~~rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; and other seismic hazards identified pursuant to Chapter 7.8 (commencing with ~~§~~Section 2690) of Division 2 of the Public Resources Code, and other geologic hazards known to the legislative



body; flooding; and ~~wild land~~wildland and urban fires.”. The safety element shall include mapping of known seismic and other geologic hazards.

It shall also address evacuation routes, military installations, peak load water supply requirements, and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards.”

Policies and information for this Element are contained in the Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code Section 2621, et seq.), the Seismic Hazards Mapping Act (Public Resources Code Section 2690, et seq.) and the Unreinforced Masonry Law (Government Code Section 8875, et seq.).

11.3 Key Themes and Vision for General Plan

Crime Reduction and Safe Neighborhoods

City leaders have adopted a community value that Garden Grove shall be a place where residents feel safe in their neighborhoods and community. Community residents are particularly interested in reducing crime, ~~eliminating drugs; homelessness; illegal dumping, littering, and gang activities; graffiti; traffic safety; and enhancing property conditions through~~ property maintenance issues with ~~unsightly appearances.~~

~~While citywide crime has increased as the population has grown over the last decade, incidences of violent crime reduced approximately seven percent from 2006 to 2007 and non-violent crime reduced over one percent during that same period.¹ According to the Police Department Captain, Garden Grove saw a decrease in Part 1 crimes² until early 2007, at which time the number of crimes began to level out. Crime levels tend to fluctuate from year to year and many factors are known to cause crime to rise and fall.~~ Citizen participation in community policing and youth programs provides additional opportunities to improve safety citywide. Existing community policing efforts involve residents in crime prevention through neighborhood watch groups, and other cooperative ventures with ~~local~~ law enforcement. ~~Despite the minor drop in crime instances from 2006 to 2007, and existing community efforts,~~ Crime prevention in Garden Grove remains a high priority and continued ~~community~~ participation and programs are vital to improving safety. The challenge for the future is maintaining adequate Garden Grove Police Department staffing to accommodate increased densities and population growth.

Enhancing property conditions within neighborhoods are not only ~~aesthetic ally~~ aesthetically appealing, but it has also shown to reduce crime and improve neighborhood safety. ~~Basic~~ Basic

¹ Violent Crimes consist of homicide, robbery, assault, forced rape; non-violent crime consists of burglary, larceny, and auto theft. Garden Grove Police Department, Helena Elsousou, April 24, 2008.

² Homicide, rape, robbery, aggravated assault, burglary, larceny/theft, auto theft, and arson are considered Part 1 crimes.



deferred property conditions such as high weeds, run-down structures, broken windows, and graffiti, are more inviting to criminals, and give the appearance that no one is paying attention to the area. Conversely, a nice, neat, compliant neighborhood conveys a message that eyes are on the street, residents care, and activities within the neighborhood are also being observed. The most basic form of property maintenance is achieved through the City's code enforcement. Identifying and remedying minor violations improves the condition of the area and, therefore, the neighborhood's safety.

Environmental Hazards and Disaster Preparedness

Natural ~~and man-induced disasters~~ hazards, such as ~~dam failures,~~ floods, earthquakes, ~~drought,~~ and other severe weather events, and human-caused disasters, including terrorists' attacks, ~~and or~~ release of hazardous waste, can occur with little or no warning, and can set into motion a number of other disasters, including widespread fire, releases of hazardous materials, and disruption of utility services. It is essential to ~~have an understanding of~~ understand the potential disasters/emergencies magnitude and ~~be properly prepared to have the most efficient~~ extent a small or large disaster preparedness, could have on the community, including how local emergency ~~response, services respond and disaster recovery.~~ ~~how a community can recover.~~ With proper planning, there are resources, procedures, plans, and preparedness training available to ~~handle~~ manage a short-term response, there are procedures in place to handle crisis, ~~respond to~~ larger disasters, and ~~there are plans~~ guidance for post recovery.

Local Hazard Mitigation Plan Incorporated

In 2006, the state adopted Assembly Bill (AB) 2140 which added provisions specifying what is to be included in a Local Hazard Mitigation Plan (LHMP) and requiring a linkage between a local jurisdiction LHMP and the Safety Element of their General Plan. AB 2140 requires a jurisdiction to adopt the LHMP into the Safety Element of the General Plan in order to be fully eligible for disaster relief funding under the California Disaster Assistance Act.

The Local Hazard Mitigation Plan (LHMP) for the City of Garden Grove has a detailed planning area was developed in accordance with the Disaster Mitigation Act of 2000 (DMA 2000) and followed FEMA's Local Hazard Mitigation Plan guidance. The LHMP incorporates a process where hazards are identified and profiled, the people and facilities at risk are analyzed, and mitigation actions are developed to reduce or eliminate hazard risk. The implementation of these mitigation actions, which include both short and long-term strategies, involve planning, policy changes, programs, projects, and other activities. The LHMP also identifies historical data and natural events that have previously impacted Garden Grove. Additionally, it provides a Vulnerability Assessment, which describes significant assets at risk if a catastrophic disaster were to occur. The LHMP is incorporated by reference into this Safety Element. The most recent LHMP for the City of Garden Grove can be found at the following link: <https://gqcity.org/localhazardmitigationplan>.

Emergency Operations

Emergency operations falls under the purview of the Garden Grove Police Department. The Department implements the Emergency Operations Plan (EOP), which provides the basis for the

City's emergency planning, identifies the Emergency Operations Centers, and indicates the. The Police Department takes an all-hazards approach in preparing and responding to emergency disasters and events, with key processes and personnel in place to safeguard the community. An all-hazards approach to emergency preparedness is designed to address a full range of threats, risks, and the overarching impact it may have on the City.

