



General Plan

DRAFT DISASTER PREPAREDNESS AND SAFETY ELEMENT

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1 INTRODUCTION

Berkeley faces a diverse range of hazards, including earthquakes, wildfires, flooding, and extreme heat, many of which are being intensified by climate change and require coordinated and proactive planning. The Disaster Preparedness and Safety Element brings these efforts together under a single framework, linking hazard mitigation, emergency response, and long-term climate change resilience policies. By integrating safety considerations across land use, infrastructure, and community programs, this Element ensures that preparedness is not an isolated effort but a core part of how Berkeley plans for a safer, more equitable future.

1.1 PURPOSE AND OBJECTIVES OF THE DISASTER PREPAREDNESS AND SAFETY ELEMENT

The purpose of this Element is to protect Berkeley's residents, visitors, businesses, and natural environment from the impacts of natural and human-caused hazards while building long-term resilience to climate change. It establishes a clear framework for reducing risk, safeguarding critical infrastructure, and ensuring that emergency preparedness and recovery efforts are equitable and effective.

Objectives include:

- **Strengthen community preparedness, awareness, and partnerships** through training, resources, and inclusive outreach.
- **Identify, assess, and reduce risks from hazards** to protect life, property, and essential services.
- **Reduce vulnerability** through land use planning, building safety, and hazard mitigation programs.
- **Maintain effective, well-coordinated emergency response, communication, and mutual aid systems** to ensure timely and reliable public safety services based on evolving risks and community needs.
- **Strengthen coordination, communication, and community alert systems** to ensure community members receive clear and timely emergency alerts.
- **Prepare the City organization and community for evacuation, sheltering, and recovery** through outreach, coordinated regional planning, and equitable recovery policies.
- **Integrate climate adaptation into planning** to address long-term risk, such as sea level rise, extreme heat and drought
- **Promote equitable preparedness, response, and recovery** by prioritizing support for communities facing higher hazard exposure and social vulnerability.

These objectives are informed by the Disaster Preparedness and Safety Existing Conditions Report, included as Appendix A to this Element, which provides an analysis of natural and human-caused hazards that impact communities in Berkeley.¹

¹ The Disaster Preparedness and Safety Existing Conditions Report can be found on the City's website: <https://berkeleyca.gov/your-government/our-work/adopted-plans/general-plan>.

1.2 STATUTORY REQUIREMENTS

State law requires that the General Plan include an element addressing environmental hazards applicable to the jurisdiction, such as fires, floods, drought, earthquakes, landslides, climate change, and other human-made hazards (Government Code Section 65302(g)). This Disaster Preparedness and Safety Element meets the legal requirements and includes policies intended to reduce the potential short- and long-term impacts of personal injury, property damage, and damage to the City's infrastructure. The Disaster Preparedness and Safety Element is internally consistent with other General Plan elements, as required by State law.

A Safety Element is required to address the following:

- **Protect the community from unreasonable risks** associated with a variety of hazards, including geologic and seismic hazards such as landslides and ground shaking from earthquakes, flooding, and wildland and urban fires (Government Code Section 65302(g)(1)).
- Map and assess the risk associated with **flood hazards**, and establish a set of policies and goals with related implementation measures to avoid or minimize flood risk to new development, protect essential public facilities from flooding, and establish cooperative relationships between public agencies responsible for flood protection (Government Code Section 65302(g)(2)).
- Map and assess the risk associated with **wildfire hazards**, and establish a set of policies and goals with related implementation measures to reduce the risk of wildfires, including restricting new uses of land, protecting essential public facilities, providing adequate infrastructure for fire suppression, locating new development in fire hazard areas, and establishing cooperative relationships between public agencies responsible for fire protection (Government Code Section 65302(g)(3)).
- Assess the vulnerability of populations, land uses, and critical assets to **climate change impacts** and identify adaptation and resilience policies and measures to reduce climate-related risks, such as extreme heat, drought, flooding, and sea level rise. This includes protecting essential public facilities, providing adequate infrastructure for emergency response, and reducing risks to natural and built environments (Government Code Section 65302(g)(4)).
- Identify residential developments in any hazard area identified in the Safety Element that do not have **at least two emergency evacuation routes** (Government Code Section 65302(g)(5)).
- Government Code Section 65302.15 further requires that the Local Hazard Mitigation Plan or Safety Element **identify evacuation routes, analyze their capacity, safety, and viability, and include evacuation locations** under a range of emergency scenarios.

The City of Berkeley has conducted a Climate Change Vulnerability Assessment (SB379) in accordance with Government Code Section 65302(g)(4), an Access Impaired Neighborhood Analysis (SB99) in accordance with Government Code Section 65302(g)(5), and an Evacuation Route Safety, Capacity, and Viability Analysis (AB747) in accordance with Government Code Section 65302.15. These assessments are included as appendices to this Element.

1.3 OVERVIEW

The Disaster Preparedness and Safety Element serves as a roadmap for reducing risk and enhancing resilience across Berkeley. It organizes policies and programs into interconnected strategies that address hazard mitigation, emergency preparedness, and long-term recovery. This Element complements other General Plan components, such as Land Use, Environmental Justice, and Climate Action, by integrating safety considerations into planning and development decisions.

The Element is organized into sections that provide background, analysis, issues, and opportunities for addressing Berkeley's hazard risks and resilience priorities, followed by goals, policies, and an implementation plan to guide action. It includes:

- **Communities Facing Social Vulnerability:** Assessment of social vulnerability in Berkeley, identifying opportunities to address the needs of communities disproportionately impacted by social and environmental risks.
- **Community Resilience and Hazard Awareness:** Issues and opportunities to expand hazard awareness, preparedness resources, and neighborhood-based resilience, with a focus on equity.
- **Natural and Human-Caused Hazards:** Background on seismic and geologic hazards, urban fires, wildfires, poor air quality, flooding, sea level rise, and extreme heat, including regulatory context, hazard assessments, and issues and opportunities to improve community safety.
- **Resilient Built Environment:** Issues and opportunities for strengthening critical facilities, utilities, and transportation systems to withstand disruptions and adapt to future climate conditions, including drought.
- **Emergency Preparedness, Response, and Recovery:** Framework for coordinated emergency response, evacuation planning, and post-disaster recovery that prioritizes equity and rapid restoration of essential services.
- **Goals and Policies:** Goals and policies to address the issues and opportunities described in the previous sections of the Element.
- **Implementation Plan:** Programs outlining specific actions to address safety issues, identifying lead and supporting departments, implementation timeframe, and success metrics.

By aligning local actions with state and regional guidance, this Element provides a comprehensive framework for safeguarding Berkeley's residents, economy, and environment against evolving hazards.

1.4 PUBLIC PARTICIPATION

This project used a two-pronged approach to community engagement. First, the City partnered with a local community-based organization, the Ecology Center, to lead an equitable community engagement process aimed at co-creating both the Disaster Preparedness and Safety Element and the Environmental Justice Element. The Ecology Center's engagement activities varied depending on the goals of each phase of the larger project; however, a central component of the approach was incorporating community organizations and direct community input through a Community Advisory Committee (CAC). Facilitated by the Ecology Center, the CAC provided a

structure for centering the perspectives of Berkeley residents and communities that have historically experienced systemic inequities and may be disproportionately affected by natural hazards and disasters. CAC members contributed valuable lived experience, community knowledge, and expertise that informed the development of both Elements, including priorities related to disaster preparedness, community resilience, emergency response, and recovery. The second prong of the engagement strategy involved broad community outreach through events, meetings, and other engagement activities, providing opportunities for all Berkeley community members to participate and contribute input to the development of both Elements.

The CAC was composed of nine local community-based organizations serving communities that may be particularly affected by systemic inequities and natural hazards and disasters. Participating organizations included Berkeley Food Network, The Center for Food, Faith, and Justice, The Center for Independent Living, The Gray Panthers of Berkeley/the East Bay, Healthy Black Families, Latinos Unidos de Berkeley, Multicultural Institute, Pacific ADA, and Waterside Workshops. Through their participation in the CAC, these organizations provided important perspectives on both environmental justice and disaster preparedness and safety, including the needs of communities that may experience disproportionate impacts from hazards or face barriers to preparing for, responding to, and recovering from disasters. Participating organizations were compensated for their time and developed memoranda of understanding tailored to each organization's needs and capacity.

The Ecology Center used the Movement Generation's Spectrum of Community Engagement to Ownership (SCEO) tool to evaluate their engagement experience, seeking to shift from historical processes where community members felt they were minimally informed to one where they were consulted and involved and headed towards collaboration. Over the course of the project, while Ecology Center partnered with the CAC, participants rated their experience on a scale of 0 to 5, where 0 represented feeling marginalization and 5 represented feeling community ownership. At the beginning of the project, CAC members indicated feeling their participation was Phase 1 (Inform) on the spectrum. By the end of the project, some members indicated feeling their participation had moved to Phase 3 ("Involve") or Phase 4 ("Collaborate"). With Ecology Center's help, the project team achieved its goal of changing the way the City approached engagement on this one project. Teachings from this experience have been carried over into the policies and programs in this Element.

The Ecology Center began with deep engagement with partners, trust building, and listening to potential CAC members to understand and incorporate their needs, expectations, and capacities into a flexible and responsive process. This approach resulted in a series of Memoranda of Understanding (MOUs), compensation for community expertise and participation, and an engagement structure that enabled CAC members to meaningfully contribute to both the Disaster Preparedness and Safety Element and the Environmental Justice Element throughout the planning process.





Safety and Environmental Justice “Pop-Up” Event at Waterside Workshops in October 2025

In addition to these more equity-focused community engagement efforts, the City also conducted broad traditional outreach including a public workshop in February 1, 2025, a public online survey in June 2025, and several meetings with City Commissions including the Planning Commission (June 2024 and Fall 2026), Disaster and Fire Safety Commission (Fall 2026), and Environment and Climate Commission (June 2024 and Fall 2026). The Summary of Community Engagement Activities is included in this Element as Appendix E. The City is also consulting with California Native American Tribes in accordance with Gov. Code, § 65352.3 for this project.²

² Senate Bill 18 requires consultation with Native American Tribes when a jurisdiction adopts or amends a General Plan Element and Assembly Bill 52 requires consultation with Native American Tribes when a public agency undertakes a discretionary project that is subject to California Environmental Quality Act (CEQA).

1.5 EQUITY PRINCIPLES

The Equity Principles were co-created with the CAC to provide a framework for the Disaster Preparedness and Safety Element and Environmental Justice Element that ensures proposed goals, policies, and programs advance community-supported equity objectives. Each policy and program in the Disaster Preparedness and Safety Element was evaluated against the Equity Principles, and, if necessary, revised to ensure alignment. The principles are numbered for reference only; numbering does not indicate priority, as all principles carry equal weight.

Principle #1: Promote Healthy and Resilient Communities. Prioritize safety and well-being by fostering resilient, interconnected neighborhoods with a focus on communities who face historic and current marginalization.

Principle #2: Ensure Accountable Government and Accessible Leadership. Recognize the importance of accountability and representative leadership in policy development and program implementation to ensure effectiveness and transparency in the City's work and to foster trust and collaboration with communities.

Principle #3: Provide Equitable Access to Information. Provide equitable access to information that is tailored to the specific needs of the communities who make up the City of Berkeley.

Principle #4: Provide Equitable Access to Resources. Advance safety and reduce disproportionate impacts to communities who have been most impacted by systemic harm by providing equitable access to resources and opportunities.

Principle #5: Build Capacity for Equity and Resilience. Strengthen the ability of communities and organizations to meaningfully engage in decision-making.

What Is Equitable Access?

Equitable access means ensuring that public information, programs, and City practices are inclusive, culturally relevant, and responsive to the specific needs of Berkeley's diverse communities. Rather than a one-size-fits-all approach, equitable access recognizes that people have different languages, cultural practices, abilities, and lived experiences that shape how they access and benefit from City services and programs.

By tailoring communication, outreach, and service delivery to reflect this diversity, the City can reduce barriers to participation and ensure that all community members have meaningful opportunities to engage with and benefit from public resources.

1.6 GENERAL PLAN CONSISTENCY

The Disaster Preparedness and Safety Element works in concert with other elements of the Berkeley General Plan to create a coordinated approach to hazard mitigation, emergency preparedness, and climate resilience. Many of the risks addressed in this Element, such as seismic hazards, wildfire, flooding, extreme heat, and drought, intersect with land use, housing, transportation, and environmental management decisions. This Element is consistent with other elements of the Berkeley General Plan, strengthening the City's ability to reduce cumulative risks and advance equitable outcomes.

- The Disaster Preparedness and Safety Element supports the **Land Use Element** by informing development patterns and building standards that minimize exposure to hazards and improve safety in high-risk areas.
- The Disaster Preparedness and Safety Element complements the **Environmental Justice (EJ) Element** by committing to providing equitable access to emergency preparedness resources and recovery assistance.
- The Disaster Preparedness and Safety Element aligns with the **Housing Element** by recognizing that housing stability and safe structures are critical to resilience.
- The Disaster Preparedness and Safety Element reinforces the goals of the **Transportation Element** by addressing evacuation strategies, roadway infrastructure, and by improving emergency responder access.
- The Disaster Preparedness and Safety Element's emphasis on climate adaptation and hazard mitigation supports the **Open Space and Recreation Element** by maintaining City trees and improving extreme heat resilience.
- The Disaster Preparedness and Safety Element further complements the **Environmental Management Element** through strategies that reduce risks from hazardous materials and protect water quality during flooding and groundwater rise events.

Together, these connections ensure that safety and resilience priorities are integrated throughout the City's planning framework, creating a more coordinated, equitable, and effective approach to long-term community well-being.

1.7 RELATIONSHIP TO THE BERKELEY LOCAL HAZARD MITIGATION PLAN

Beyond the General Plan, this Element aligns with and incorporates Berkeley's Local Hazard Mitigation Plan (LHMP). To qualify for pre-disaster mitigation funding, the Federal Emergency Management Agency (FEMA) requires local jurisdictions to adopt an LHMP.

