



Oakland 2045

Oakland Safety Element

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Executive Summary

The updated Safety Element of the City of Oakland's General Plan incorporates safety considerations into the planning and decision-making process by reducing potential short- and long-term risks of death, injuries, property damage, and economic dislocation resulting from fires, floods, droughts, earthquakes, landslides, and climate change; as well as local hazards associated with the workings of a major city.

California state law requires that each city and county adopt a general plan to guide its physical growth and development. A jurisdiction's general plan is its official policy document to create a blueprint for the future of the jurisdiction and guide its development. In California, all cities must adopt a general plan composed of at least seven elements, including the Safety Element.

All cities must also incorporate environmental justice into the General Plan. Oakland has chosen to adopt an Environmental Justice Element while also incorporating environmental justice goals into each element, including the Safety Element.

The Safety Element aims to protect residents, workers, and visitors from seismic and geologic hazards, fire hazards, hazardous materials, flooding, and other potential hazards that risk life and property. The Element also uses an equity lens through its hazards analysis and prioritizes vulnerable communities in the development of its goals, policies, and actions. The Safety Element aims to be rooted in an equity framework in accordance with the General Plan's Vision Statement and Guiding Principles.

The Safety Element builds on the City's 2021- 2026 Local Hazard Mitigation Plan; addresses all state requirements; and serves as a central reference point for the City's efforts to address safety and climate change issues, including earthquakes, floods, fires, toxic waste, and other hazards. The Safety Element includes overarching goals and policies to address natural hazards, fire and flood hazard management for critical facilities, non-conforming development to contemporary fire safe standards (e.g., road standards and vegetation hazards), emergency evacuation routes per SB 99, emergency evacuation, climate adaptation, sea level rise, drought, and identifies capital improvement programs to improve the City's resilience to natural and human-caused hazards.

The City's updated Safety Element contains five chapters: an introduction, three chapters dealing with specific environmental hazards which include natural hazards, human-made hazards, emergency preparedness and response, and implementation measures. In general, each chapter contains an overview of a specific hazard or issue; a summary of populations vulnerable to the hazard; an outline of the institutional framework, including relevant agencies, regulations, and programs; and a set of goals and policies specific to that hazard or issue. Implementing actions are included in the Chapter 5 table. Below are brief descriptions of the contents of each chapter:

- **Chapter 1, "Introduction,"** presents the background and purpose of the Safety Element, including statutory requirements. It also outlines the City of Oakland's process and community engagement efforts undertaken to develop the Element. Further, the chapter outlines the organization and goals of the Safety Element and considers the Element's relationship to other elements of the City's General Plan and guiding principles.

- **Chapter 2, “Natural Hazards,”** describes the risks from geologic and seismic hazards, fire, and flooding hazards in the City of Oakland. These hazards primarily include earthquake-induced surface rupture and ground shaking, liquefaction, land subsidence, and landslides; extreme weather events; wildfire and urban fire; and storm-induced flooding, dam failure, and sea level rise. Goals and policies for each natural hazard are presented in this chapter, while implementing actions are discussed in Chapter 5.
- **Chapter 3, “Human-made Hazards,”** outlines the risk from hazardous materials and other public safety hazards, including airport hazards and crime in Oakland. Hazardous materials include an overview of the city’s hazardous sites/ cleanup sites, underground storage tanks, and hazardous materials releases. Airport hazards consider land use incompatibilities with the surrounding areas. Other public safety issues addressed include systemic inequities that contribute to the underlying causes of crime and potential solutions to prevent crime through environmental design. Goals and policies are presented for human-made hazards in this chapter, while implementing actions are discussed in Chapter 5.
- **Chapter 4, “Emergency Preparedness and Response,”** analyzes the City of Oakland’s ability to respond to and facilitate an evacuation in the event of an emergency. The chapter provides an overview of the City’s existing emergency preparedness and response programs, agencies, and operations. It also provides information on Oakland’s emergency alert systems and evacuation routes, and describes current capital improvement needs relevant to emergency preparedness and response. Goals and policies for emergency preparedness and response are presented in this chapter, while implementing actions are discussed in Chapter 5.
- **Chapter 5, “Implementation Measures,”** provides a summary table of the goals, policies, and actions relevant to each of the hazard topics discussed in this Element.





1. Introduction

Oakland's prime location on the San Francisco Bay, sunny climate, and diverse geography contribute to its natural beauty, economic landscape, and quality of life. However, these same features also present risks to health and safety that the City must plan for proactively.