A key emergency operations facility is the Emergency Operation Center (EOC), which operates as a command center in the event of an emergency, but also facilitates emergency staff training and emergency preparation drills. The Police Department is also responsible for managing the emergency operations systems.³ Garden Grove is part of the integrating the City's established emergency plans and facilitates the coordination regional partners, including the California Governor's Office of Emergency Services (Cal OES), Orange County Sheriff's Department's Emergency Management Division, and Orange County's Operational Area of Orange County. (mutual aid region) jurisdictions.

The Garden Grove Fire Department responds to fire emergencies, release of hazardous toxic substances, and medical emergencies from their seven local Fire Stations. Exhibit SAF-1, Fire Stations, shows the locations of fire stations throughout Garden Grove. As the type of built environment has changed in the City of Garden Grove, the Fire Department has reviewed and adapted its operation. With the increase in taller, higher residential density or mixed use projects, the Fire Department has developed new requirements for the building floor plans and determined areas in the City where an increase in facilities and support are needed. The Fire department also faces the challenge of maintaining adequate staffing levels to accommodate future growth. Fire Stations No. 6 and No. 7 are currently temporary stations and have less staffing and resources than the City's other five stations. These facilities will require replacement and expansion to accommodate anticipated future growth.

³ City of Garden Grove, Emergency Operations Plan, November 2003.



Emergency Preparedness

The Garden Grove Police Department conducts emergency preparedness in the City with the responsibility of ensuring that the City, residents, and businesses have the resources and information they need to prepare, respond, and recover from disasters, emergencies, or significant events. Administered by the Garden Grove Police Department, the Garden Grove Community Emergency Response Team (CERT) is a program consisting of volunteers to assist in disaster preparedness and recovery. Community members are trained to prepare for, respond to, and recover from a disaster. They can assist first responders during a catastrophic disaster, but also provides initial support services in the event emergency response is delayed, potentially leaving the community to provide basic life safety support until professional responders arrive.

City of Garden Grove CERT Training



Emergency Evacuation Routes

When a disastrous event occurs, people need to be removed from the impacted area quickly to minimize the level of harm. The evacuation routes used depend upon the location and scope of the incident. Localized accidents such as a building fire might require only adjacent properties to be evacuated away from the immediate area. If a chemical release is involved, a broader evacuation zone may be designated, with streets closed to allow affected people to move quickly away and emergency response personnel to move in. For larger scale disasters, such as

an earthquake, larger populations may need to vacate, using routes emergency personnel designate to move many people to safe locations.

Pursuant to Gov't Code Section 65302(g)(5), residential developments in any hazard area must have at least two emergency evacuation routes. Garden Grove benefits from a well-defined grid network of arterial highways that can quickly be adapted to provide one-way traffic flow away from flooding conditions associated with the Santa Ana River and associated tributaries or other adverse conditions. **Exhibit-SAF-2** indicates key routes designated as emergency evacuation routes. Which routes are used depends upon the location, type, and scope of the upset event. Additionally, the gridded street network, lack of hillsides and other natural barriers affords residential development at least two emergency evacuation routes.

Hazards

Hazards identified in the LHMP include seismic hazards, flooding hazards, hazardous materials, fire hazards, and climate change. A risk assessment, identified in **Table 11-1**, lists the geographic extent, likelihood of future hazard occurrences, magnitude and severity, significance or impact potential, and climate change influence for each hazard. The LHMP also rules out other hazards that may not impact the City at all or is addressed by other agencies.

Seismic Hazards

Seismic threats of particular concern in Garden Grove are liquefaction and dynamic settlement of underlying soils. A majority of the City is subject to liquefaction; refer to **Exhibit SAF-2,3, Seismic Hazards, Liquefaction Zone.** ~~With respect~~takes place when loosely packed, water-logged sediments at or near the ground surface lose their strength in response to strong ground shaking. Liquefaction occurring beneath buildings and other structures can cause major damage during earthquakes. ~~Dynamic settlement,~~ hazards are areas underlain by a significant thickness (more than 10 feet) of loose or soft soil not susceptible to liquefaction, but that could result in vertical settlement of the ground surface in response to earthquake shaking. The City has areas of moderate and high dynamic settlement potential; refer to **Exhibit SAF-3, Dynamic Settlement.** ~~The areas of moderate potential are located in the northwest and eastern portions of the City, while the areas of high potential are located in the central portion of the City, generally near Euclid Street.~~Seismic Hazards. Structural vulnerabilities in older buildings that are ~~less earthquake resistant~~lacking seismic retrofitting are most likely to contribute to the largest source of injury and economic loss as a result of an earthquake.

Table 11-1
Hazard Identification Assessment

| Hazards | Geographic Extent | Likelihood of Future Occurrences | Magnitude/Severity | Significance | Climate Change Influence |
|----------------------------|-------------------|----------------------------------|--------------------|--------------|--------------------------|
| Climate Change | Extensive | Likely | Negligible | Medium | -- |
| Dam Failure | Significant | Unlikely | Catastrophic | High | Medium |
| Drought and Water Shortage | Extensive | Likely/ Occasional | Limited | Medium | Medium |
| Earthquake | Extensive | Likely/ Occasional | Catastrophic | High | Low |
| Earthquake: Liquefaction | Limited | Occasional | Critical | Medium | Low |
| Flooding (100/500-Year) | Extensive | Occasional/ Unlikely | Critical | High | High |
| Flooding (Localized) | Significance | Highly Likely | Limited | Medium | High |
| Wildfires | Extensive | Highly Likely | Catastrophic | Medium | Medium |
| Extreme Heat | Extensive | Highly Likely | Negligible | Medium | Medium |
| Heavy Rains | Extensive | Highly Likely | Limited | Medium | Medium |
| High Winds | Extensive | Highly Likely | Catastrophic | Medium | Low |
| Wildfire (Conflagration) | Extensive | Highly Likely | Catastrophic | Medium | Medium |

Geographic Extent:

- **Limited:** Less than 10% of planning area
- **Significant:** 10-50% of planning area
- **Extensive:** 50-100% of planning area

Likelihood of Future Occurrences:

- **Highly Likely:** Near 100% chance of occurrence in next year, or happens every year.
- **Likely:** Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less.
- **Occasional:** Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years.
- **Unlikely:** Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.