The Local Hazard Mitigation Plan (LHMP) for the City of Berkeley 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 City of Berkeley's LHMP is available on the City's website.

2 DISASTER PREPAREDNESS AND SAFETY ISSUE AREAS

2.1 COMMUNITIES FACING SOCIAL VULNERABILITY

Social vulnerability refers to the degree to which individuals and communities are susceptible to harm from natural hazards and climate change impacts due to social, economic, and health-related factors. Vulnerability is shaped by systemic inequities that influence access to resources, decision-making power, and safe living conditions. These inequities can manifest through limited educational opportunities, disparities in health and environmental conditions, institutional bias, and differences in age, health status, or physical ability.

Historical and ongoing environmental injustices have compounded these vulnerabilities. Discriminatory housing practices such as redlining concentrated pollution and hazardous conditions in low-income neighborhoods and communities of color. These patterns have restricted access to safe housing and healthy environments, resulting in unequal exposure to environmental burdens and increased health risks. As climate change intensifies hazards such as extreme heat, flooding, and wildfire these communities face disproportionate impacts.

The purpose of Berkeley's social vulnerability assessment is to identify populations and assets most at risk and to guide policies and programs that reduce harm and build resilience. This approach recognizes that vulnerability is multidimensional, individuals may experience overlapping risk factors, and that the presence of communities facing social vulnerability reflects systemic shortcomings rather than individual failings. Addressing these vulnerabilities requires collaborative efforts to rectify historic harms and ensure equitable protection for all residents.

This assessment also aligns with the Environmental Justice (EJ) Element, as required by Senate Bill 1000. While the EJ Element focuses on pollution exposure, health impacts, and socioeconomic vulnerability, the Disaster Preparedness and Safety Element emphasizes reducing hazard risks and strengthening resilience for communities facing social vulnerability. Together, these efforts create a more comprehensive and equitable approach to community safety and climate adaptation.

2.1.1 Identified Communities Facing Social Vulnerability

The City of Berkeley analyzed demographic and socioeconomic indicators at the census block group level to identify communities with high social vulnerability. These indicators reflect factors that influence a household's ability to prepare for, respond to, and recover from disasters, including income, housing stability, educational attainment, language proficiency, age, disability, and transportation access.

The analysis found that vulnerability is widespread and multifaceted. Approximately 40 percent of Berkeley households are very low-income, earning less than 50 percent of the Area Median Income, and 23 percent are severely housing cost-burdened, spending more than half of their

income on housing.^{3, 4, 5, 6} Nearly half of Berkeley's population (48 percent) identifies as people of color, and 24 percent are not U.S. citizens, which can limit access to resources and emergency services.^{7, 8} Additional groups facing social vulnerability include single-parent families (9 percent), individuals without a high school diploma (3 percent), residents with limited English proficiency (3.8 percent), young children under age five (3.2 percent), and older adults living alone (12 percent).^{9, 10, 11, 12, 13} Households with a person with a disability represent 19 percent of the population, while 57 percent of households are renters, and 20 percent have no access to a vehicle, which can hinder evacuation during emergencies.^{14, 15, 16}

Many of the census blocks with high social vulnerability are located near the University of California, Berkeley campus. These blocks have high concentrations of students, a population with overlapping vulnerabilities such as being rent-burdened or cost-burdened and having no access to a vehicle.

The other parts of Berkeley with high concentrations of social vulnerability are in West and South Berkeley, which aligns with historical patterns of disinvestment and harm.

Recognizing that individuals often experience multiple overlapping vulnerabilities; the City developed a Cumulative Social Vulnerability Index using the San Francisco Bay Conservation and Development Commission (BCDC) methodology. While the guidance developed by the BCDC is typically used to support community vulnerability assessments related to flooding and sea level rise, the underlying framework for identifying and evaluating social vulnerability indicators (e.g., age, income, disability, language, housing characteristics, and access to transportation) is widely applicable to additional hazards because these factors influence a

³ U.S. Census Bureau. 2022. Table B19001: Household Income in the Past 12 Months. [B19001: Household Income in the ... - Census Bureau Table](#) (accessed January 2026).

⁴ U.S. Census Bureau. 2022. Table B25070: Gross Rent as a Percentage of Household Income. [B25070: Gross Rent as a Percentage ... - Census Bureau Table](#) (accessed January 2026).

⁵ U.S. Census Bureau. 2022. Table B25091: Monthly Owner Costs as a Percentage of Income [B25091: Mortgage Status by Selected ... - Census Bureau Table](#) (accessed January 2026).

⁶ Department of Housing and Community Development. 2024. 2024 State Income Limits. [2024 Income Limits](#) (accessed January 2026).

⁷ U.S. Census Bureau. 2022. Table B03002: Hispanic or Latino Origin by Race. [B03002: Hispanic or Latino Origin ... - Census Bureau Table](#) (accessed January 2026).

⁸ U.S. Census Bureau. 2022. Table B29001: Citizen, Voting-Age Population by Age. [B29001: Citizen, Voting-Age ... - Census Bureau Table](#) (accessed January 2026).

⁹ U.S. Census Bureau. 2022. Table DP02: Selected Social Characteristics in the United States. [DP02: Selected Social ... - Census Bureau Tables](#) (accessed January 2026).

¹⁰ U.S. Census Bureau. 2022. Table B15003: Educational Attainment for the Population 25 Years and Over. [B15003: Educational Attainment for ... - Census Bureau Table](#) (accessed January 2026).

¹¹ U.S. Census Bureau. 2022. Table B16002: Detailed Household Language by Household Limited English Speaking Status. [B16002: Detailed Household Language ... - Census Bureau Table](#) (accessed January 2026).

¹² U.S. Census Bureau. 2022. Table B01001: Sex by Age. [B01001: Sex by Age - Census Bureau Table](#) (accessed January 2026).

¹³ U.S. Census Bureau. 2022. Table B11007: Households by Presence of People 65 Years and Over, Household Size, Household Type. [B11007: Households by Presence of ... - Census Bureau Table](#) (accessed January 2026).

¹⁴ U.S. Census Bureau. 2022. Table B22010: Receipt of Food Stamps/SNAP in the Past 12 Months by Disability Status for Households. [B22010: Receipt of Food Stamps/SNAP ... - Census Bureau Table](#) (accessed January 2026).

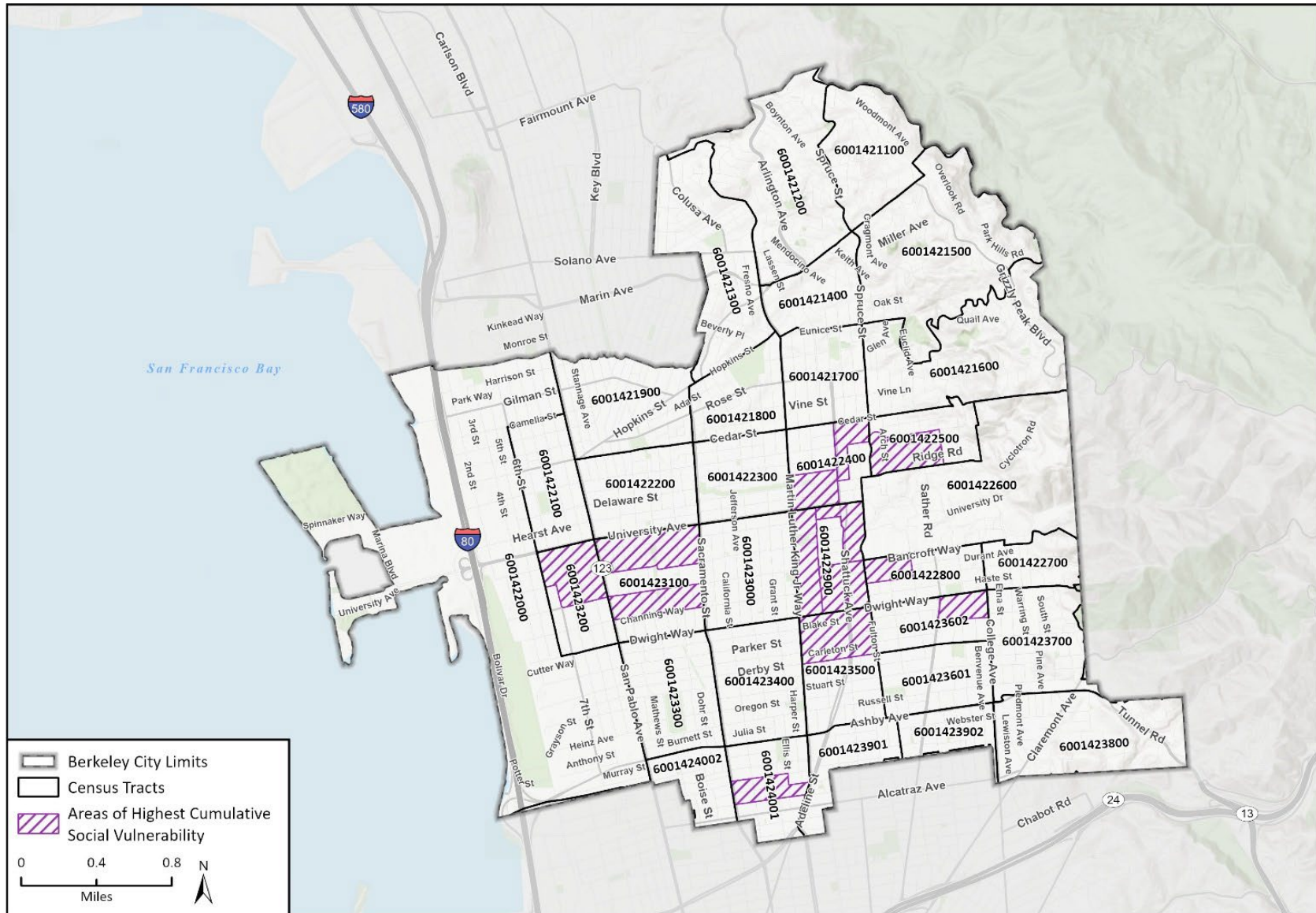
¹⁵ U.S. Census Bureau. 2022. Table B25003: Tenure. [B25003: Tenure - Census Bureau Table](#) (accessed January 2026).

¹⁶ U.S. Census Bureau. 2022. Table B25044: Tenure by Vehicle Available. [B25044: Tenure by Vehicles Available - Census Bureau Table](#) (accessed January 2026).

community's ability to prepare for, respond to, and recover from a range of emergency events. The Cumulative Social Vulnerability Index represents a composite measure of multiple demographic and socioeconomic characteristics and therefore does not necessarily correspond directly to the distribution of any single indicator, such as income. Census block groups were classified as low, moderate, high, or very high vulnerability based on the number of indicators above the 70th percentile. Figure 1 illustrates the communities identified as having the highest cumulative social vulnerability. These areas are defined as census block groups with seven or more indicators above the 70th percentile, reflecting multiple overlapping risk factors.

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Figure 1 Berkeley Highest Cumulative Social Vulnerability Map



Basemap provided by Esri and its licensors © 2025.
Social Vulnerability Score provided by City of Berkeley, 2025.

23-15392 EPS Safety Element
Fig X Social Vulnerability Index

While vulnerable populations are distributed throughout Berkeley, this classification approach highlights the neighborhoods with highest cumulative social vulnerability to ensure they are not overlooked in policy and planning decisions. These areas often face overlapping challenges, such as economic insecurity, limited access to healthcare, and language barriers, that intensify their risk from climate-related hazards.

At the same time, the analysis recognizes that some parts of Berkeley experience high hazard exposure, such as the areas along the water and the eastern parts of the City with higher wildfire risk. Although these areas do not have the highest concentration of social vulnerability based on this analysis, resources and interventions are urgent and necessary in these areas. Strategies reflect the need to balance mitigating risk from areas with the greatest hazard exposure with supporting neighborhoods that may have fewer resources or face greater challenges in preparing for and recovering from disasters.

2.2 COMMUNITY RESILIENCE AND HAZARD AWARENESS

Natural and human-caused hazards affect all Berkeley residents, but the degree of impact varies widely across neighborhoods based on hazard exposure and social vulnerability. Communities facing social vulnerability, including renters, older adults, individuals with disabilities, people experiencing homelessness, and linguistically diverse communities or transportation access, are disproportionately affected. Climate change is projected to worsen hazards such as wildfire, flooding, and extreme heat, increasing the urgency of community preparedness.



Systemic barriers limit access to resources, information, and infrastructure that support disaster readiness. Financial constraints, vulnerable infrastructure, and limited awareness of available programs hinder households' ability to prepare for and respond to emergencies. These inequities increase health risks, displacement, and recovery challenges, particularly in neighborhoods with high hazard exposure and overlapping social vulnerabilities.

Berkeley can strengthen resilience by expanding hazard awareness and promoting low-cost preparedness

actions. Strategies include maintaining publicly accessible hazard maps, offering disaster readiness training, and partnering with trusted community organizations to deliver relevant information. Prioritizing outreach to households with high vulnerability and hazard exposure will ensure preparedness measures reach those most at risk, building a stronger and more connected community capable of responding effectively to future emergencies.