In the face of climate change and increasing risk of natural disasters and related hazards, the City of Oakland must mitigate safety hazards and be prepared for disasters in order to maintain a safe, enjoyable, and resilient community. Though many of these hazards will affect Oakland at a citywide scale, consequences of climate change and hazards will also be felt inequitably, meaning that under current conditions some groups will likely experience more harm than others. Thus, the City must also address systemic causes of racial and socioeconomic disparities to eliminate inequitable impacts that vulnerable communities face. This Element addresses the environmental hazards that affect the City and provides goals and policies to guide the City's response to these issues.

1.1 PURPOSE AND REQUIREMENTS

The City of Oakland is updating its General Plan, a visionary blueprint for the city's future over the next 20 years. The updated Safety Element presents a framework for minimizing risks posed by natural and human-caused hazards that may impact residents' health and welfare. This Element aims to protect residents, workers, and visitors from seismic and geologic hazards, fire hazards, hazardous materials, flooding, and other potential hazards that risk life and property. Other health-related issues, such as air quality, pollution burden, and environmental remediation are addressed in the Environmental Justice Element of the General Plan.

Topics addressed in this chapter include:

- Geologic and Seismic Hazards
- Hazards and Hazardous Materials
- Hydrology and Flooding
- Fire
- Climate Change
- Airport Hazards
- Public Safety
- Emergency Preparedness and Response

STATUTORY REQUIREMENTS

State law under Government Code Section 65302(g) requires general plans to include a Safety Element to identify and address hazards for the protection of the community. In accordance with State law, this Element addresses seismic and geologic-related hazards, flood hazards, wildland and fire hazards, evacuation routes, and hazardous materials.

Passed in 2016, SB 379 requires that, beginning January 1, 2017, all cities and counties in California include climate adaptation and resiliency strategies in the Safety Element of their general plan as part of the general plan revision process. The climate adaptation update must include community goals, policies, and objectives informed by a climate change vulnerability assessment, as well as measures for addressing climate vulnerabilities. In accordance with State law, the City's Climate and Vulnerability Assessment presents findings and analysis on climate adaptation and resilience strategies and informs this Element's goals and policies.

RACIAL EQUITY GOALS FOR THE CITY OF OAKLAND + PREVIOUS ONGOING EFFORTS

A guiding tenet of Oakland’s General Plan update is to advance the City’s mission to “intentionally integrate, on a Citywide basis, the principle of ‘fair and just’ in all the City does in order to achieve equitable opportunities for all people and communities.”¹ This means working to eliminate the root causes of inequity by understanding barriers to achieving greater equity and strengths of communities, and working with communities to develop solutions for long-term and systemic changes. That process begins by undertaking a full acknowledgment of the systemic racial inequities that have shaped the City of Oakland. A history of Oakland’s past land use planning and zoning decisions that have disproportionately harmed Oakland’s Black, Indigenous, People of Color (BIPOC) and low-income communities is found in the City’s Environmental Justice Element.

The City recognizes that determinants of equity are the drivers of achieving a fair and just society. Access to the determinants of equity is necessary to have equity for all people regardless of race, class, disability, gender, or language spoken. Inequities are created when barriers exist that prevent individuals and communities from accessing these conditions and reaching their full potential. While all components of equity are an important part of building community power and resilience, the determinants of equity as defined in the Oakland Municipal Code that are most specifically aligned with goals and policies in the Safety Element include:

- **Community and public safety** that includes services such as fire, police, emergency medical services and code enforcement that are responsive to all residents so that everyone feels safe to live, work and play in any neighborhood in Oakland;
- **Equity in City practices** that eliminates all forms of discrimination in City activities in order to provide fair treatment for all employees, contractors, clients, community partners, residents and others who interact with the City; and
- **Healthy built and natural environments** for all people that include mixes of land use that support jobs, housing, amenities, and services; trees and forest canopy; and clean air, water, soil, and sediment.

¹ Oakland Municipal Code Section 2.29.170.1

Vulnerable Communities: Definitions

The Safety Element builds on the City’s ongoing efforts to achieve racial equity in Oakland. The Element’s goals and policies will prioritize **“frontline communities”**, or vulnerable communities that will be affected ‘first and worst’ from climate change and environmental hazard impacts. The Safety Element’s racial equity focus is based on the frameworks established by the City’s 2018 Oakland Equity Indicators Report, the 2020 Racial Equity Impact Assessment and Implementation Guide for the Oakland’s 2030 Equitable Climate Action Plan (ECAP), and other previous studies that have laid the foundation to ensure that the City integrates equity and social justice into its policies, practices, and actions.