Significance

- **Medium:** moderate potential impact
- **High:** widespread potential impact

Magnitude/Severity

- **Catastrophic:** More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths
- **Critical:** 25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability
- **Limited:** 10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability
- **Negligible:** Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid

Climate Change Influence

- **Low:** minimal future impact
- **Medium:** moderate future impact
- **High:** widespread future impact

Source: City of Garden Grove Local Hazard Mitigation Plan, 2020.



Flooding Hazards

Garden Grove is also susceptible to storm flooding which poses a primary hazard to the eastern third of the City (refer to **Exhibit SAF-4, Flood Zones**) associated with the East Garden Grove/Wintersburg Channel. As determined by the Federal Emergency Management Agency (FEMA) and identified in the Flood Insurance Rate Map (FIRM), this portion of the City is designated as Flood Zone A, which are areas subject to inundation by the 1-percent-annual-chance flood event (100-year flood). These areas could pose as a high risk, Special Flood Hazard Area (SFHA), and are required to purchase flood insurance. Stormwater improvement projects have been implemented to help convey a 100-year storm event in this area, including enhancements to the East Garden Grove-Wintersburg Channel and the Haster Retarding Basin. Due to flood improvements made to this area, many property owners within the Flood Zone A have obtained a Letter of Map Amendment (LOMA) through FEMA, allowing some owners to remove their existing structure(s) from the SFHA and thereby allowing flood insurance as an option.

Public facilities located within Flood Zone A include four elementary schools, one intermediate school, and one high school. Essential public facilities within Flood Zone A include Garden Grove Hospital and Medical Center, Fire Station 83, and Garden Grove Municipal Services Center. Future growth within Flood Zone A includes a potential increase of 18,366 new residents associated with the expansion of the International West Mixed Use designation and transit-oriented development around the new OC Streetcar stop (Harbor Transit Center), as identified in the Land Use Element.

The LHMP also addresses localized flooding concerns in the city.

Hazardous Materials

Hazardous or extremely hazardous materials pose a threat to citizens and visitors. Materials are used, stored, and manufactured by households and businesses in the City, transported across the City's highways, streets and railways, and travel through pipeline distribution systems transecting the City. In addition to preparation provided in the Emergency Operations Plan, the ~~Garden Grove~~ Orange County Fire Department maintains a Authority coordinates the Hazardous Materials Area Plan, which is in the process of being updated. Additional information is provided in the ~~General Plan EIR~~ serves as a guide for emergency response and operations for hazardous materials incidents.

Fire Hazards

The Orange County Fire Authority (OCFA) responds to fire emergencies, release of hazardous toxic substances, and medical emergencies from seven local Fire Stations. Exhibit SAF-1, Emergency Service Facilities, shows the locations of fire stations throughout Garden Grove. Garden Grove is not at risk of a wildfire as there are no high fire severity zones or wildland-urban interface areas within the City. Given the location of some industrial businesses, the potential for urban fires to occur—and those involving potentially dangerous chemicals—can pose as a hazard. The OCFA maintains detailed information about the types of hazardous materials and chemicals stored at all businesses, pursuant to Chapter 50 of the 2019 California Fire Code. Regular inspection and

education programs work to mitigate risk—and to allow first responders to be well prepared when responding to a fire at an industrial or commercial business.

Climate Adaptation

Climate change is a long-term shift in global or regional climate patterns. Climate adaptation refers to the process of preparing for these evolving environmental conditions. With that purpose in mind, this General Plan includes policies and strategies that will strengthen local resiliency by enabling the City and community to adapt to the effects of climate change.

The leading cause of the Earth's rapidly changing climate are the greenhouse gas (GHG) emissions we generate. Greenhouse gases play an important role in keeping the planet warm and inhabitable. But the level of these gases in our atmosphere has soared since industrialization began in the 19th century. The burning of fossil fuels—coal, oil, and gas—for electricity, heat, and transportation is the primary source of human-generated emissions. Curbing the increasingly dangerous effects of climate change will require very deep cuts in emissions, as well as the use of alternatives to fossil fuels worldwide.

California law requires that Garden Grove take actions to reduce local greenhouse gas emissions to meet the State reduction goals. The GHG reduction laws mandate all Californians to work together to effect change on a larger scale. State legislation under AB 320 (2006) set out goals to reduce emissions by at least 40 percent below 1990 levels by 2030, with this target date subject to change based on measured progress. Thus, it is critical that the General Plan include policies not merely to comply with State requirements but to be part of the California-wide solution.