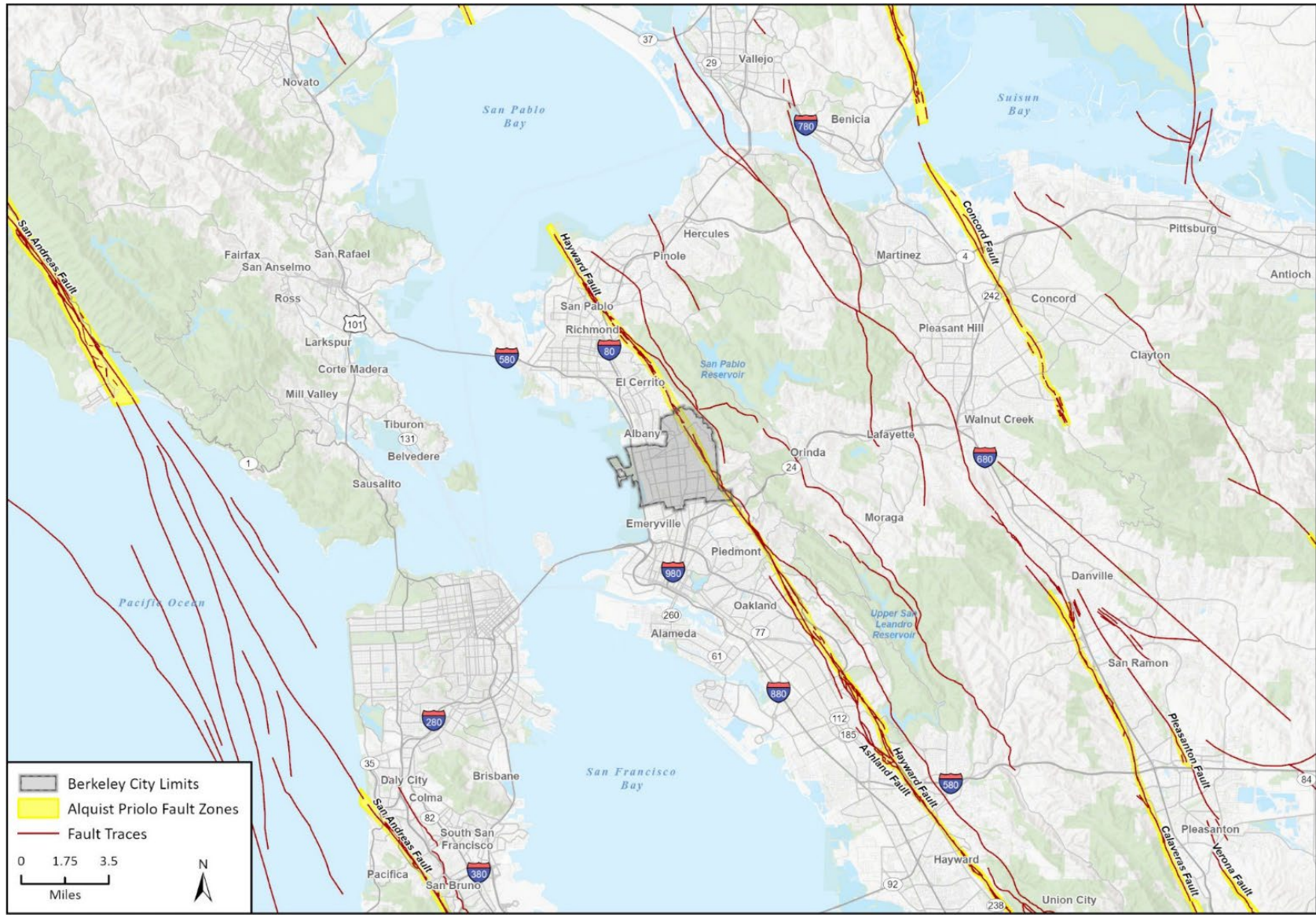
2.3 NATURAL AND HUMAN-CAUSED HAZARDS

Berkeley is exposed to a wide range of natural and human-caused hazards, including earthquakes, wildfires, flooding and sea level rise, and extreme heat. The sections below detail these hazards and their potential impacts, which informed the development of goals, policies, and programs designed to reduce risk, protect critical assets, and strengthen community resilience.

2.3.1 Seismic and Geologic Hazards

Berkeley is located near major active faults, including the Hayward Fault, which runs through the city, and the San Andreas Fault to the west. A large earthquake on either fault could cause significant damage in Berkeley. Figure 2 and Figure 3 show the location of these faults and the Alquist-Priolo Earthquake Fault Zones, which are regulatory areas designed to reduce risks from surface fault rupture.

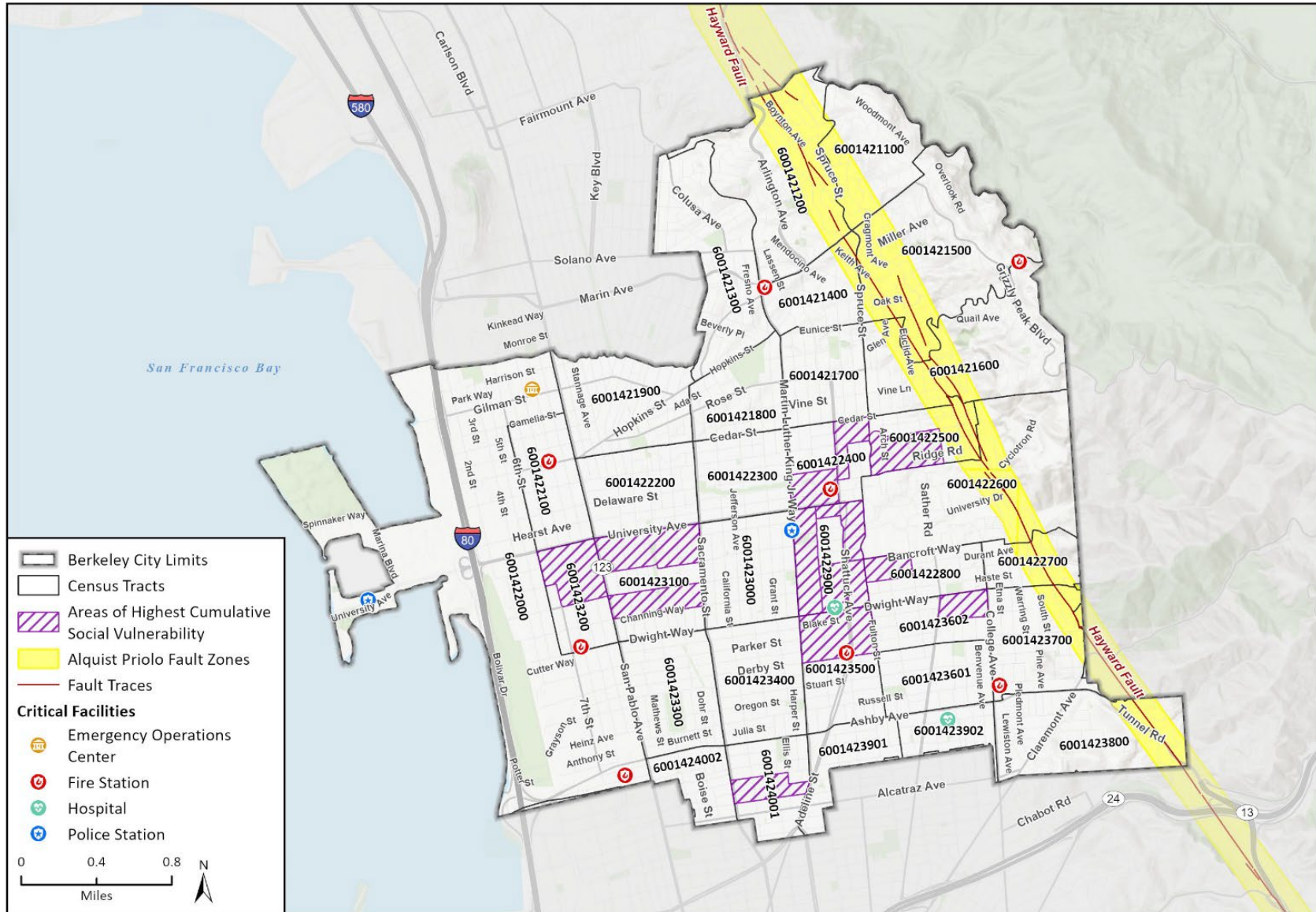
Figure 2 Faults in Berkeley and the Surrounding Area



Basemap provided by Esri and its licensors © 2025.
Additional data provided by CGS, 2024; USGS, 2022.

23-15392 EPS Safety Element
Fig X Faults Zoomed Out

Figure 3 Alquist Priolo Fault Zones



Basemap provided by Esri and its licensors © 2025. Additional data provided by CGS, 2017. Social Vulnerability Index and Critical Facilities provided by City of Berkeley, 2025.

23-15392 EPS Safety Element
Fig X Social Vulnerability and Faults

Secondary effects of earthquakes can include fires, tsunamis, seiches, and hazardous materials releases, all of which may cause additional property damage and human injury after the initial event. Fires are addressed in the Urban Fires, Wildfires, and Poor Air Quality sections of this Element. Tsunamis and seiches are discussed in the Flood and Sea Level Rise section of this Element. Hazardous materials risks are covered in the City's Environmental Management Element. Dam failure is not considered a hazard in Berkeley, as determined by the California Department of Water Resources, Division of Safety of Dams.

Earthquake-related hazards that may affect Berkeley include ground shaking, liquefaction, landslides, and surface fault rupture:

- **Ground Shaking:** Movement of the earth's surface caused by seismic waves during an earthquake. It is the most widespread and damaging effect, impacting people, buildings, and infrastructure. Severity depends on earthquake magnitude, distance from the epicenter, and local soil and rock conditions.
- **Liquefaction:** Occurs when saturated sandy or silty soils lose strength during shaking, causing the ground to behave like a liquid. This can lead to sinking, tilting, or lateral spreading of structures.
- **Seismically-Triggered Landslides:** Shaking can destabilize slopes, triggering landslides that move soil and rock downslope. These can range from minor displacements to large movements, damaging foundations, roads, and utilities.
- **Surface Fault Rupture:** When fault movement breaks through to the ground surface, it can severely damage structures, roads, pipelines, and other infrastructure located along or near the fault trace.

The U.S. Geological Survey (USGS) identifies areas in Berkeley with high liquefaction risk, including the Marina, Eastshore State Park, Aquatic Park, and shoreline zones extending inland to San Pablo Avenue and McGee Avenue, as shown in Figure 4. These areas contain critical facilities such as fire stations, police stations, and skilled nursing facilities, and overlap with communities facing social vulnerability. The California Geological Survey also maps landslide hazards in the Berkeley Hills and along creek banks, where steep slopes increase risk. Additional background on seismic and geologic hazards, including past events, can be found in the Berkeley LHMP.

Seismic and geologic hazards create opportunities for Berkeley to strengthen building safety and community resilience through targeted policies and programs. Policies include updating building codes and retrofit guidelines, expanding mandatory retrofit programs for vulnerable structures, and promoting grants and incentives to support voluntary retrofits. The City can also research new ordinances for high-risk building types, identify funding sources to assist property owners, and prioritize resources for buildings with high occupancy or community benefit. These types of opportunities will reduce seismic vulnerabilities, protect life and property, and ensure that resilience measures reach communities most at risk.

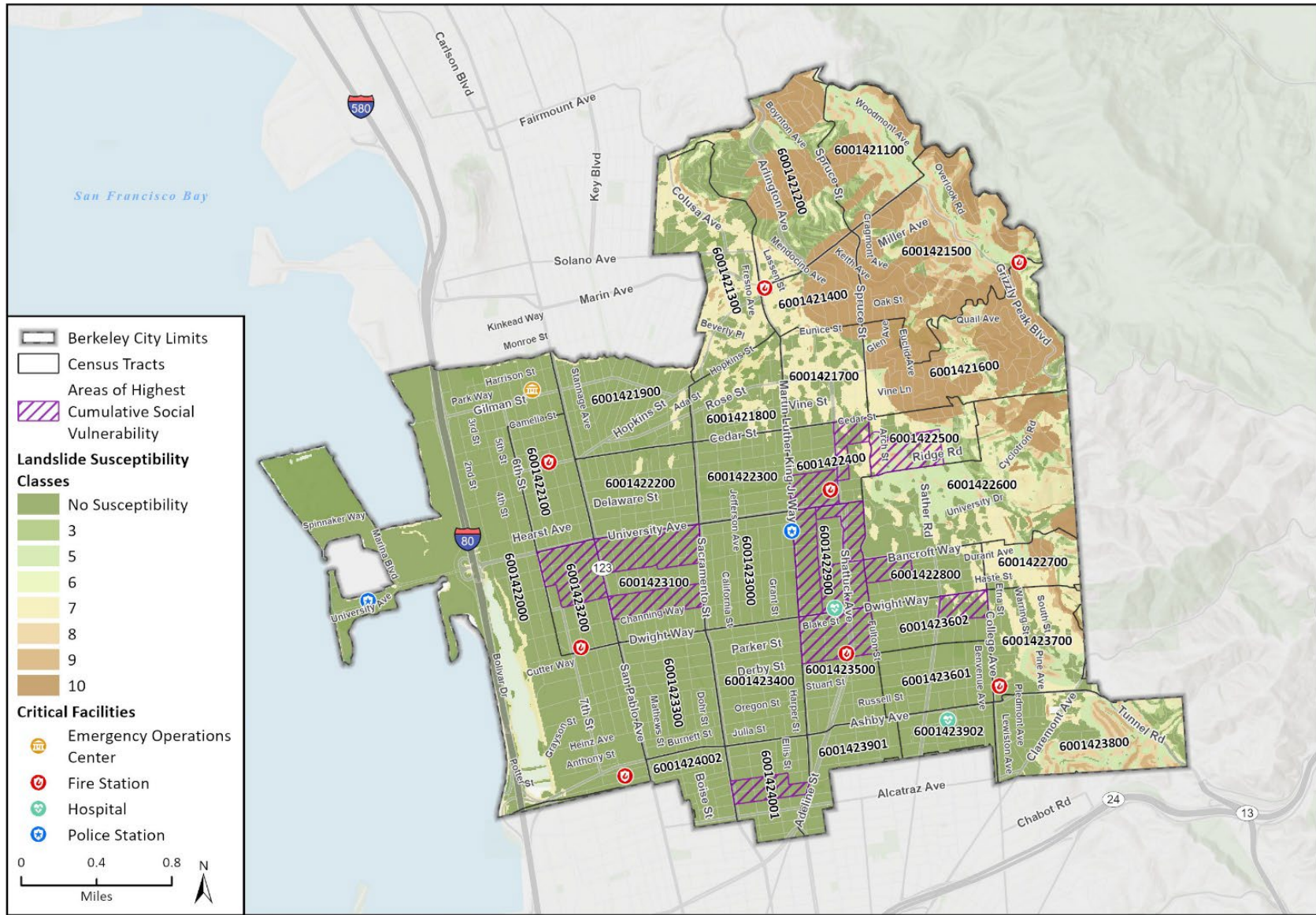
REGULATORY SETTING

Alquist-Priolo Earthquake Fault Zoning Act (1972): Prohibits construction for human occupancy within 50 feet of active fault traces to reduce surface rupture risk. The State Geologist maps Earthquake Fault Zones, and local governments enforce development restrictions.

