

1 | INTRODUCTION

1.1 | OVERVIEW

Profile of Oakland The City of Oakland, California, is located on the eastern shore of San Francisco Bay, in northwestern Alameda County. It covers an area of approximately 53 square miles, with an average elevation of 42 feet. The city is bounded by the cities of Emeryville and Berkeley to the north/northwest, unincorporated Contra Costa and Alameda counties to the east/northeast, the city of San Leandro to the south, the Oakland Estuary to the south/southwest, and San Francisco Bay to the west; the island city of Alameda is located across the estuary, while the city of Piedmont is an enclave within Oakland, near Lake Merritt (see Figure 1.1). With a population of approximately 410,000 people, Oakland is the eighth most-populous city in the state; it is also the largest city in Alameda County, in terms of both area and population, and is also the county seat. Oakland is also one of the most ethnically diverse cities in the U.S., with each of the four main ethnic/racial groups—blacks, non-Hispanic whites, Hispanics and Asians/Pacific Islanders—making up more than 15 percent of the population.



Oakland’s land uses

(according to general plan classifications; in number of acres and percent of total city area)

Hillside residential	6,155	18.3%
Detached-unit residential	5,910	17.6%
Mixed-housing type residential	4,905	14.6%
General industry & transportation	4,488	13.3%
Resource conservation	3,148	9.4%
Urban park and open space	2,375	7.1%
Business mix	1,720	5.1%
Urban residential	1,018	3.0%
Institutional	873	2.6%
Estuary policy plan area	738	2.2%
Central business district	578	1.7%
Neighborhood center mixed use	472	1.4%
Community commercial	454	1.4%
Regional commercial	479	1.4%
Housing and business mix	309	0.9%

Total *33,622 acres (52.53 sq miles)*

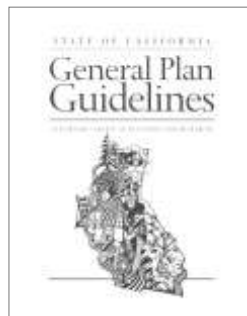
Oakland is one of the oldest cities in the state, having been incorporated in 1854. The city’s importance increased after 1869, when it became the western terminus of the transcontinental railroad. Oakland grew rapidly during the first half of the 20th century, adding nearly 100,000 residents between 1940 and 1945 alone as it became one of the hubs for the industrial war effort during World War II. Mirroring the fate of many other older American cities, Oakland’s population and economic importance declined in the decades following the war as suburbanization lured families and jobs away. The decline has been reversed during the last two decades, largely as a result of new waves of immigration from Latin America, China and southeast Asia.

The city’s major natural features are San Francisco Bay, the Oakland Estuary, Lake Merritt, and the hills along the city’s northeastern boundary. Downtown is a few blocks inland from the estuary and immediately west of Lake Merritt; most residential districts are to the north, east and southeast of downtown; and industrial areas are to the west and southeast, along I-880. Notable large-scale land uses include the chain of open spaces in the hills, Oakland International Airport, and the seaport (one of the country’s largest and busiest). The airport and seaport, combined with several interstate highways and passenger and freight rail lines that pass through the city, make Oakland the transportation hub of Northern California.

Introduction to general plans California state law requires that each city and county adopt a general plan to guide its physical growth and development. The general plan represents a community’s vision of its future and is a statement of its values, priorities, needs and concerns. More specifically, it is a jurisdiction’s official policy document regarding the future location of housing, business, industry, transportation facilities, parks and other land uses; the conservation of natural resources; and the protection of the public from safety hazards. As official policy, it forms the basis for land-use decisions made by a jurisdiction’s planning commission and its city council or county board of supervisors. State law dictates that any general plan meet certain legal criteria: the plan must be thorough, addressing the broad range of planning-related issues relevant to the community; it must be geographically comprehensive, covering all public and private land within a jurisdiction’s boundaries as well as any outside territory that bears relation to its planning; it must have a long-term outlook, projecting conditions and needs well into the future; and it must be internally consistent, meaning that there are no conflicts among its many parts.