By itself, the mitigation of greenhouse gases as required by State law will not be enough to protect the community from the dangerous effects of climate change. In particular, climate change will exacerbate the numerous natural hazards that face the community. These natural hazards are identified in the Local Hazards Mitigation Plan (LHMP) developed by the City. The LHMP also describes the ways in which the potential severity of these impacts will likely worsen due to climate change. With this knowledge and foresight, the City can take protective steps to reduce its climate change vulnerability, enabling it to adapt and continue to thrive and prosper in spite of this environmental challenge. Consistent with the Garden Grove Local Hazard Mitigation Plan, hazards that may be influenced by climate change include extreme heat, extreme storms, droughts and water shortages, power outages, and wildfires. Although sea-level rise is not a direct hazard to the City, secondary impact such as saltwater intrusion into local groundwater aquifers may be a secondary effect.

Extreme Heat

A study by the California Energy Commission states that "over the past 15 years, heat waves have claimed more lives in California than all other declared disaster events combined," and the State continues to get warmer. Garden Grove does benefits from its proximity to the Pacific Ocean with substantial cooler summer temperatures compared to inland areas. Based on the Cal Adapt



Annual Average Maximum Temperature Climate Tool, Garden Grove's annual average maximum temperature is anticipated to increase by 2.0 percent, from 76.7 °F to 78.2°F, over the next 20 years (from 2021 to 2040). Although this is an annual average temperature, in the summer, temperatures may soar above 78°F as heat waves will be more common in the future. On September 4, of 2019, extreme high temperatures occurred in Garden Grove. The City opened a cooling center at H. Louis Lake Senior Center. Given higher temperatures, the City is expected to experience more extreme heat events, and these are expected to occur more frequently and to persist for longer time periods. City residents may face increased risk of death from dehydration, heat stroke, heat exhaustion, and respiratory distress caused by extreme heat. In response, the City will need to designate more cooling centers and take preventive actions such as integrating passive cooling building strategies to help cool buildings and planting more trees to help cool neighborhoods.

Extreme Storms

According to the California Climate Adaptation Study (CAS), climate change is expected to only cause a slight increase or decrease in average annual rainfall. However, the intensity of individual rainfall events is anticipated to increase. The prospect of more intense rainfall events increases the likelihood that these storms will likely increase loading on established levees, floodwalls, and flood control channels built to historic rainfall averages, making localized flooding more likely.⁴ Sea-level rise, combined with severe storm events could impact the Westminster Channel and East Garden Grove/Wintersburg Channel. In addition, more intense thunderstorms as a result of climate change could produce stronger winds.

Droughts and Water Shortages

Given warmer temperatures, droughts are more likely to become more frequent and persistent in coming decades. The CAS notes that climate change is likely to significantly diminish California's future water supply and create greater competition for limited water supplies needed by the environment, agriculture, and cities. Given the increasing vulnerability of its water supply, the City will need to verify that new developments will have access to a reliable water supply.

Power Outages

Climate change is causing an increase in many types of extreme weather. Heat waves are hotter, heavy rain events are heavier, and winter storms have increased in both frequency and intensity. To date, these kinds of severe weather are among the leading causes of large-scale power outages in the California. High temperatures can cause heavy use of air conditioning, which can then lead to an overload power lines and transformers. Additional, severe weather, such as heavy rains or high winds can damage power lines, leading to power outages.

Approaches to reduce the demand on the power grid include homeowners and business to reduce power during extreme temperatures in exchange for incentives, utilizing clean energy and

⁴ U.S. Army Corps of Engineers, *Integrated Feasibility Report for the Westminster, East Garden Grove flood Risk Management Study*, April 2020.

energy storage systems, and encourage regional suppliers to design and implement far more effective demand response program.

Wildfires

An increasing number of dry trees can also serve as fuel for wildfires. Increased temperatures and longer drought periods will increase fire risk. Given its urban terrain and lack of open space in the City, the threat of a wildfire directly impacting Garden Grove is diminished but an urban fire during a period of high winds could lead to an urban conflagration. The existence of several petroleum and hazardous materials facilities within the City also contribute to the fire threat. Even fires outside the City can impact residents as smoke and air pollution from wildfires can be a severe health hazard, especially for more vulnerable health impaired populations.

Sea-Level Rise

Over the next 50 years, sea-level rise is not anticipated to directly impact the City. However, extreme sea-level rise projections (worst-case scenario) in conjunction with a 100-year storm event from the USGS Coastal Storm Modeling System (CoSMoS) does show a 1.5-meter rise in flood depth extending up to the outside City limits where the SR-22 and I-405 freeways intersect (see **Figure SAF-4**). Indirect impacts may potentially affect local groundwater supplies with saltwater intrusion and an increase in coastal flooding during major storm events, such as within the adjoining Seal Beach National Wildlife Refuge and Weapons Station area. The Orange County Water District, manager of the groundwater basin, does monitor sea-level rise and maintains barrier wells to control the intrusion of salt water into the groundwater supply.⁵

By developing the capacity to respond effectively to these potential climate change hazards, Garden Grove will succeed in becoming a climate resilient and adaptive community.

⁵ Orange County Water District Groundwater Management Plan 2015 Update, June 17, 2015.



Populations Sensitive to Climate Change Effects

Due to the rise and frequency of extreme weather and climate-related events, it's important to emphasize the health threats and challenges imposed by climate change. While most residents and businesses will be faced with the health impacts inflicted by climate change, certain groups will disproportionately endure the health impacts, as they can be less climate resilient. Additionally, evacuation scenarios are particularly difficult for seniors and people with disabilities who may be physically unable or prepared to leave their homes.

Extreme heat can lead to increased hospitalizations. Housing units lacking air conditioning, especially low-income households, posing a growth threat to their health from extreme heat waves due to climate change. Children, the elderly, people with chronic diseases, low-income populations, and outdoor workers are at the highest risk for heat-related illnesses. Long-term regional drought conditions can threaten water supplies, contributing to increased food prices that disproportionately affect low-income individuals.