Seismic Hazards Mapping Act (1990): Requires mapping of seismic hazard zones for ground shaking, landslides, and liquefaction. Local agencies must incorporate these maps into permitting, and developers must conduct site-specific investigations and mitigation before construction.

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Figure 4 Seismically Triggered Landslide and Liquefaction Hazard Zones in Berkeley



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23-15392 EPS Safety Element
Fig X Social Vulnerability and Landslide Susceptibility

2.3.2 Urban Fires, Wildfires, and Poor Air Quality

Berkeley is an increasingly dense, residential community. Recently updated with 2025 Census data, Berkeley remains the second most dense city among the 50 most populated cities in the state, just behind San Francisco, a level of density that means more people, homes, and activity are concentrated into a small area, increasing both the number of emergencies that occur and the demand placed on emergency services responding in congested, complex urban conditions.

Approximately 400 fires occur in the urban areas of the City each year with approximately 40 that cause significant damage or destroy one or more buildings. As the City grows, and there are more people in the same amount of space, the impact of fires in the urban area increases. Urban fires involve burning structures and the synthetic materials they are filled with which pose severe hazards to residents, firefighters, and the environment due to the release of toxic smoke and rapid fire spread.



Research from the Underwriters Laboratories Fire Safety Research Institute (UL FSRI) is especially relevant to Berkeley because it is a land locked city with limited room to grow outward, which means new housing is increasingly being added through taller buildings, denser neighborhoods, and more people living within the same physical footprint. UL FSRI's experiments show that today's residential fires can reach flashover in roughly 3 to 5 minutes when modern synthetic furnishings are involved, compared with approximately 30 minutes in rooms furnished with older natural materials.² Flashover is the point when a fire stops being limited to one object or one area of a room and the heat becomes so intense that nearly everything combustible in the room ignites at the same time. That difference matters in a dense

urban city like Berkeley because a faster developing fire gives occupants less time to recognize the danger, escape safely, and alert others, while also giving firefighters less time to arrive, control the fire, and prevent extension into adjacent units, upper floors, or neighboring buildings.



As Berkeley continues to add housing and concentrate more residents in the same amount of space, modern fire behavior reinforces the importance of working smoke alarms, protected exits, automatic fire sprinklers, closed doors, clear fire department access, and adequate staffing and deployment of firefighters throughout the community so that fires can be controlled as close as possible to the room, floor, or building of origin. UL FSRI's research makes clear that the modern fire problem is not only how quickly a building can burn, but how quickly burning synthetic materials can produce dense smoke and toxic gases that make conditions unsurvivable for the people inside, and how quickly a small fire can become a larger community risk. Taller and denser buildings change the consequence profile of even relatively small fires. Modern mid-rise and high-rise buildings are generally better engineered than older buildings, with rated construction, alarm systems, sprinklers, smoke control features, protected stairs, and compartmentation. Those systems substantially reduce risk, and National Fire Protection Association (NFPA) data shows that automatic sprinklers operated and were effective in 89 percent of the fires considered large enough to activate them³. However, fires still occur in high rise buildings, with U.S. fire departments responding to an estimated average of 14,830 reported high rise structure fires each year from 2019 to 2023⁴. The risk is that when a fire occurs on an elevated floor, the incident immediately becomes more complex: occupants may be above the fire, smoke can move through corridors, stairwells, elevator shafts, and other vertical openings, and burning synthetic materials can produce toxic smoke that incapacitates occupants before flames ever reach them. Fire protection systems are highly effective, but they are not absolute. As buildings get taller, these risks require more firefighters earlier in the incident, even for a small fire, because crews must simultaneously move personnel and equipment vertically, locate and confine the fire, manage stairwells and elevators, support evacuation or shelter in place, check floors above and below, maintain water supply, and protect occupants who may be exposed to smoke far from the fire apartment or room⁵. In practical

terms, taller buildings may be safer by design, but when fires occur and built in systems are compromised, delayed, overwhelmed, or defeated by human behavior, the fire department must bring enough staffing and deployment depth to keep the fire controlled to the room, floor, or building of origin before it becomes a larger life safety problem. Berkeley's wildland-urban interface (WUI), shown in Figure 5, is the area of the City with heightened wildfire risk, due to topography, dense structures and vegetation, and narrow winding roads. Historic events such as the 1923 Berkeley Fire, the 1991 Tunnel Fire, and other major fires occurring in and around this area in 1905, 1928, 1946, 1970, and 1980 demonstrate the city's vulnerability to wildland-urban interface fire. Additional background on urban fire and wildfire hazards, including past events, can be found in the Berkeley LHMP.



The City of Berkeley designates the High and Very High Fire Hazard Severity Zones (VHFHSZs) along Berkeley's eastern border, northeast areas, and near the UC Berkeley campus including Panoramic Hill, as shown in Figure 6. No areas have been identified as lacking access to emergency service facilities, including within VHFHSZs.

Climate projections indicate that the area burned in Alameda County could increase by 13 percent under high-emission scenarios (RCP 8.5) by mid-century, with increases of about 4 percent projected by end-century. Rising temperatures, changing precipitation patterns, and human development trends are also expected to drive more frequent and intense fires in the region, with wind-driven fires from adjacent areas posing ongoing risk.



Wildfires threaten life, property, and critical infrastructure through fast-moving flames and embers, and they degrade regional air quality with smoke that affects sensitive groups and can persist for days. Evacuation is challenging in the Berkeley Hills due to narrow, winding roads and limited access; Panoramic Hill is particularly constrained by a single narrow route. Utilities (overhead lines, communications, streetlighting), transportation networks, and water systems are vulnerable to heat and smoke.

Urban fires, wildfires, and poor air quality present opportunities for Berkeley to strengthen resilience through coordinated planning and investment. Continuing to improve fire safety standards for new development, expanding defensible space requirements, and supporting improvements for vulnerable structures in high-risk zones are critical strategies to reduce ignition risk.

Equipping and maintaining public facilities with clean air spaces and cooling resources, and building partnerships to ensure public facing City sites are available during disasters, including extreme heat

and smoke events, advance preparedness and protect health. Outreach and education on City programs, household preparedness, and targeted assistance for communities facing social vulnerability and high hazard exposure ensure that interventions address multiple needs simultaneously. Together, these actions reduce fire risk, safeguard life and property, and improve health outcomes during wildfire, urban fire, and poor air quality events.

REGULATORY SETTING

Responsible Agencies

Primary responsibility for wildfire prevention and suppression in Berkeley is shared between the Berkeley Fire Department and the California Department of Forestry and Fire Protection (CAL FIRE). The Berkeley Fire Department has jurisdiction in Local Responsibility Areas (LRAs), which include most areas of the city, while CAL FIRE oversees State Responsibility Areas (SRAs) in adjacent open spaces outside city limits. Berkeley collaborates with regional partners on vegetation management and emergency response in WUI zones. The City's Wildland Urban Interface Division enforces the WUI codes, conducts defensible space inspections, and manages programs that support residents with vegetation management and home hardening. In the built areas of the community, the City's Fire Prevention Division enforces the fire code, conducts inspections, and reviews development plans for compliance.

Fire Hazard Severity Zones

Pursuant to California Government Code 51177-51179, California Department of Forestry and Fire Protection (CALFIRE) identifies and releases updates to Fire Hazard Severity Zones in the Local Responsibility Area. Fire Hazard Severity Zones (FHSZ) consist of Very High,

High, and Moderate designations. Pursuant to California Government Code 51179, the City must, at a minimum, designate the areas identified by the State as FHSZs. Notwithstanding the minimum FHSZ that state law requires the City to designate, under the authority included in Government Code 51175, the City may designate additional areas not identified by CALFIRE as Moderate, High, or Very High Fire Hazard Severity Zones. However, the City may not reduce the Fire Hazard Severity Zone rating in areas identified by CALFIRE.

FHSZ maps represent “hazard,” not “risk.” Hazard classification is based on physical conditions such as vegetation, slope, and weather that influence fire behavior over a 30- to 50-year period, without considering risk which is lowered by mitigation measures like defensible space or ignition-resistant construction.

Therefore, the City designated additional portions of the Berkeley hills into High and Very High FHSZs and adopted them into the Berkeley Municipal Code. Current maps are available in the Berkeley GIS Portal and are incorporated into this Element by reference.

Note: California Civil Code Section 1102.19 (AB 38, 2019) require disclosure in real estate transactions if a property is located in a Very High or High FHSZ.

Development Regulations

FHSZ designations require all new construction, or major remodels classified by the Building Official as new construction, are required to meet the wildfire resistant construction requirements included in Chapter 7A of the Building Standards Code. All development within High and Very High FHSZs in LRAs must comply with the California Wildland-Urban Interface (WUI) Code (Title 24, Part 7).

Development within designated Very High FHSZs in LRAs is also subject to vegetation management and defensible space requirements, fuel modification standards, and road and driveway standards for emergency access and public evacuation. These requirements include:

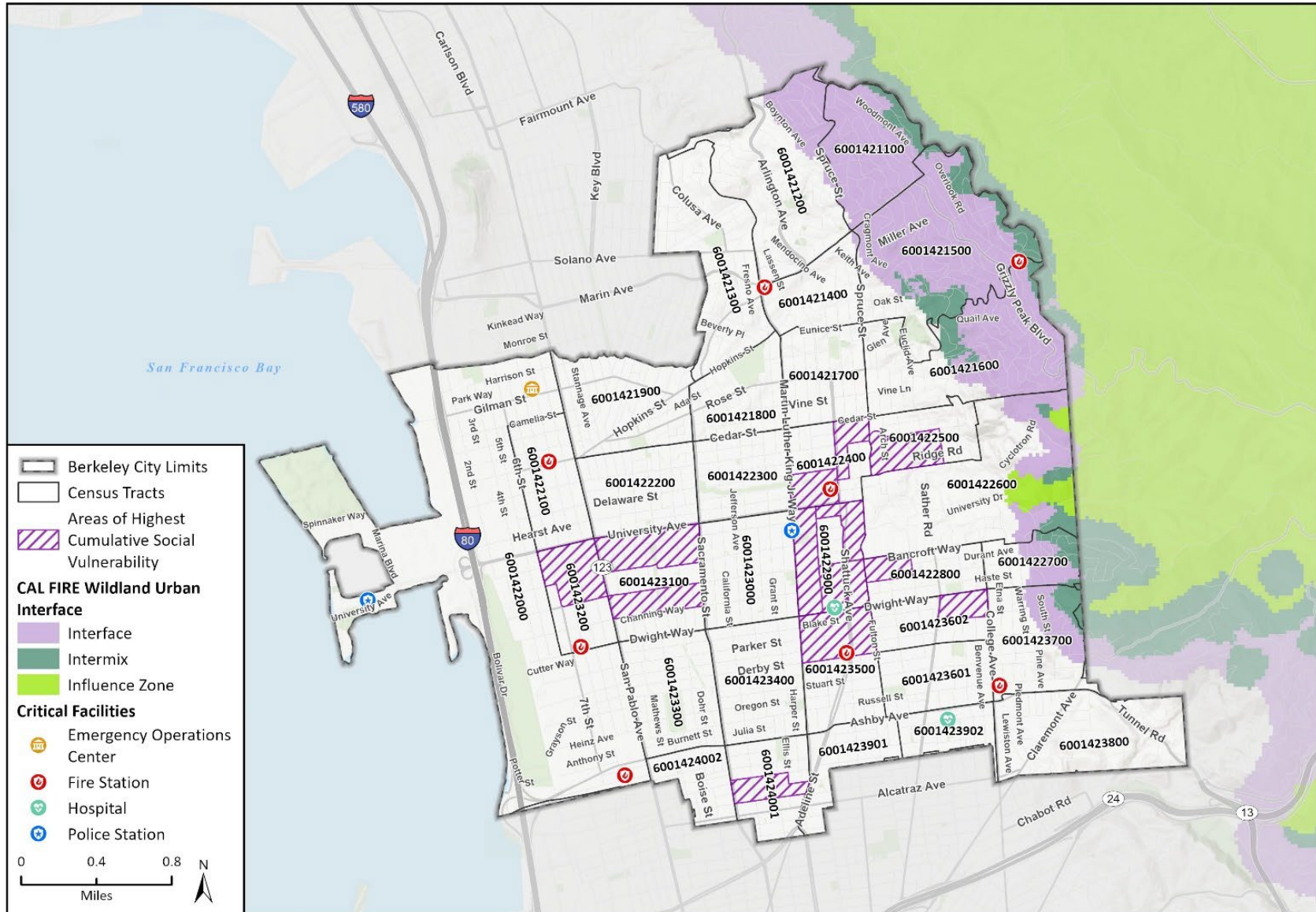
- **State Minimum Fire Safe Regulations** (Public Resources Code Section 4290; California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 2).
- **Defensible Space Regulations for Parcels with a Building or Structure in Very High FHSZs in LRAs** (Government Code Section 51182).
- **Tentative Map and Parcel Map Requirements for Parcels in the SRA and Very High FHSZs in LRAs** (Government Code Section 66474.02).
- **Local Amendments Requiring Compliance with Defensible Space Best Practice in the highest risk areas** (Berkeley Municipal Code 19.49, Section 604.3).