“Frontline communities” face intersecting vulnerabilities, including racial discrimination, poverty, disability, housing insecurity, linguistic isolation, poor air quality, and more, which magnify climate threats. As a result, they are often the least able to adapt, resist, or recover from climate impacts. “Frontline communities” can change based on the specific threat or policy being considered. For example, vulnerable communities located on coastlines will be most severely impacted by sea level rise.

This Element uses the term **“vulnerable communities”**, and each section in this Element identifies what vulnerable groups are most affected by specific hazards, though there may be other groups also affected pending implementation of a specific policy or action.

Environmental Justice (EJ) Communities (referred to as “disadvantaged communities” in SB 1000) are low-income areas that are disproportionately impacted by environmental pollution and other hazards that can lead to adverse health effects. EJ Communities are eligible for special funding considerations, as well as targeted environmental justice efforts and investments. In Oakland, the most cumulatively burdened Environmental Justice Communities were defined using a robust screening analysis that analyzed both composite and individual scores of more than 50 indicators and other relevant factors. In other words, EJ Communities face the greatest cumulative burden from a variety of factors beyond safety.

As applicable, sections in this Chapter include a list of Oakland neighborhoods (by census tract) that fall in the top decile for safety-related indicators. See the Environmental Justice Element and corresponding appendix for more information.



Mapping Vulnerable Communities

The Safety Element's natural hazard maps also illustrate areas of highest social vulnerability in Oakland. Using the methodology developed by the Bay Conservation and Development Commission (BCDC), block groups labeled "Highest social vulnerability" have eight or more social vulnerability indicators with rates in the 70th percentile, relative to the Bay Area; and/or six or more social vulnerability indicators with rates in the 90th percentile, relative to the Bay Area.

Social Vulnerability indicators include:

- Renters
- Under 5 years old
- Very low income
- Non U.S. citizens
- Without a vehicle
- People with disabilities
- Single parent families
- Communities of Color
- 65 years old and older living alone
- Limited English proficiency
- Without a high school degree
- Severely housing cost burdened

By mapping and prioritizing vulnerable communities in the development of the Safety Element's goals and policies, this Element aims to be rooted in an equity framework in accordance with the General Plan's Vision Statement and Guiding Principles. Other frontline communities, including people in specific industries, people experiencing homelessness, and other groups may also be affected by specific hazards; however, these groups are not included in mapping, as census-level data is not available. Regardless, all policies in the Safety Element must consider the impacts to vulnerable individuals, and actions must address unique needs and build adaptive capacity accordingly.



RELATIONSHIP TO LOCAL HAZARD MITIGATION PLAN

Under the Disaster Mitigation Act of 2000, the Federal Emergency Management Agency (FEMA) requires a hazard mitigation plan when applying for certain types of non-emergency disaster assistance. Hazard mitigation plans must be updated and re-submitted for FEMA approval every five years to maintain eligibility for funds. The Local Hazard Mitigation Plan supplements the Safety Element of the General Plan to provide specific insight into hazards that the city faces along with strategies for mitigation. The current City of Oakland 2021 – 2026 Local Hazard Mitigation Plan (LHMP) is an update of the previous hazard mitigation plan the City adopted in 2016. Government Code Section 65302(g)(4) required that this updated version of the Local Hazard Mitigation Plan contain a vulnerability assessment that identifies the risks that climate change poses to the local jurisdiction, including climate adaptation and resiliency strategies.

The 2021 – 2026 LHMP establishes and promotes a comprehensive hazard mitigation strategy and efforts to protect the whole community and environment from identified natural and human-made hazards. The 2021 – 2026 LHMP provides a list of actions that may assist the City in reducing risk and preventing loss from future hazard events, as well as critical facilities (facilities and infrastructure that are critical to the health and welfare of the population) to increase preparedness. The action items address multi-hazard issues, as well as mitigation for hazards that include

earthquake, landslide, severe weather, wildfire, sea level rise, dam failure, flood, tsunami, and drought. While the Safety Element of the General Plan provides an overview of the environmental and human-made hazards that affect Oakland, the Local Hazard Mitigation Plan provides greater analysis, context, and mitigation strategies for these hazards.