The regulations on the preparation of general plans are found in Sections 65300-65307 and 65350-65362 of the California Government Code.

The State of California Governor’s Office of Planning and Research publishes a document titled “General Plan Guidelines,” which explains and interprets the legal requirements for the preparation of general plans.



Policy statements At the heart of every general plan is a set of goals, principles, objectives, directions, policies, recommendations, strategies, actions and other statements which are often collectively referred to as policy statements. The purpose of policy statements is to provide direction for a city or county, and guide the development-related actions and decisions of its officials. Policy statements attempt to reconcile the diverse interests of a community, and are normally based on background technical information and issue analyses developed as part of the general-plan process. Policy statements fit within a hierarchical framework based on the level of importance, specificity and time perspective of each type of statement. (Goals, for example, tend to be slow-changing, more-abstract expressions of community values; they are higher in the hierarchy than implementation actions, which are quantifiable, have relatively short time spans and address highly specific issues.) There is no standard framework or hierarchy for organizing and categorizing policy statements, so general plans differ widely in this area.

The general plan elements State law requires that a general plan address locally relevant planning issues categorized under seven mandatory “elements,” or subject categories. These elements are: land use, circulation, housing, conservation, open space, noise and safety. In addition, many cities and counties adopt “optional” elements covering issues of local interest. In order to reflect local interests and circumstances, each city and county determines the relative importance to its local planning of the various issues, and the degree of specificity and level of detail of discussion accorded to each issue. There is no requirement that the elements appear as discrete sections; cities and counties may combine elements, and may prepare the general plan as a single document, with sections or chapters not necessarily corresponding to the seven elements.

The safety element The purpose of a safety element is to reduce the potential risk of death, injuries, property damage and economic and social dislocation resulting from large-scale hazards. By law, a safety element must address the following issues: seismically induced surface rupture, ground shaking, ground failure, tsunamis, seiches, and dam failure; slope instability leading to mudslides and landslides; subsidence, liquefaction and other seismic and geologic hazards; flooding; wild-land and urban fires; and 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. (Also, safety elements must include maps of known



In preparing *Protect Oakland*, staff conducted a thorough review of the safety elements from the following jurisdictions: the counties of Alameda and Contra Costa, and the cities of Alameda, Berkeley, Emeryville, Fremont, Hayward, Long Beach, Los Angeles, Oakland (the original version), Palo Alto, Piedmont, Pittsburg, Sacramento, San Francisco, San Jose, San Leandro, South San Francisco and Union city.

seismic and other geologic hazards.) Some cities and counties include additional hazards of local interest such as crime and hazardous materials.

Oakland’s general plan While most cities and counties adopt their general plan as a single document, the Oakland general plan is made up of several separate elements, adopted at different points in time. The current elements of the general plan are, from most to least recent:

- *Protect Oakland*, the safety element (2004)
- “Housing Element” (2004)
- *Envision Oakland*, the land-use and transportation element (1998); amended in 1998 to incorporate the “Alameda County Hazardous Waste Management Plan;” in 1999 to include the “Estuary Policy Plan” and the city’s “Bicycle Master Plan;” and in 2002 to include the city’s “Pedestrian Master Plan”
- “Open Space, Conservation and Recreation Element” (1996)
- “Historic Preservation Element” (1994); amended in 1998.
- “Noise Element” (1974)
- “Scenic Highways Element” (1974)

1.2 | THE SAFETY ELEMENT

Organization The safety element contains seven chapters. In order, they are: this introductory chapter, five chapters dealing with each of five broad safety-related issues (public safety, geologic hazards, fires, flooding and hazardous materials), and a chapter aggregating hazards by area of the city. Each of the issue-specific chapters contains an overview of the particular issue; an outline of the institutional framework, including laws, regulations and programs; an analysis of critical aspects of the issue; a set of policy statements specific to the issue; and a list of resources, including the names of the key agencies consulted for information and a bibliography. (Internet addresses are given for many of the resources used to prepare the safety element. It is worth noting that a large percentage of such addresses become invalid every year, as web pages cease to exist or are moved to other locations on the Internet. It was felt that providing Internet addresses would nevertheless be useful because many web pages do remain valid for

years and also because the safety element will be consulted most frequently in the few months after its publication.)