The City of Berkeley enforces these state standards and has adopted revised High and Very High FHSZ maps within LRAs to guide local building code compliance, vegetation management, and defensible space requirements. These regulations aim to reduce wildfire risk and improve emergency access in the WUI.

The City of Berkeley has also adopted the following local amendments that apply to a portion of the Very High Fire Severity Zone, known as the Grizzly Peak and Panoramic Mitigation Area:

- **Effective Mitigations for Berkeley’s Ember Resilience** (BMC Chapter 19.49). A defining requirement of EMBER is establishment of defensible space including Zone 0, the first five feet around all structures on the property.

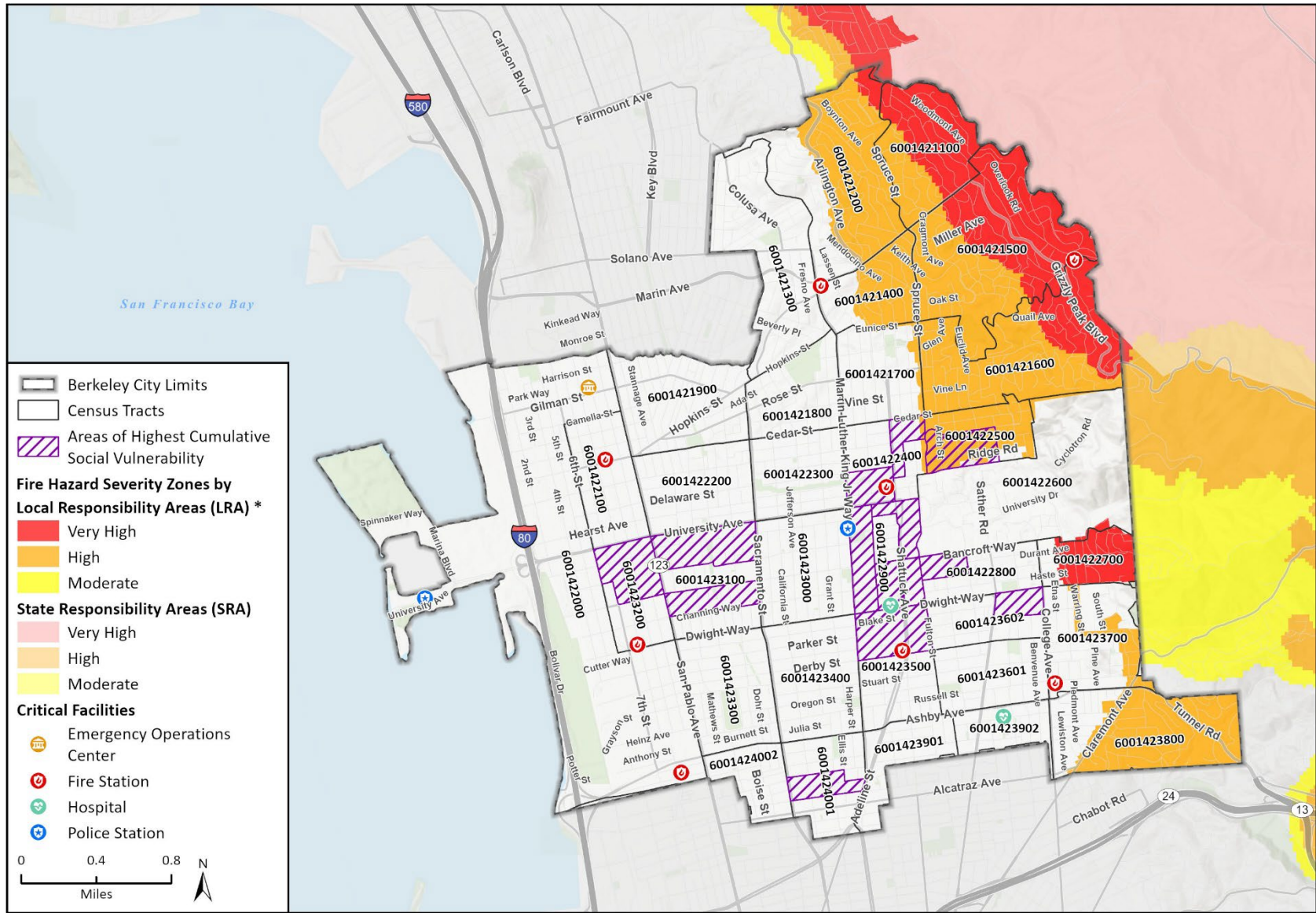
Figure 5 Berkeley Wildland Urban Interface



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23-15392 EPS Safety Element
Fig X Social Vulnerability and WUI

Figure 6 Wildfire Hazard Severity Zones in Berkeley



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* The LRA Fire Hazard Severity Zones are a combination of City of Berkeley adopted data, within City limits, and CAL FIRE data, outside of City limits.

23-15392 EPS Safety Element
ty and Fire Hazard Severity Zones

2.3.3 Flood and Sea Level Rise Hazards

Berkeley is susceptible to storm drain overflow, creek flooding, tsunami, sea level rise, and groundwater rise. Flooding can disrupt daily life and pose health risks to residents. Communities facing social vulnerabilities, including communities or individuals experiencing poverty and homelessness, are particularly vulnerable. These individuals often live in flood-prone areas and lack the resources to evacuate or recover from flood damage. Flooding can lead to injuries, loss of personal belongings, and displacement, exacerbating existing inequities. Additionally, damage to hospitals and healthcare facilities can limit access to medical care, exacerbating health impacts during and after flooding. Flooding can also cause mold and mildew to grow on damp surfaces, posing health risks to humans and animals.

RESPONSIBLE AGENCIES

Floodplain management and flood protection in Berkeley involve the City, Federal Emergency Management Agency, and the California Department of Water Resources (DWR). The Director of Public Works or designee serves as the City's Floodplain Administrator and coordinates with the City Engineer, Zoning Officer, and Building Official in administering floodplain regulations. The Public Works Engineering Division and the Planning and Development Department's Land Use Planning and Building and Safety Divisions maintain the City's participation in the National Flood Insurance Program and coordinate with FEMA, DWR, and other agencies regarding flood mapping, regulation, and flood hazard management.

STORM DRAIN OVERFLOW AND CREEK FLOODING

Berkeley is vulnerable to flooding from storm drain overflow and creek flooding during periods of heavy rainfall. Storm drain overflow occurs when rainfall exceeds the design capacity of the City's stormwater system, which is generally sized for a 10-year storm, or when blockages and infrastructure failures occur. Much of Berkeley's storm drain system is over 90 years old, with deteriorated pipes and sinkholes forming due to structural defects.

The City is responsible for and maintains approximately 93 miles of stormwater infrastructure, including storm drain pipelines and culverted creeks, that may be nearing or past their expected useful life.

Berkeley has experienced localized flooding associated with creek overflow, storm drain capacity, and major storm events. Recent flooding occurred during the December 2022–January 2023 storms and an October 2022 atmospheric river. Earlier significant events include widespread flooding in 2004, flooding during the 1997–1998 El Niño season, and overflow of Strawberry and Codornices Creeks in the early 1960s. The City also tracks reported locations of storm drain backup and water pooling to identify areas experiencing recurring drainage issues.



Creek flooding typically occurs when runoff exceeds the capacity of Berkeley's creeks, which have been heavily modified by urban development. Some creeks are fully culverted, while others have open segments interrupted by culverts for streets and buildings. Floodwaters can overtop creek banks, inundating properties and streets, particularly in West Berkeley and along Strawberry and Codornices Creeks.

As shown in Figure 7, Berkeley's 100- and 500-year floodplains are concentrated primarily in West Berkeley along the Bay and Aquatic Park, with additional areas along Codornices, Strawberry, and Claremont Creeks. Existing development in West Berkeley is predominantly industrial and commercial, with some residential development. The floodplains also include portions of Interstate 80 and numerous local streets, as identified in Appendix F 2024 Local Hazard Mitigation Plan. City analysis estimates that approximately 675 structures could be affected by a one-percent-annual-chance flood. New development within applicable flood hazard areas is subject to the City's floodplain development regulations and other requirements intended to avoid or mitigate flood risk. None of the areas within the 100-year old flood plain are zoned for high density residential development. The City of Berkeley does not have structures that have been repetitively damaged by floods.

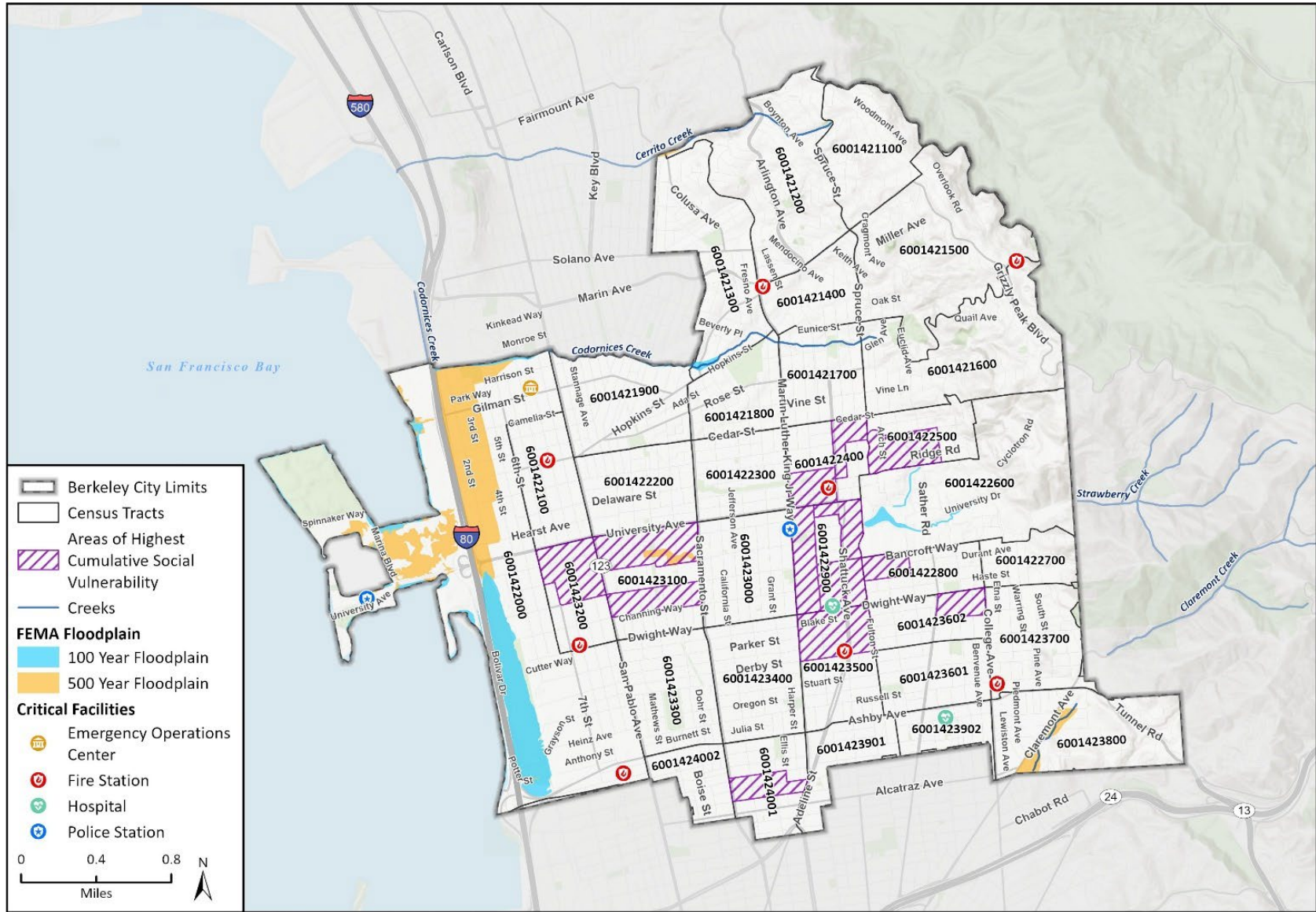
Berkeley does not have any applicable Army Corps of Engineer Flood Information, Flood Maps from the Central Valley Flood Protection Board, Dam Failure Maps, Department of Water Resources Floodplain Maps, Maps of Levee Protection Zones, or areas subject to inundation in the event of levee failure or floodwalls.

Flooding can damage buildings, roads, and infrastructure, and pose health risks through mold growth and waterborne contaminants. Communities facing social vulnerability, including individuals experiencing poverty or homelessness, are at greater risk of displacement or loss of

property. Climate change is projected to increase the intensity and frequency of extreme precipitation events in Berkeley. This will result in more severe storm drain overflow and creek flooding. The region's largest winter storms, known as atmospheric rivers, are expected to become more intense, contributing to heavy rainfall and substantial flood risk. Increased precipitation variability, with more frequent "boom and bust" cycles, will exacerbate these conditions. The combination of higher rainfall and rising sea levels will challenge existing stormwater management systems, leading to increased overflow and flooding in low-lying areas. Additional information about flood risk, potential impacts, and floodplain management is included in the Appendix F 2024 Local Hazard Mitigation Plan.

Storm drain overflow and creek flooding highlight opportunities for the City to strengthen resilience through proactive infrastructure planning and climate adaptation. Rehabilitating aging storm drain systems, completing a comprehensive Stormwater Master Plan, and implementing capital improvements address system deficiencies and reduce local flooding risks. Development review processes (such as mitigation measures resulting from California Environmental Quality Act (CEQA) analysis and conditions of approval (COAs) for entitlement) to ensure that new projects incorporate climate-driven flood considerations, including more intense rainfall and increased stream flows. Expanding community-based maintenance programs, promoting onsite stormwater retention, and securing funding for long-term improvements further enhance system capacity. Targeted outreach and assistance for socially vulnerable communities ensure that preparedness and mitigation efforts address equity alongside technical solutions. Together, these actions reduce flood risk, protect public health, and strengthen Berkeley's ability to adapt to future climate conditions.