Table 11-2 identifies specific populations in Garden Grove and the potential climate effects that will impact them the most.

Table 11-2
Population Sensitive to Climate Change Exposures

| Populations Sensitive to Climate Change Exposures | Garden Grove | Orange County | Climate Effects | | | |
|---|----------------|------------------|-----------------|----------|--------------------------|---------------|
| | | | Extreme Heat | Flooding | Drought/ Water Shortages | Power Outages |
| Total Population (2019) | 173,258 | 3,168,044 | | | | |
| Children (age 0 to 19) | 24.1% | 24.8% | ■ | ■ | ■ | ■ |
| Older Adults (age 65 and older) | 14.3% | 14.4% | ■ | ■ | | ■ |
| Communities of Color: Minority Population | 80.5% | 59.4% | | ■ | | ■ |
| Low-Income: Adults with Income below Poverty Level | 14.3% | 10.9% | ■ | ■ | ■ | ■ |
| Persons with Disabilities: Percent of Total Population | 9.8% | 8.5% | ■ | ■ | | ■ |
| Language: Persons who speak a language other than English (over age 5) | 67.2% | 45.6% | ■ | ■ | ■ | ■ |

Sources: U.S. Census American Community Survey, 2014-2019, 5-Year Estimates; American Public Health Association Climate Changes Health: Vulnerable Populations, 2021.

11.4 Goals, Policies, and Implementation Programs

This Element is organized into goals, policies, and implementation programs. A description of each is provided in Chapter 1, Introduction. It is important to note that the implementation programs are specifications to carry out all of the preceding goals and policies. The LHMP also includes a set of goal, objectives, and mitigation actions to guide hazard mitigation planning and to protect the community from the effects of natural disasters and hazard events.

Crime Reduction: Safe Neighborhoods

- Goal SAF-1: Ongoing collaborative efforts between the community and the Garden Grove Police Department will assist in reducing and preventing crime in the City.**
- Policy SAF-1.1 Provide opportunities for community involvement in crime prevention and control through community policing and other public participation programs.
- Policy SAF-1.2 Provide regular opportunities for communications between the Police Department and community members.
- Policy SAF-1.3 Promote police outreach efforts to the diverse cultural communities, church leaders, Neighborhood Advisory Networks, homeowner associations, and apartment management associations.
- Policy SAF-1.4 Provide public education about Community Enforcement Techniques.
- Policy SAF-1.5 Continue to build community confidence in neighborhood police personnel.
- SAF-IMP-1A Continue Police Department programs such as the Community Policing Strategy.
- SAF-IMP-1B Continue and encourage Neighborhood Watch programs community wide.
- SAF-IMP-1C Encourage community members to accompany police on regular patrols in their neighborhood and throughout the City.
- SAF-IMP-1D Work with criminal justice agencies and community groups to support programs that offer information about community policing, reporting of child and adult abuse and neglect, and other crime prevention techniques. Information should be provided in the languages understood by members of the most affected community or by a majority of the community of the affected community members.
- SAF-IMP-1E The Police Department will continue to conduct annual needs assessments of police facilities, equipment and personnel to plan and ensure that future



growth of Garden Grove Police Department is commensurate with future development ~~in the City~~.

SAF-IMP-1F Encourage the Police Department to conduct outreach efforts in neighborhoods and ethnic communities throughout the City.

Crime Reduction: Infrastructure and Design

Goal SAF-2: Crime reduction can be achieved through public facility and infrastructure improvements and the use of crime reducing design techniques.

Policy SAF-2.1 Remedy problems with existing public facilities that have the potential to encourage criminal activity

Policy SAF-2.2 Encourage Crime Prevention Through Environmental Design (CPTED) techniques; design that discourages crime and promotes pedestrian safety, for all new development and redevelopment projects.

Policy SAF-2.3 Identify specific high crime areas in the City and encourage and, when feasible, create plans/strategies to improve these areas.

Policy SAF-2.4 Work with law enforcement agencies and community groups to promote litter pick-up, graffiti removal, basic repairs, and other neighborhood beautification efforts.

Policy SAF-2.5. Evaluate and support the need to replace and/or modernize safety facilities to improve public safety services and meet the needs of the community.

SAF-IMP-2A Encourage site design using the following: increased pedestrian-level lighting, pedestrian routes that avoid blind corners and provide escape route choices, low fences or well-placed landscaping, and building entrances visible from public streets.

SAF-IMP-2B Encourage mixed use development throughout the City in order to decrease commercial areas that are left vacant during nighttime hours.

SAF-IMP-2C Involve law enforcement agencies in the design and planning phases of ABC licensed establishments to reduce design elements that conceal or encourage criminal activity.

SAF-IMP-2D Ensure that signage and street markings at crosswalks provide for pedestrian safety.

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- SAF-IMP-2E Involve law enforcement agencies in the design review of new and rehabilitated buildings to ensure basic safety measures and surveillance access are achieved.
 - SAF-IMP-2F Continue to locate police sub-stations in those areas of the City particularly vulnerable to crime.
 - SAF-IMP-2G Explore the use of new surveillance technologies that provide additional ways for the Police Department to monitor and more quickly respond to crime.
 - SAF-IMP-2H Develop, where necessary and feasible, a parking program for on-street parking in high crime residential neighborhoods.
 - SAF-IMP-2I. Develop a plan for the construction of a new state-of-the-art Police Department building, and other public safety facilities as needed.

Crime Reduction: Youth and Gang Related Activities

Goal SAF-3 The City seeks to reduce the number of gang-related, violent or criminal acts perpetrated, with specific emphasis on youth.