Each chapter also contains one or more maps illustrating critical aspects of the issues covered in a particular chapter. It is important to note that, of necessity, these maps are *generalized*, and are not definitive on a site-specific basis. (This occurs because information on environmental hazards generally does not exist on a parcel-by-parcel basis for large areas, and because the purpose of general plan elements is to present information that is adequate primarily for large-scale planning analyses.) The maps in the safety element are useful tools for large-scale planning overviews and preliminary assessments but are not a substitute for more detailed investigations required for the development of specific sites. Because the information on the maps is generalized, it is likely that there are sites within areas shown on a map as being susceptible to a particular hazard in which that hazard is not present; conversely, it is also likely that there are sites outside an environmental-hazard area, as shown on the maps, that do present risks for that particular hazard. For development purposes, site-specific engineering, geotechnical, soils and other analyses are necessary to determine the level of risk on a given site for any environmental hazard.

Policy statements The safety element uses a hierarchical, three-layer framework to organize policy statements. In the framework's hierarchy, at the top are goals (see below), or broad, general ends which the city hopes to achieve by implementing the safety element. Goals are related to safety hazards overall rather than to any specific issue, and they form the basis for policies, the next level of the hierarchy. Policies, which are less general than goals, identify specific areas in which the city will direct efforts in order to attain its goals. Below the policies are actions, detailed and implementable steps that, if feasible, the city will undertake in order to carry out the policies and, ultimately, the goals. There is at least one action supporting every policy, and each action lists the city agency (or agencies, in a few instances) expected to assume the leading role in implementing that action.

Goals Goals are broad, comprehensive directions or end conditions; they simply state the desired results without concern for the specific actions necessary to reach them. The safety element has established three goals related to safety hazards for the city:

- To protect the health and safety of Oakland residents and others by minimizing potential loss of life and injury caused by safety hazards;

- To safeguard Oakland’s economic welfare by reducing potential property loss, damage to infrastructure, and social and economic dislocation and disruption resulting from safety hazards; and
- To preserve Oakland’s environmental quality by minimizing potential damage to natural resources from safety hazards.

The update process Oakland’s original safety element, was adopted in 1974. Since then, Oakland’s land-use patterns have changed, its population and economy have expanded, and the city has experienced two devastating natural disasters (the 1989 Loma Prieta earthquake and the 1991 Oakland Hills fire). Oakland is particularly prone to environmental hazards—especially earthquakes, wildfires and landslides—and will no doubt experience them again. While safety hazards cannot be eliminated, the city’s administration believes that by incorporating, analyzing and disseminating new information as part of an updated safety element, it can develop mitigation actions to reduce the damage to human life, property and the environment resulting from such hazards. The process to update the environmental hazards element consisted of several phases: determining the issues to be covered in the element, research into existing conditions, analysis of background data, formulation of policy statements, review of the draft element by government-agency staff and the public, and official adoption of the final element.



A scope of work for the safety element was presented to the Planning Commission in April 2003 and to the Public Safety Committee of the City Council in May 2003. A preliminary draft of the safety element was unveiled in August 2004, with a community meeting held at City Hall on August 25, 2004. The draft safety element was formally circulated for public review and comment (along with an initial study and negative declaration for the project) between September and October 2004; also, as required by state law and selected regulations, the City referred the draft element to various relevant government entities. On October 20, 2004, the Oakland Planning Commission approved the negative declaration and recommended adoption of the safety element to the City Council. The Public Safety and Community and Economic Development committees considered the element on November 9, 2004, and forwarded it to the full City Council. The safety element was adopted by the City Council a week later, on November 16, 2004.

The regulations for the implementation of general plans are found in Sections 65400-65404 of the California Government Code.