RELATIONSHIP TO CLIMATE CHANGE VULNERABILITY ASSESSMENT

The Climate Change Vulnerability Assessment ('Assessment') for the City of Oakland was released in March 2023. The purpose of this Assessment is to assist the City and the community in identifying and summarizing climate change hazards and risk, and to inform policies for the Safety, Environmental Justice, Land Use and Transportation, and other pertinent General Plan elements and may serve as reference for additional community engagement. The Assessment highlights specific locations and communities most likely to be severely impacted by wildfires, sea level rise and flooding, and temperature increases. California Senate Bill (SB) 379 (2022) Government Code section 65302 requires all cities and counties in California to address climate adaptation and resiliency in their general plans.

The Assessment synthesizes climate change projections created by Cal-Adapt, historical data pertaining to natural events and hazards, and socio-demographic data to determine which climate impacts are most likely to affect the city, where these

impacts may manifest, who will be affected, and how severely. The Assessment also considers existing and planned development in identified at-risk areas, including structures, roads, utilities, and essential public facilities, and identifies the federal, state, regional, and local agencies responsible for the provision of public health, safety, transportation, and environmental services, including special districts and local offices of emergency services.

RELATIONSHIP TO OAKLAND'S GENERAL PLAN ELEMENTS

Based on timing requirements specified by State law, the Housing, Environmental Justice, and Safety elements are being updated concurrently during the first phase of the General Plan update.

The Safety Element is also closely related to the other General Plan Elements, particularly the Environmental Justice and Housing Elements. In recognition of the connections between environmental justice topics, such as hazardous materials, the Safety Element also addresses hazards as they relate to environmental justice and integrates these concepts into its policies, goals, and actions. For example, the Safety Element includes policies that require the City to review new proposed facilities with consideration for proximity to residential development and Environmental Justice Communities where pollution overburden already exists.

Further, the Housing Element presents the City of Oakland's strategy and commitment for how it will meet the housing needs of the community. The Element aims to make quality housing opportunities available to all Oakland residents and address systemic housing inequity. The Safety Element aims to protect residents, workers, and visitors from hazards. As such, policies, goals, and actions in the Safety Element also help to protect housing from impacts of environmental and human-made hazards. For example, policies in the Safety Element require geotechnical analysis of development in geologic or seismic hazard zones, or stringent design and building requirements for housing in Very High Fire Hazard Severity Zones.

PROCESS AND COMMUNITY ENGAGEMENT

Community engagement included a range of activities intended to meet people where they are. In many instances, community members shared their firsthand knowledge of environmental issues in their neighborhoods, as well as existing community-led efforts and strategies to address these issues. Engagement activities included:

- **Focus groups.** The City conducted three focus groups on safety issues with various organizations involved in public safety, climate change, and resilience issues. The three focus group topics were on 1) general Safety Element topic requirements and background; 2) climate change and resilience; and 3) addressing perception of safety in the built environment, as well as the social determinants of creating a safe environment, such as housing, employment, and other issues that the General Plan could address.
- **Cultural events and pop-ups.** Since November 2021 to March 2023, the General Plan Update (GPU) Deeply Rooted Collaborative has conducted pop-up events in Eastmont, Fruitvale, San Antonio, Chinatown, West Oakland, and Downtown. For example, in West Oakland these events have been porchside chats and a pop-up at Hoover Elementary. Engagement has also been integrated into larger community events like the Oakland Asian Cultural Center's (OACC) Asian Pacific New Year Celebration and the Black Joy Parade. At these community-embedded events, the team has engaged with thousands of people, with a majority being individuals from communities of color. These events sought to hear community concerns, ideas and solutions through interviews and focus group conversations.
- **Technical Advisory Committee.** The Technical Advisory Committee (TAC) is comprised of internal City department representatives as well as other Oakland-based, neighboring, and regional governmental agency representatives. The TAC serves to advise on key strategies to address Oakland's big issues related to housing, environmental justice, safety, and other topics; review community input collected at key points in the process; and inform, discuss, and provide technical direction on policies and actions.

- **Stakeholder interviews.** At eight discussion groups held in May 2022, representatives from over 50 agencies, businesses, and community groups participated in small group discussions with project staff. At the Environmental Justice and Conservation discussion, participants emphasized youth participation and community-led climate action programs. Others described community health issues related to urban heat and stormwater runoff filtration.
- **Neighborhood Councils.** City staff are working with Neighborhood Service Coordinators to present at Neighborhood Crime Prevention Councils (NCPCs) on topics including housing, environmental justice, industrial lands and safety and natural hazards and receive feedback.