Figure 7 100-Year and 500-Year Floodplains in Berkeley



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Fig X Social Vulnerability and Flood Hazards

TSUNAMI

Tsunamis are rare in the San Francisco Bay but can occur from offshore earthquakes or underwater landslides, including distant events from Alaska or Washington and local seiches from faults like the Hayward Fault. Figure 8 shows the tsunami inundation zone in Berkeley, which includes the Marina, Aquatic Park, Eastshore State Park, parts of Interstate 80, and nearby commercial areas. The Berkeley Marina Police Station is within the inundation zone.

Historic events include the 2011 Japan earthquake, which caused \$158,000 in damage to Berkeley Marina docks, and the 2023 Tonga eruption, which prompted evacuations but caused no damage. A major tsunami could damage shoreline infrastructure, disrupt transportation, and pose life safety risks, particularly for individuals with limited mobility or access to transportation.

Figure 8 Berkeley Tsunami Inundation



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Social Vulnerability Index and Critical Facilities provided by City of Berkeley, 2025.

23-15392 EPS Safety Element
Fig X Social Vulnerability and Tsunami Hazards

SEA LEVEL RISE AND GROUNDWATER RISE

Sea level rise and groundwater rise pose significant hazards to Berkeley's shoreline and low-lying areas. The San Francisco Bay has risen approximately 8 inches since 1900, contributing to flooding in coastal areas, infiltration of sewer systems, and damage to underground infrastructure. Climate projections according to the California Ocean Protection Council (OPC) 2024 California Sea Level Rise Guidance indicate sea levels could rise between 0.9 feet by 2050 and up to 2.8 feet by 2080 under the intermediate-high scenario. Figure 9 illustrates potential inundation under scenarios of 0.8 feet, 2.5 feet, and 4.1 feet of sea level rise with a 100-year storm event using data from the Coastal Storm Modeling System (CoSMoS), which most closely aligns with the scenarios recommended by the OPC 2024 Sea Level Rise Guidance. Vulnerable areas include the Berkeley Waterfront, Marina Boulevard, and University Avenue west of Interstate 580.

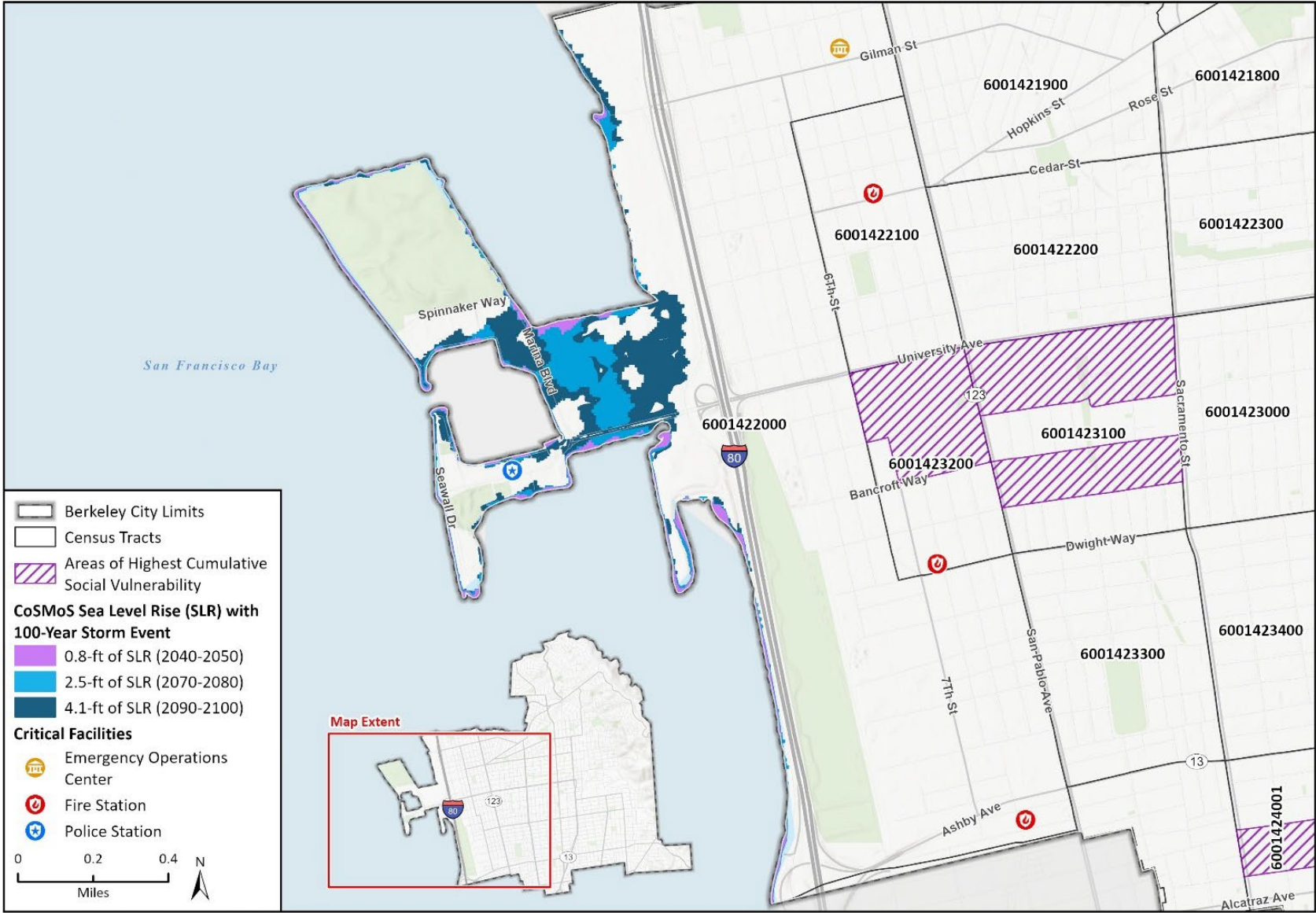


Sea level rise also drives groundwater rise, pushing the water table closer to the surface. While the geographic extent of exposure remains largely unchanged under scenarios of 0.8 feet, 2.5 feet, and 4.1 feet of sea level rise, severity will increase in areas already at risk. Figure 10, Figure 11, and Figure 12 show current and future groundwater conditions and contaminated site locations. Rising groundwater can flood basements, damage foundations, and infiltrate underground utilities, increasing risks of corrosion, service disruptions, and methane leaks. It can also mobilize contaminants at existing cleanup sites, creating exposure pathways through soil, basements, and utility corridors. Berkeley has 427 contaminated sites, with 100 ranked as high priority due to shallow groundwater depths. Communities facing social vulnerability in West Berkeley are disproportionately impacted, as groundwater rise increases health risks and complicates emergency response. Three fire stations and two skilled nursing facilities are

located near these high-priority areas. Sea level rise and groundwater rise threaten transportation routes, shoreline parks, and habitats. Roads accessing Interstate 80 and shoreline trails may experience frequent flooding, while erosion and inundation could degrade César E. Chávez Park and wetlands that provide natural flood protection and carbon sequestration.

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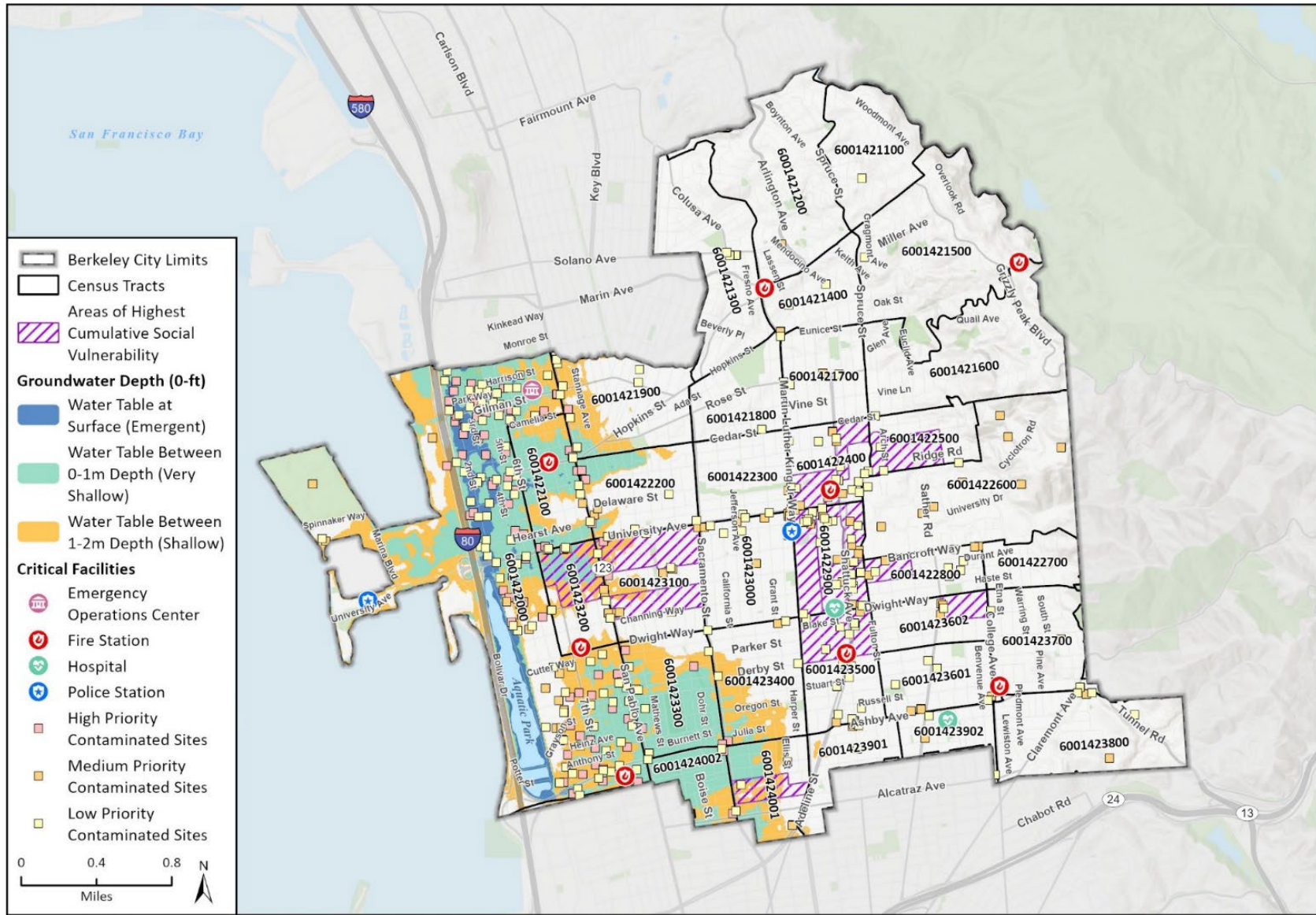
Figure 9 Sea Level Rise in Berkeley with 100-year Storm Event



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Fig X Social Vulnerability and Sea Level Rise

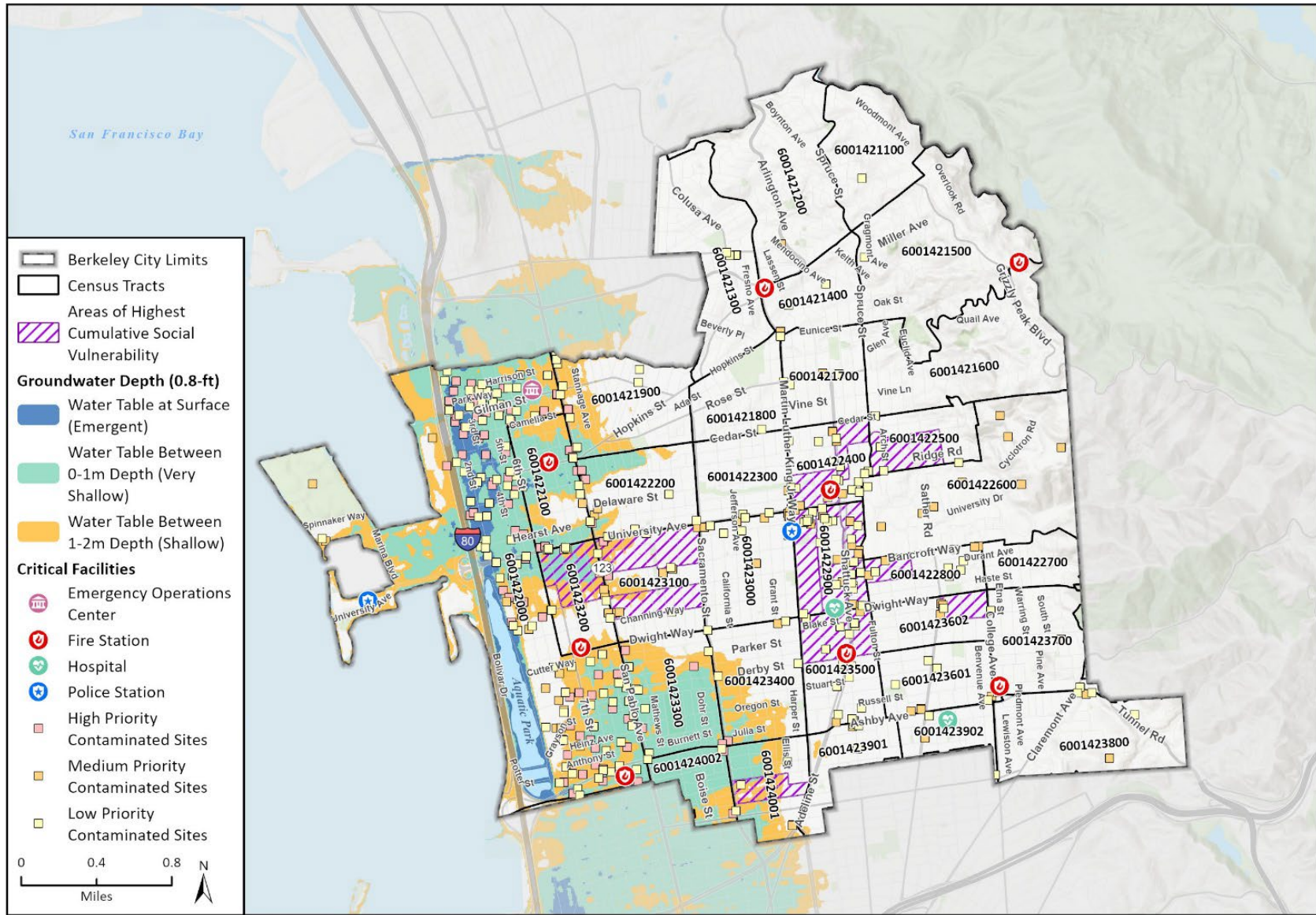
Figure 10 Groundwater Rise Current Conditions