- Policy SAF-3.1 Encourage programs and efforts to discourage youth from participating in gang-related activities.
- Policy SAF-3.2 Provide immediate consequences for minor criminal behavior.
- Policy SAF-3.3 Support citywide support programs and social services that address domestic abuse, addictions, and family services.
- SAF-IMP-3A Continue to use the graffiti removal programs, restitution programs, or other effective programs.
- SAF-IMP-3B Continue the implementation of a comprehensive Youth Violence Reduction Program incorporating education, intervention, and enforcement strategies.
- SAF-IMP-3C Develop and provide jobs programs for youth in both the public and private sector in order to help reduce crime.
- SAF-IMP-3D Enhance School Programs by working with schools to support and expand after school recreation, youth mentoring, conflict resolution, team building, self-awareness, and community involvement programs.
- SAF-IMP-3E Create effective recreation and mentoring programs that engage all ethnicities.



Environmental Hazards and Disaster Preparedness

Goal SAF-4 Community members must be made aware of potential environmental hazards, how they should prepare for these instances, and how they should respond.

Policy SAF-4.1 Advise and provide information to the public regarding the availability of local area environmental studies, sources of hazard information, and public services related to all hazards and threats.

Policy SAF-4.2 Continue and expand ~~the~~ public awareness programs conducted by ~~the Fire Department,~~ City departments and other agencies as appropriate.

Policy SAF-4.3 Provide the public with information identifying accessible evacuation routes for fire, geologic, and other hazards.

SAF-IMP-4A Keep the public informed as to the location of important emergency facilities, such as ~~the Emergency Operations Centers (EOCs),~~ reception centers, cooling centers, and emergency shelters point of distributions (PODS) for administering medical countermeasures (i.e., vaccines or medical testing), and distribution of emergency supplies and/or food.

SAF-IMP-4B Continue to develop and conduct public education and awareness programs and seminars, ~~which promote individual fire prevention for all community disasters~~ and ~~safety~~ emergency events.

SAF-IMP-4C Identify and promote ~~locations~~ locations where information on public safety is available to the public through the City's websites and social media account, and utilize AlertOC, the County's mass notification system.

SAF-IMP-4D Provide and inform the public of available educational guides promoting structural and nonstructural earthquake safety. This includes natural gas safety, water heater bracing, and installation of automatic natural gas shut-off valves in buildings; and retrofitting of older buildings and securing nonstructural elements of a building to prevent the falling or throwing of objects.

Fire Hazards and Public Health

Goal SAF-5 Public harm from fire and health emergencies shall be minimized.

Policy SAF-5-1 Continue to develop and enforce construction and design standards related to fire prevention.

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- Policy SAF-5.2 Ensure that the City has adequate resources to respond to health and fire emergencies, such as Fire Stations, personnel, and equipment.
- SAF-IMP-5A Continue to require installation of automatic fire sprinkler systems in all new structures and existing structures undergoing substantial remodeling, and provide incentives for sprinkler installation in all other habitable structures.
- SAF-IMP-5B Require that street addresses on commercial buildings ~~to be~~ more readily visible to facilitate emergency response.
- SAF-IMP-5C Continue to refer land development and building permit applications to the ~~local~~ fire district for review, and ~~incorporate~~ incorporate their recommendations as conditions of approval as necessary to ensure public safety.
- SAF-IMP-5D Continue to require compliance with all provisions of the most recently adopted version of the California Fire Code (with ~~local~~ local amendments).
- SAF-IMP-5E Provide an adequate number of trained and certified emergency and ~~medic~~ medical technicians to address the increased medical demands due to an increase in residential density.
- SAF-IMP-5F Continue to provide adequate staffing of fire response personnel based upon changing conditions, density, and development type.
- SAF-IMP-5G Continue the Water Services Department's maintenance program dedicated to maintaining the quality of the City's water storage and distribution system, as well as to increase the water supply capacity.
- SAF-IMP-5H Continue to participate in cooperative agreements with the County and appropriate cities to provide fire and medical services in an effective manner, and continue to explore opportunities to expand the programs provided through these agreements.
- SAF-IMP-5I Adopt standards that set the number of personnel per response and response times (NFPA-1710).
- SAF-IMP-5J Continue to implement and update, as necessary, the Fire Department's long-range plan and budget.

Seismic and Geologic Hazards

- Goal SAF-6** Minimize risk associated with seismic activity and geologic conditions to people and property ~~shall be minimized~~.



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- Policy SAF-6.1 Avoid or minimize to the greatest extent feasible, hazards resulting from development on unstable ground conditions.

 - Policy SAF-6.2 Encourage rehabilitation or elimination of structures susceptible to collapse or failure in an earthquake. Historic buildings shall be treated with special consideration in order to ensure their preservation.

 - Policy SAF-6.3 Ensure that new structures are ~~seismic ally~~seismically safe through the proper design and construction. The minimum level of design necessary would be in accordance with seismic provisions and criteria contained in the most recent version of the State and County Codes. Construction shall require effective oversight and enforcement to ensure adherence to the earthquake design criteria.

 - SAF-IMP-6A Protect public health and safety through the appropriate identification and rehabilitation of public facilities.

 - SAF-IMP-6B Adopt the most current versions of State or County building, or other relevant, codes.

 - SAF-IMP-6C All new development with the exception of detached single-family homes, shall be subject to the preparation and submittal of a site specific geology report prepared by a registered geologist or soils engineer to the City Building Services Division for approval.

Flood Hazards

Goal SAF-7 Minimize injury and loss of life, damage to public and private property and infrastructure, and economic and social disruption caused by inundation and flood hazards.

- Policy SAF-7.1 Continue to implement adopted flood control programs and regulations.