Some of the key themes from community outreach included the following:

- **Community Leadership and Planning.** Many community members highlighted community stewardship and leadership as a tool for climate and disaster resilience. Several existing organizations are already working with frontline communities to produce solutions to climate change and disaster preparedness. The City should leverage this existing work and partner to support these organizations as they implement community-driven solutions.
- **Importance of Green Infrastructure.** Green infrastructure was one of the most frequently mentioned strategies to address climate change, improve air quality, and bolster public health. Community members favored nature-based adaptation strategies to protect against sea level rise, urban flooding, and urban heat. Community members also noted that urban greening and green infrastructure projects were frequently included in existing community plans, including the East Oakland Neighborhoods Initiative and the West Oakland Community Action Plan. Oakland staff indicated that finding funding for green infrastructure was a challenge, but that it could be included in tandem with complete streets or other street improvement projects.
- **Equitable response.** Community members were interested in developing a preemptive emergency response training

that reaches more diverse audiences. Climate hazards and disaster-related emergencies disproportionately affect people with disabilities, low-income people, people of color, and houseless individuals. Decisions made related to disaster risk and response should be examined with this lens, and coordination with community groups on education, outreach, training exercise, and strategies is the best way to make emergency preparedness accessible.

- **Public Safety.** The issue of public safety and preventing violence was another major issue voiced by the community. Community members discussed improving and expanding community spaces as well as improving cleanliness across the city as a critical factor in increasing feelings of safety. Many felt that certain places in Oakland lacked sufficient and accessible community spaces such as parks, local businesses, recreation centers, libraries, and churches, which contributes to a lack of vibrancy and human presence in Oakland. They felt that formalizing informal gathering spaces would be a useful tool to create safety by building community. Community members also shared that observations of trash and illegal dumping can inhibit community pride. Suggested strategies from community included increased pedestrian and bicycle safety; geographically equitable investments in community facilities, such as childcare, community centers/restorative justice centers, and gathering places; and land uses/urban design that create an active and welcoming streetscape. Many of these policies are included in the Environmental Justice Element.

CONNECTION TO VISION AND GUIDING PRINCIPLES

The Safety Element seeks to address and mitigate hazards that can affect the health and safety of the community. The purpose of this Element ties closely in with the following portions of the General Plan's Vision Statement:

We are housed, healthy, and safe. *Oakland has high-quality accessible housing for everyone who needs it, and each person is housed with dignity. Every neighborhood, home, school, and park has clean air and fresh water, and Oakland's children breathe that fresh, clean air as they run, play, and grow. Cool shade from mature trees, scents of flowers, and sounds of birds chirping and bees buzzing enrich lush residential areas. The city's many grocery stores, farmer's markets, and garden farmstands offer fresh, healthy food to nurture tables and bodies in all different cultural traditions. Oakland's homes and communities have healed from historic violence, and crime-free, clean streets and public spaces are safe for people to walk and linger.*

We are interconnected. *Oakland is a center for sustainable living, where each neighborhood is connected to every other neighborhood through safe, easy, low-carbon transportation options. People of all ages and abilities can walk, bike, or roll along streets that are safe, welcoming, and well-maintained, and residents can take buses and shuttles with ease and take advantage of expanding regional transit options. Designated truck routes keep noisy vehicles out of neighborhoods, and residents are proud of the city's clean, low speed*

streets lined with local businesses and abundant trees. The prevalence of walking, biking, and transit helps Oakland meet its climate goals, and strong neighborhood networks ensure that residents are equipped to handle and recover from natural and human-caused challenges as they arise.

The Safety Element also most closely furthers the following General Plan Guiding Principles:

Each of these guiding principles is rooted in an equity framework that should work through the Plan's policies to reduce disparities and promote more equitable outcomes, especially for racial equity. Please see the accompanying racial equity framework for more information.

We are housed, healthy, and safe.

- Ensure that every home, neighborhood, school, and park has clean air, water, and land.
- End community violence and crime through a collaborative and community-led public health approach to violence and healing.

We are interconnected.

- Proactively plan for resilience, quick response, and equitable recovery from sea level rise, wildfires, severe drought, extreme weather and heat, and other climate-change challenges.

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