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23-15392 EPS Safety Element
Fig X Social Vulnerability Index and Groundwater Current

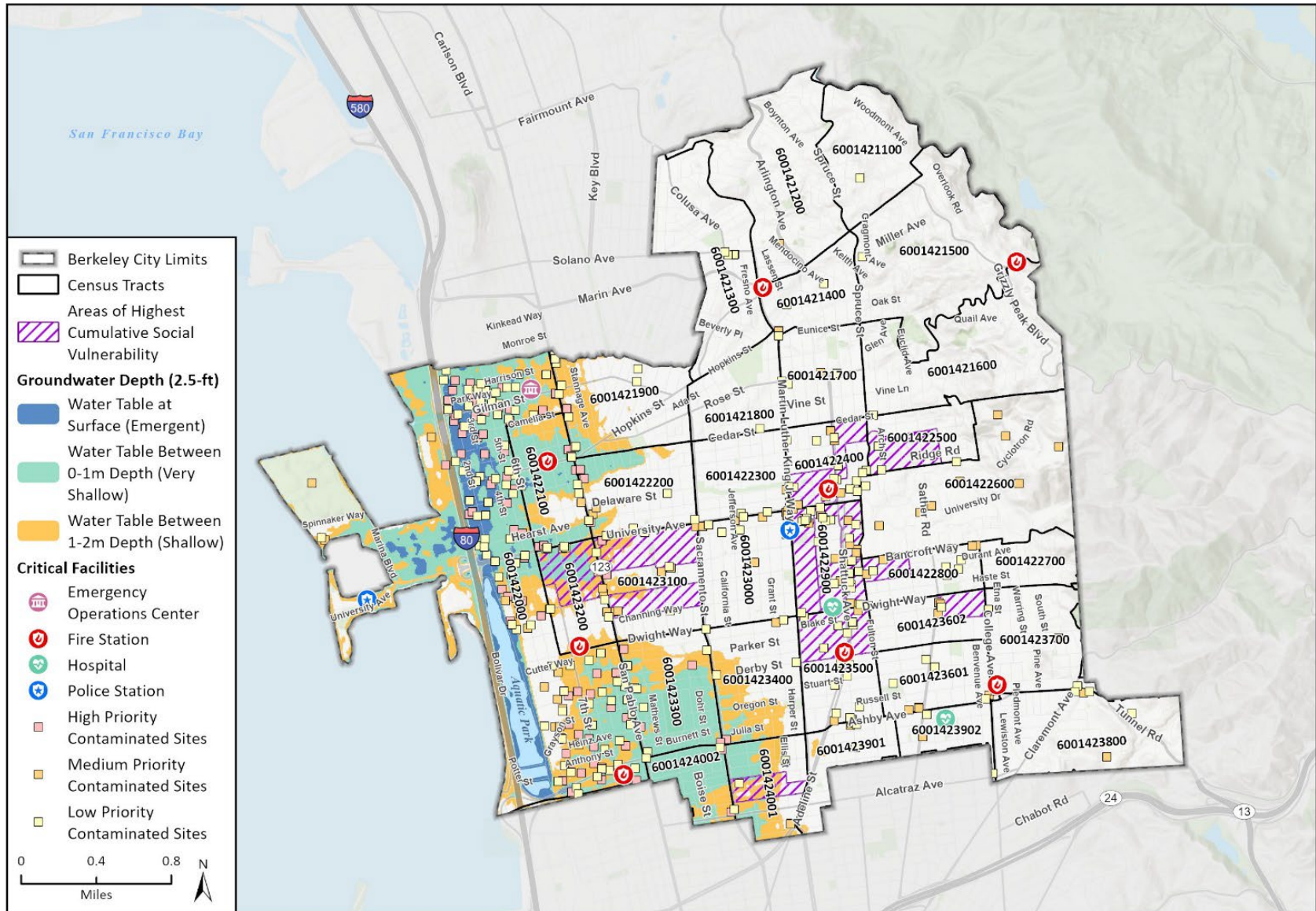
Figure 11 Groundwater Rise with 0.8 feet of Sea Level Rise



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Fig X Social Vulnerability Index and Groundwater 0.8 ft

Figure 12 Groundwater Rise with 2.5 feet of Sea Level Rise



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Fig X Social Vulnerability Index and Groundwater 2.5 ft

REGULATORY SETTING

The California Coastal Act requires consideration of sea level rise in planning and development decisions (Public Resources Code Sections 30006.5 and 30270). The BCDC has regulatory authority over the Bay and areas within 100 feet of the shoreline in Berkeley. BCDC establishes land use policies for shoreline development and reviews projects to ensure resilience to sea level rise. Senate Bill 272 (2023) requires all local governments within BCDC's jurisdiction to prepare a sea level rise plan as part of a shoreline resiliency program approved by BCDC by January 1, 2034 (Public Resources Code Section 30985).

Currently, there are no state or federal regulations specifically addressing groundwater rise as a climate hazard. However, groundwater rise is indirectly regulated through contaminated site management programs administered by the State Water Resources Control Board (SWRCB) and the Department of Toxic Substances Control (DTSC). These agencies oversee cleanup and monitoring of hazardous sites under programs such as GeoTracker and EnviroStor. Rising groundwater that mobilizes contaminants may trigger additional requirements under these programs, including site remediation and vapor intrusion mitigation. Local planning efforts, such as Berkeley's Groundwater Rise and Contaminated Site Analysis, included in Appendix B, inform policies and programs that integrate groundwater considerations into hazard mitigation and land use planning to address this emerging hazard.

2.3.4 Extreme Heat

Berkeley experiences extreme heat when temperatures exceed 87.6°F and warm nights remain above 60°F. The urban heat island effect intensifies these conditions in densely built areas with limited vegetation, while thermal belting causes hotter nighttime temperatures in the Berkeley Hills. Berkeley has experienced notable heat waves, including record-setting temperatures of 108.5°F in 2017 and prolonged events in 2020 that coincided with severe wildfire smoke and poor air quality. Climate projections indicate average maximum temperatures could rise by 3.9°F to 6.7°F by the end of the century, with extreme heat days increasing from 3 per year historically to as many as 12 per year under high-emission scenarios (RCP 8.5).



Extreme heat poses significant risks to public health, infrastructure, and ecosystems. Communities facing social vulnerability, including seniors, young children, outdoor workers, people experiencing homelessness, and individuals with chronic health conditions, face increased risk of heat-related illnesses such as heat stress, heat stroke, and dehydration, which can be life-threatening. Prolonged heat events can strain hospitals and emergency services, disrupt transportation by causing roads and railways to buckle, and increase energy demand, leading to power outages and higher costs.

Extreme heat creates opportunities for Berkeley to strengthen community resilience through adoption of new targeted policies and programs. Policies could include expanding cooling infrastructure in neighborhoods with high social vulnerability, adding shade structures at key gathering areas, and seeking funding for municipal cooling facilities. Incentives and grants that support weatherization and cooling upgrades in non-City buildings would complement these efforts. Maintaining and increasing Berkeley's tree canopy offers long-term benefits for reducing heat exposure and improving air quality. Policies and programs could also include upgrading critical facilities with HVAC systems, backup power, and insulation to ensure they remain operational during emergencies, and installing drought-tolerant landscaping and shade structures in public spaces. These measures would reduce heat-related health risks, protect essential services, and ensure resilience measures reach communities most at risk.



2.4 RESILIENT BUILT ENVIRONMENT

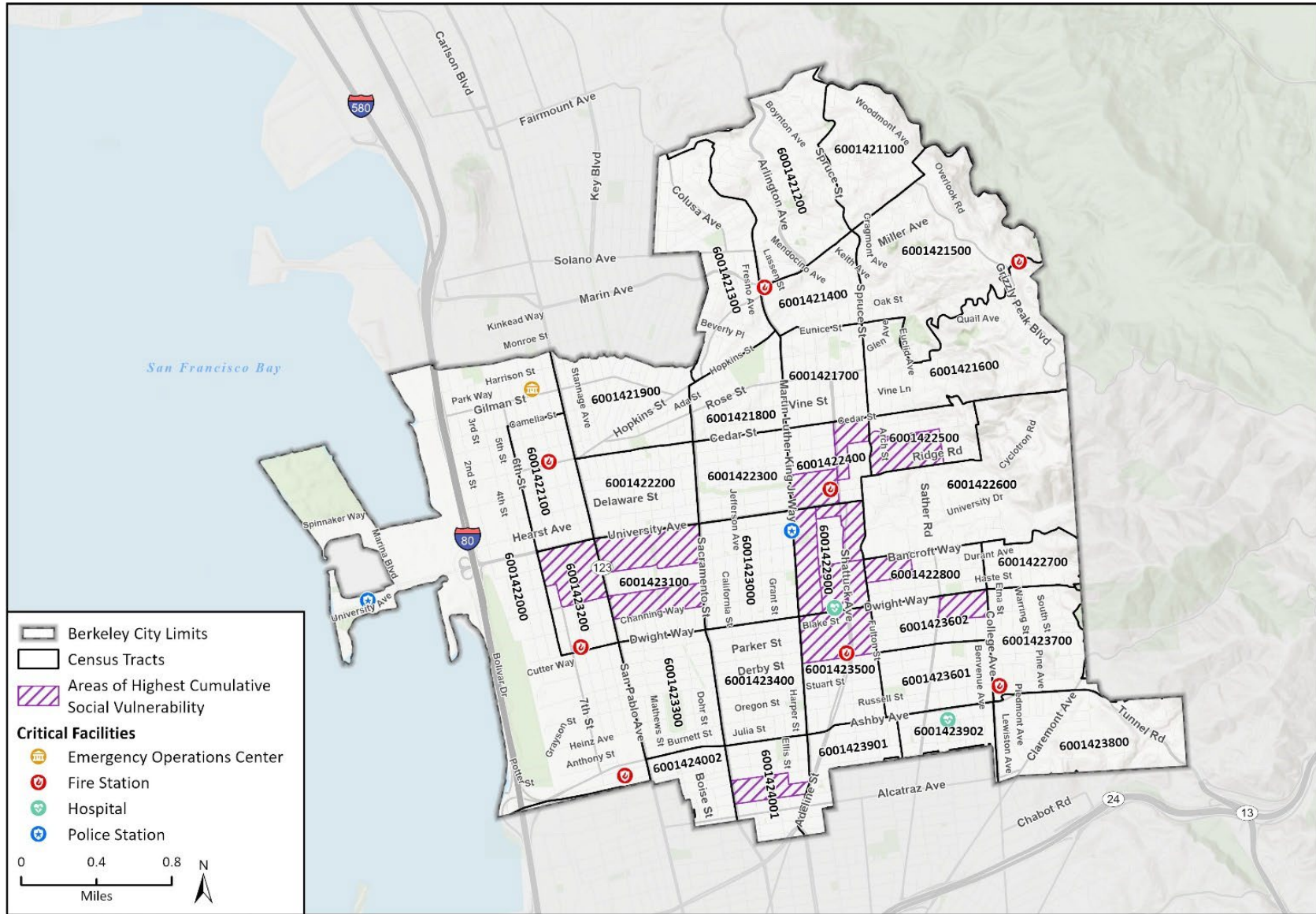
Berkeley's resilience depends on the strength and accessibility of its critical facilities and infrastructure. The City maintains seven fire stations, two police stations, two emergency operations centers, strategically distributed to support emergency response, as shown in Figure

13. There is one main full-service acute care hospital, which is expected to close and move to Emeryville in 2030. Aging water systems, energy networks, and transportation routes also create vulnerabilities that can lead to cascading impacts during disasters. Climate change compounds these risks by increasing wildfire, flooding, extreme heat events, and prolonged drought conditions, which can strain water availability for firefighting and essential services.

Hazards threaten both the safety of residents and the continuity of essential services. Extreme heat and wildfire smoke strain cooling systems and power supplies, while flooding and sea level rise threaten underground utilities and access routes. Drought further exacerbates these challenges by reducing water supply reliability for firefighting, sanitation, and cooling needs. Many critical facilities lack modern HVAC systems, backup power, and insulation, leaving them vulnerable during emergencies. These weaknesses jeopardize emergency response capacity and community well-being.

These vulnerabilities create opportunities for Berkeley to strengthen the resilience of its built environment through targeted investment and coordinated policies and programs. Upgrading critical facilities with climate-resilient construction standards, energy-efficient materials, and adaptive design enhances emergency response capacity and service continuity. Improvements include installing HVAC systems, backup power, and insulation; adding drought-tolerant landscaping and shade structures; and expanding renewable energy and microgrid solutions. Collaboration with utility providers to ensure reliable service and enhancements to firefighting water infrastructure further safeguard essential services. Together, these measures protect residents and establish a resilient foundation for long-term community safety.

Figure 13 Critical Facilities in Berkeley



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Social Vulnerability Index and Critical Facilities provided by City of Berkeley, 2025.