Implementing the safety element This element, as mentioned previously, includes a framework of policies and strategies developed to guide public decision-

making regarding land-use development with regard to safety hazards. Those policy statements will be used by the Oakland city council, planning commission and other officials and staff as they evaluate proposed land-use changes and regulate general development and specific projects. The official decisions and actions taken by city staff and elected and appointed officials will need to be consistent with the policy statements in order for those decisions and actions to comply with state law. While consistency is required, “tensions” among policy statements, and among elements, are inevitable, and will need to be weighed against each other through the decision-making process on particular development and land-use proposals. It is expected that the policies and strategies in the safety element will be implemented through such tools as the zoning and subdivision ordinances, building and housing codes, specific plans, redevelopment plans, development agreements, annual budgeting, and the capital-improvement program.

The City will adopt and implement the strategies in a Local Hazard Mitigation Plan, which reduce the impacts of natural and human-caused disasters, under the requirements of the Federal Disaster Mitigation Act of 2000. On June 15, 2021, the City Council adopted the Oakland Local Hazard Mitigation Plan, which serves as an “implementation appendix” to the Safety Element of the Oakland General Plan (and is included in the Safety Element as Appendix F). Specifically, the mitigation measures in the adopted Local Hazard Mitigation Plan are a set of actions the City is taking, or is considering taking, to reduce the risks of disasters on Oakland residents, businesses and essential government services. The implementation of these mitigation actions, which include both short and long-term strategies, involve planning, policy changes, programs, projects, and other activities. The Fire Department’s Emergency Management Services Division and Planning and Building Department will have co-lead responsibility for evaluating the Plan on a regular basis, as necessary, to comply with federal and state laws, and for preparing future editions of the Local Hazard Mitigation Plan.

1.3 | RELATIONSHIP TO OTHER ELEMENTS

Need for consistency As stated earlier, all parts of the safety element must be consistent not only with each other but also with other elements of the Oakland general plan. As summarized below, areas of certain other elements of the city’s general plan overlap with the safety element. These areas of overlap are consistent across elements.

In addition, efforts have been made to ensure that the safety element is consistent with other safety-related planning efforts at the city, in neighboring jurisdictions, and at the regional, state and federal levels. This section describes the safety-related components of the plans and programs that were considered in the preparation of the safety element. Plans and programs specific to one or more safety hazards are discussed in the issue-specific chapters.

Original safety element Because Oakland’s original safety element is almost thirty years old, very little of the information in it reappears in the updated element. However, the original element did influence the content and organization of the current document. The original element—which has been replaced by *Protect Oakland* as the city’s official safety element—includes six chapters:

- “Information,” with a one-page overview of the element.
- “Background,” containing general information on seismic activity (including a map of earthquake faults in the Bay Area) and fire and flooding hazards.
- “Identifying Environmental Hazards,” with a more detailed look at geologic, fire and flooding hazards, including maps of zones around fault traces, critical fire areas, and areas subject to potential landslides, flooding and inundation by tsunamis.
- “Structural Hazards,” describing the effects of earthquakes on residential, commercial, industrial and public structures, and on utility and transportation facilities; includes maps of Oakland’s census tracts classified according to the number of potentially hazardous structures within them.
- “Areas of Hazards and Risks,” relating the most significant identified hazards to five areas of the city—the Oakland hills, East Oakland, West Oakland, Central Oakland and the shoreline—and illustrated with a comprehensive hazards map.
- “Policies and Programs,” with policies and programs related to geologic, seismic, fire and flooding hazards, “general considerations,” and safety during emergencies.

Open space, conservation and recreation (OSCAR) element The OSCAR element contains numerous objectives, policies and actions related to safety from environmental hazards, including on the conservation of hazard-prone parks and other open space; development of hillside sites; erosion and soil loss from new development; mitigation of hazards associated with soil contamination; maintenance of graded slope and retaining walls; geo-technical study requirements for major developments in hazard-prone areas; development of a land-stability database; development on filled soils; periodic revision of the grading ordinance; prevention of hazardous spills; clean-up of waterfront toxic hot spots; household hazardous waste disposal; creek management and

maintenance and other flood control measures; fire prevention; and the improvement of air quality. The OSCAR element also includes a map of areas where the predominant slope is 30 percent or steeper. The safety-related objectives, policies and actions in the OSCAR element are reproduced in Appendix A.