- Policy SAF-7.2 Improve defensive measures against 100-year, or other State-defined scenario, flood conditions through land use and design, such as increased pervious surfaces, on-site water capture and re-use, minimized building footprints, etc.

- Policy SAF-7.3 Continue to monitor regional flood hazard improvements in the Santa Ana River Basin area to understand impacts to the 100-year storms within the City.

- Policy SAF-7.4 Encourage methods that place limits on land use activities in flood hazard areas and timely repair and maintenance of necessary flood control structures.

- Policy SAF-7.5 Monitor projections for and actual sea level rise to the extent it will impact properties along the Santa Ana River, and work with the U.S. Army Corps of



Engineers and other agencies to proactively guard against anticipated flood hazards.

SAF-IMP-7A Continue to update, as appropriate, and enforce provisions in the City of Garden Grove Flood Management Ordinance, regarding development in flood prone areas.

SAF-IMP-7B Encourage use of Low Impact Development (LID) methods that capture and treat water on-site, therefore, reducing flows to storm drain system.

SAF-IMP-7C Maintain and improve capacity levels of storm drainage service, where appropriate.

SAF-IMP-7D Update the City's Master Plan of Drainage.

Disaster Preparedness

Goal SAF-8 **The social and economic impacts that natural and urban disasters have on the community shall be minimized through effective emergency and disaster preparedness.**

Policy SAF-8.1 Maintain and update the City's ~~Disaster Preparedness~~Emergency Operation Plan, Continuity of Operations Plan, and Hazard Mitigation Plan.

Policy SAF-8.2 Provide ~~self-sufficiency practices necessary~~public education on emergency preparedness to support residents and businesses during and after a major disaster, such as alternative, This includes emergency water sources~~supplies~~, food storage, first aid, family disaster plans, etc.

Policy SAF-8.3 ~~Continue~~Work with County Operational Area partners to collaborate and improve upon disaster preparedness collaboration efforts~~city undertake mutual aid agreements addressing disasters and county-wide~~emergency events.

Policy SAF-8.4 Ensure that ~~adequately trained critical response~~staff are trained and available to provide essential emergency~~public services~~to support the City functions and the community at large.

Policy SAF-8.5 Take an all-hazards approach to emergency preparedness to address the full range of threats, risks, and the overarching impact it may have on the community.

SAF-IMP-8A ~~Require~~Ensure that the ~~Disaster Preparedness~~Garden Grove Hazard Mitigation Plan identifies methods to prepare for and respond to local~~is~~updated regularly with the primary purpose of identifying, assessing, and~~regional man-made~~

~~threats such as terrorist attacks~~reducing the long-term risk to life and property from hazard events.

SAF-IMP-8B ~~Continue to~~Ensure the City provides signature to Orange County's Mutual Aid agreement, and participate in cooperative agreements with the County and appropriate cities to provide grant opportunities to support and expand existing emergency services in an effective manner, and explore opportunities to expand the programs provided through these agreements, equipment, and training.

SAF-IMP-8C ~~Work~~Partner with public safety and health and human services agencies within the city and countyOrange County Operational Area to receive and maintain communication systems supporting interagency communication and public communications systems that will provide mutual aidalert and be reliable during and following an emergencywarning information.

SAF-IMP-8D ~~Assist in shelter, relief, and first aid~~Ensure the City is prepared to support sheltering operations, and cooling centers during disasters and emergencies.

Hazardous Materials

Goal SAF-9 **Minimize** the threat to the public health and safety, and to the environment posed by a release of hazardous materials, ~~shall be minimized.~~

Policy SAF-9.1 Continue to strictly enforce Federal, State, and ~~local~~local laws and regulations related to the use, storage, and transportation of toxic, explosive, and other hazardous and extremely hazardous materials to prevent unauthorized discharges.

Policy SAF-9.2 Develop an educational awareness program for residents and businesses about the dangers of hazardous materials that urges the minimum use, proper storage and management of, and accurate disposal of hazardous materials.

SAF-IMP-9A Provide information on available non-hazardous product alternatives, proper storage, management, and disposal of hazardous wastes on the City's website, and at City Hall and other public facilities, as necessary.

SAF-IMP-9B Continue to publicize and conduct semi-annual household hazardous waste ~~round-ups~~roundups.

SAF-IMP-9C Encourage government agencies to purchase and use non-toxic cleaning materials.



Insert Map – Fire Stations



Insert Map – Liquefaction Zones



Insert Map – Dynamic Settlement



CLIMATE ADAPTATION

Goal SAF-10 A robust, climate-responsive community prepared to anticipate, adapt to, and mitigate impacts stemming from climate change

Policy SAF-10.1 Integrate climate change hazards, adaptation, and resiliency into the update of City plans, regulatory codes, and policies.

Policy SAF-10.2 Integrate climate change research guidance and adaptation planning into City operations, services, and public infrastructure development, including capital improvements.

Policy SAF-10.3 Evaluate, identify, and implement strategies to reduce the negative effects of climate change on the health of disadvantaged communities and socially vulnerable populations lacking adaptive capacities (e.g., elderly, very young, low- income households).

Policy SAF-10.4 Set up systems to predict and communicate with the public about heat waves and severe storm events, suggest protective actions, coordinate response, and designate cooling centers and emergency shelters.

Policy SAF-10.5 Identify critical facilities such as schools, hospitals, fire and police stations, and cooling centers/emergency shelters that may require redundant electric power backup systems.

Policy SAF-10.6 Encourage development projects to incorporate design features that reduce the impact of extreme heat events.

Policy SAF-10.7 Consider the possibility of constrained future water supplies due to long-term climate change impacts on water supplies and require enhanced water conservation for new construction and retrofits.

Policy SAF-10.8 Contribute to and participate in ongoing climate change prevention programs at the regional, State, and Federal levels.

Policy SAF-10.9 Investigate all possible strategies to reduce greenhouse gases from municipal operations, private businesses, and residences.



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- Policy SAF-10.10 Encourage mixed-use development throughout the City consistent with the goals and policies of the Land Use Element in order to encourage jobs/housing proximity, promote transit-oriented development, and encourage high density development along major corridors, which encourages walking, bicycling and the use of public transit systems.
- Policy SAF-10.11 Encourage infill, redevelopment, and higher density development consistent with the goals and policies of the Land Use Element.
- Policy SAF-10.12 Encourage new developments to integrate housing with civic and retail amenities (jobs, schools, parks, shopping opportunities) to help reduce VMT resulting from discretionary automobile trips.
- SAF-IMP 10A Update the City's Local Hazard Mitigation Plan (LHMP) regularly to assess hazard vulnerabilities and identify mitigation to pursue to reduce the level of injury, property damage, and community disruption.
- SAF-IMP 10B Establish a cooling centers and emergency shelters plan to reduce Garden Grove residents' vulnerability to extreme heat events and severe storms.
- SAF-IMP 10C Maintain the City's urban forest while expanding efforts to plant additional trees, gardens, and vegetation within neighborhood and areas with minimal tree canopies.
- SAF-IMP 10D Shade public parks, public facilities, and sidewalks near transit corridors, including bus shelters.
- SAF-IMP 10E Support residential energy efficiency and weatherization programs for new and existing buildings.
- SAF-IMP 10F Design new buildings to use less cooling through passive heat and cooling techniques.
- SAF-IMP 10G Encourage the use of water-porous pavement materials to allow for groundwater recharge and reductions in stormwater runoff and materials that also can reflect solar energy, speed up evaporation, and otherwise stay cooler than traditional pavements.
- SAF-IMP 10H Ensure compliance with water conservation measures and regulations in the Urban Water Management Plan.
- SAF-IMP 10I Require the use of sustainable landscaping techniques and water conservation measures in new development beyond current requirements.

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- SAF-IMP 10J Consider evaluating the feasibility of implementing wastewater or recycled water facilities.
- SAF-IMP 10K Consult with Orange County Water District, manager of the groundwater basin, to monitor sea level rise and maintain barrier wells to control the intrusion of salt water into the groundwater supply.
- SAF-IMP 10L Continue the ongoing recycling and greenhouse gas reduction program.
- SAF-IMP 10M Consult with U.S. Army Corps of Engineers and Orange County Flood Control District (OC Public Works) to implement appropriate infrastructure improvements to protect the community from flood risks intensified by severe storms and/or sea-level rise.
- SAF-IMP 10N Implement street improvements designed to relieve pressure on congested roadways and intersections.
- SAF-IMP 10O Promote limiting idling time for commercial vehicles, including delivery and construction vehicles, consistent with the South Coast Air Quality Management District idling regulations.
- SAF-IMP 10P Continue implementing the City's Urban Forestry Management Plan goals and objectives, which will assist in reducing carbon dioxide, energy use, and improve air quality.
- SAF-IMP 10Q Encourage the use of available energy saving measures that exceed the minimum Title 24 requirements for residential and commercial projects.
- SAF-IMP 10R Educate the public, schools, other jurisdictions, professional associations, business and industry about reducing GHG emissions.
- SAF-IMP 10S Continue to replace traffic lights, streetlights, and other electrical uses to energy efficient bulbs and appliances.
- SAF-IMP 10T Encourage the purchase of Energy Star equipment and appliances for City use, where feasible.
- SAF-IMP 10U Evaluate the feasibility of incorporating on-site renewable energy production, including installation of photovoltaic cells or other solar options, for existing City facilities.
- SAF-IMP 10V Explore the feasibility of purchasing City fleet vehicles that use alternatives fuels or technology, such as low and zero emission vehicles.



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- SAF-IMP 10W Continue to promote the goal and policies of the Garden Grove Active Streets Master Plan, which encourages active transportation (biking, walking, alternative modes of transportation), and continue to evaluate and update the plan as needed.
- SAF-IMP 10X Continue to promote and expand the City's Safe Routes to School Plan, which encourages safe routes for walking and biking to school.
- SAF-IMP 10Y Continue to promote the City's employee rideshare program, which includes matching potential carpoolers and incentives for purchasing low and zero emissions vehicles.
- SAF-IMP 10Z Continue to promote the City's Recycle Garden Grove program to reduce solid waste in landfills.
- SAF-IMP 10AA Continue to implement and promote and educate the public on mandatory commercial and residential organics recycling requirements to divert organic waste from landfills (Note that per SB 1383, the City and Garden Grove School District will be adopting and enforcing mandatory organics recycling requirements in the near future).
- SAF-IMP 10AB Develop a strategy to reduce greenhouse gas emissions citywide consistent with other City policy objectives. Consider developing a climate action plan or other document that defines that strategy. Actions that may be considered as part of the strategy may include:
- On-site renewable energy generation capabilities for larger-scale commercial, industrial, institutional, and multi-family residential developments
 - Actions that will move Garden Grove toward zero-net energy over a longer time frame
 - Enhanced transit connections to the streetcar station once it is operational
 - Outreach to local businesses to identify measures they can pursue to reduce emissions associated with deliveries, production, cooking (for restaurants), and other business practices
 - Coordination with local schools to reduce traffic congestion/idling vehicles during pick-up and drop-off times

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