Envision Oakland *Envision Oakland* is Oakland’s land-use and transportation element (LUTE). It contains several policies related to environmental hazards, including on the cleanup of contaminated industrial properties; mitigation of land-use conflicts (especially between industrial and residential uses, and particularly in West Oakland and the Fruitvale waterfront); zoning and development considerations toward natural features; infrastructure limitations with regards to emergency response; subdivision of land in the hills; development and staffing of public-safety facilities and services; undergrounding of utility lines; and criteria for siting hazardous-waste facilities. The safety-related policies in *Envision Oakland* appear in Appendix B.

Housing element The 2004 update of Oakland’s housing element discusses several issues related to safety hazards. These include the presence of lead-based paint in the housing stock; provision of emergency shelters for short-term housing; redevelopment of vacant and underutilized sites formerly in industrial use; enforcement of building codes, including the Dangerous Building Code; and programs for the rehabilitation of the existing housing stock, including correction of major code deficiencies, emergency repairs, and abatement of lead-based paint hazards. Safety-related policies and actions in the housing element are included in Appendix C.

Historic preservation element Among other topics, the city’s historic preservation element describes provisions of Oakland’s earthquake repair ordinance and unreinforced masonry building ordinance related to historic structures. It also acknowledges the demolition and rehabilitation of buildings damaged in the 1989 Loma Prieta earthquake, the seismic retrofitting of unreinforced-masonry and other older buildings, and the need for more effective code enforcement to stabilize, secure and rehabilitate deteriorated significant older properties. Finally, it contains policies and actions dealing with historic preservation in response to earthquakes, fires or other emergencies, in relation to seismic retrofit and other building-safety programs, and in relation to substandard or public-nuisance properties. The safety-related policies and actions in the historic preservation element are reproduced in Appendix D.

Other safety elements The decisions and actions of other local jurisdictions have the potential to impact the City of Oakland. Below is a list of jurisdictions adjacent to Oakland; the chapter or element of the general plan of those jurisdictions that most closely corresponds to Oakland’s safety element; and the date of adoption of the general plan or element. (Because each jurisdiction decides how to organize its general plan, safety-related issues often appear under more than one chapter or element.)

- Alameda County: “Seismic Safety and Safety Elements” (1982; elib.cs.berkeley.edu/cgi-bin/doc_home?elib_id=934)
- City of Alameda: “Health and Safety Element” (Chapter 8 of the general plan; 1991; www.ci.alameda.ca.us/planning/pdf/GPchap8.pdf)
- City of Berkeley: “Disaster Preparedness and Safety Element” (2002; www.ci.berkeley.ca.us/planning/landuse/plans/generalPlan/safety.html)
- Contra Costa County: “Safety Element” (Chapter 10 of the general plan; 1996; elib.cs.berkeley.edu/cgi-bin/doc_home?elib_id=1792)
- City of Emeryville: “Public Health and Safety” (Chapter V of the general plan; 1993)
- City of Piedmont: “Safety Element” (Chapter VII of the general plan; 1996)
- City of San Leandro: “Environmental Hazards” (Chapter 6 of the general plan; 2002; www.ci.san-leandro.ca.us/pdf/sgptxtchap6.pdf)

1.4 | RESOURCES

Agencies consulted

- Governor’s Office of Planning and Research (www.opr.ca.gov)
- Oakland Community and Economic Development Agency, Planning and Zoning Division (www.oaklandnet.com/government/ceda/revised/planning.html)

Documents consulted

- *General Plan Guidelines*; Governor’s Office of Planning and Research, October 2003 (www.opr.ca.gov/planning/PDFs/genplan.pdf).

Other resources

- California Government Code (leginfo.ca.gov/cgi-bin/calawquery?codesection=gov)