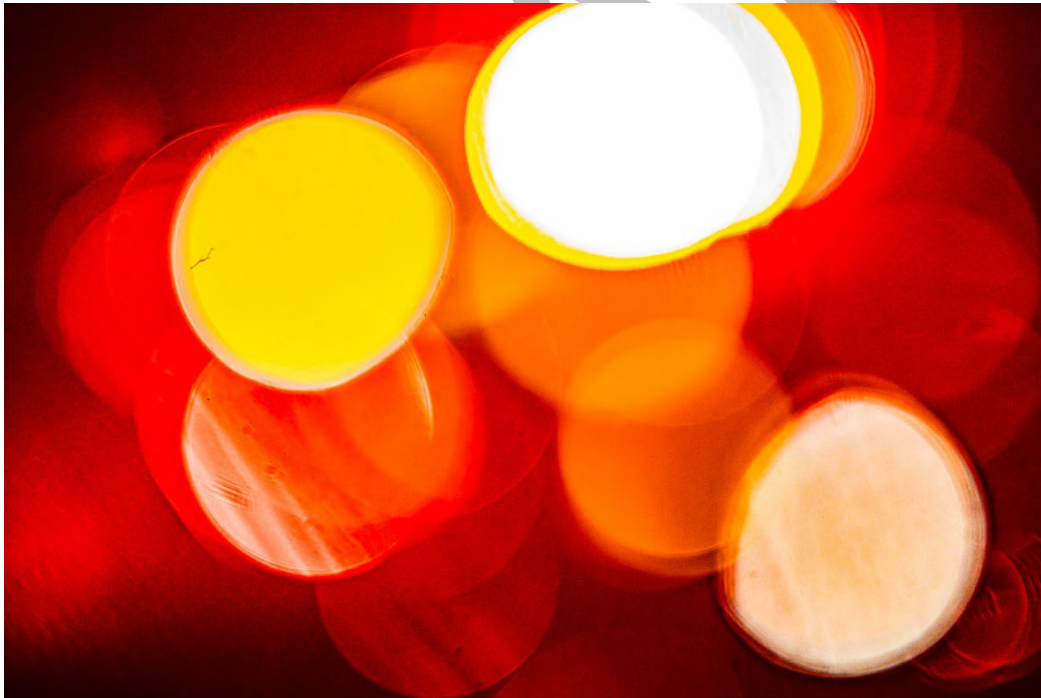
23-15392 EPS Safety Element
Fig X Critical Facilities

2.5 EMERGENCY PREPAREDNESS, RESPONSE, AND RECOVERY

Berkeley faces complex challenges related to emergency preparedness, response, and recovery, including aging infrastructure, disparities in access to resources, and the need for coordinated systems. The sections below describe these issues and the opportunities they create to strengthen emergency systems, improve reliability, and support equitable recovery after disasters.

2.5.1 Emergency Preparedness and Response

Effective emergency preparedness, response, and recovery in Berkeley depend not only on strong first responder capacity, but on the City's ability to integrate evolving hazard science, coordinate across systems, and ensure that all community members can access timely and appropriate services. Hazards such as earthquakes, wildfires, flooding, and extreme heat are becoming more complex and interconnected, placing greater demands on emergency operations, communication systems, and long-term recovery efforts. Opportunities exist to strengthen response systems, increase regional coordination, and to consistently and with sufficient budget turn new information, lessons learned, and best practices into day-to-day operations, staff training, and infrastructure planning.



These challenges are not experienced equally. Communities with fewer resources, limited mobility, or greater exposure to hazards often face disproportionate risks during emergencies and throughout recovery. Barriers such as limited access to transportation, reduced ability to receive or act on emergency alerts, and fewer options for sheltering or rebuilding can compound the impacts of disasters.

Berkeley can transform these challenges into opportunities for innovation and equity-focused strategies. Enhancing data systems and performance metrics can support more informed decision-making and continuous improvement. Expanding outreach around Berkeley's redundant and accessible communication platforms, including multilingual and community-based alerting strategies, can improve reach and effectiveness. Strengthening partnerships with healthcare providers, community organizations, and regional agencies can enhance coordination across the full disaster lifecycle—from preparedness through recovery. Investments in staff training, resilient infrastructure, and continuity planning will further ensure that municipal operations remain responsive under stress. By advancing these strategies in a coordinated and accountable way, Berkeley can build a more adaptive, equitable, and resilient emergency response system. Leveraging emerging technologies such as real-time mapping will improve situational awareness and provide alternative care options during emergencies.

2.5.2 Post-Disaster Recovery

Major hazard events such as earthquakes, wildfires, and flooding can disrupt housing, infrastructure, and essential services, creating social and economic hardships for communities. Immediate needs like temporary housing and medical care must be met quickly, but recovery faces challenges such as complex permitting processes and disparities in access to resources. Renters and households facing social vulnerability often experience greater displacement risks and financial barriers compared to homeowners or moderate- and high-income households. Without targeted policies, recovery efforts can exacerbate inequities and prolong displacement for communities facing social vulnerability. Delays in permitting and lack of funding for resilient reconstruction hinder rebuilding efforts.

Recovery offers a chance to build back stronger and safer. Reconstruction will integrate updated hazard mapping, fire behavior modeling, and climate-resilient standards, including defensible space, ignition-resistant construction, and energy-efficient systems. Streamlined permitting processes will accelerate rebuilding, while maintaining eligibility for state and federal recovery funding through Berkeley's LHMP. Policies that protect households facing social vulnerability and support rebuilding within their communities will help prevent displacement. By combining adaptive design, renewable energy, and community engagement, Berkeley will transform recovery into a pathway for reducing future risk and creating a more resilient and equitable city.

2.6 EMERGENCY EVACUATION

Evacuation during fast-moving hazards presents unique challenges in Berkeley. Narrow hillside roads, limited transportation options, and gaps in multilingual communication increase risk during emergencies. As an urban environment with significant hazard exposure and a high population, major and collector streets alone cannot evacuate residents quickly enough before hazards reach the roadway. All streets, including major, collector, and residential streets, may need to function as evacuation routes to maximize capacity and reduce congestion. Recognizing this constraint is critical for planning flexible, network-wide evacuation strategies that account for traffic management and emergency vehicle access.

2.6.1 Access-Impaired Neighborhood Analysis

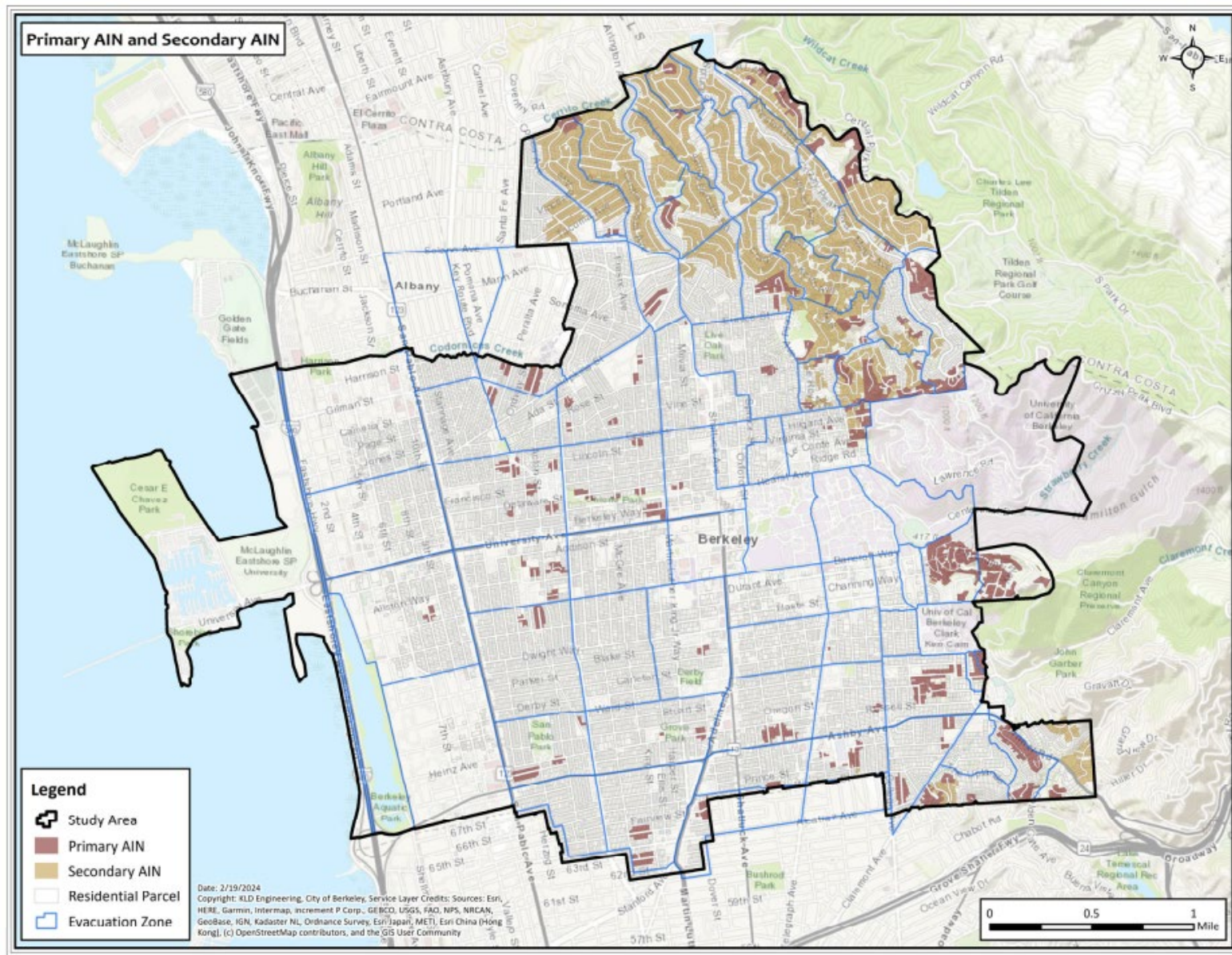
The City of Berkeley completed the Access-Impaired Neighborhood Analysis to meet the requirements of Senate Bill 99. The study, provided in Appendix C, identified 141 primary

access-impaired neighborhoods, encompassing 1,461 residential parcels with only one evacuation route. A secondary analysis was conducted to assess parcels with multiple exits that are still vulnerable due to narrow or winding roadways. These were classified as secondary access-impaired neighborhoods, totaling 195 areas and 3,687 residential parcels. Figure 14 shows the primary and secondary access-impaired neighborhoods.

Analysis highlighted that the Panoramic Way neighborhood has only one entry and exit point located at a stop-controlled intersection at Panoramic Way and Prospect Street/Canyon Road. Much of this area lies beyond a five-minute drive from the nearest fire station, and many of its roads are extremely narrow with no side street parking.

Given these constraints, residents of Panoramic Hill and other access impaired neighborhoods will be challenged to evacuate during a fast-moving fire. The City will continue to promote community education to support leaving early during extreme fire weather. Targeted parking restrictions may improve emergency vehicle access, and leveraging technologies such as real-time mapping and traffic monitoring will enhance situational awareness and support safer, more efficient evacuations. These actions help ensure residents in access-impaired areas receive timely notifications and have dependable routes to safety.

Figure 14 Primary and Secondary Access Impaired Neighborhoods



2.6.2 Evacuation Route Safety, Capacity, and Viability Analysis

The City of Berkeley completed the Evacuation Route Safety, Capacity, and Viability Analysis to fulfill the requirements of Assembly Bill 747. The study, provided in Appendix D, assessed the city's roadway network using a multi-factor approach that combined physical roadway characteristics, hazard exposure, and operational performance. Analysts evaluated each route's geometry, pavement condition, crash history, and structural features alongside hazard data for flooding, landslides, earthquakes, tsunamis, and wildfire zones. Capacity estimates were calculated using the Highway Capacity Manual based on lane configurations and free-flow speeds, while viability scores considered connectivity, accessibility, proximity to essential services, and congestion potential under evacuation demand scenarios. This comprehensive methodology provided a detailed picture of which routes offer the greatest safety, capacity, and reliability during emergencies.

The analysis identified key evacuation routes with the highest capacity and viability, including University Avenue, Ashby Avenue (SR 13), San Pablo Avenue (SR 123), and Interstate 80. These routes were found to be relatively safe, well-connected, and capable of serving high evacuation demand, especially compared to narrower, winding roads in the Berkeley Hills. The study also assessed the vulnerability of populations along each route, factoring in poverty rates, vehicle availability, disability prevalence, and housing and transportation affordability. Roadways in the hills and western parts of the city were found to be more exposed to hazards and less accessible, while central corridors like Adeline Street and Shattuck Avenue offered safer and more viable evacuation options.

These findings highlight opportunities to strengthen evacuation reliability across Berkeley's transportation network. Improving roadway connectivity and accessibility can reduce congestion and support faster, safer evacuations. Enhancements such as targeted infrastructure upgrades, traffic signal improvements, and real-time monitoring technologies will help manage evacuation flow and maintain route viability under high demand. These actions ensure that major corridors and hillside routes remain functional during emergencies, providing residents with dependable pathways to safety.

2.6.3 Evacuation Locations

AB 1409 requires jurisdictions to identify evacuation locations under a range of emergency scenarios. Many locations in and outside of Berkeley could serve as "evacuation locations," i.e., temporary evacuation points, rally points, resource points, or shelters.

The City of Berkeley maintains a mass care and shelter program that surveys City sites that may be used for mass care operations, including shelters. Those sites include Berkeley's senior centers and recreation centers. In addition to serving community members, sites have been surveyed for their capacity to provide sheltering to pets.

Evacuation locations are not predesignated, as they must be selected considering the emergency scenario location and status, the areas and number of people being evacuated, and any other areas under potential threat. When emergency responders select evacuation locations, they are publicized to the community using alert and warning systems.

If evacuation beyond Berkeley city limits is required, City facilities are unsafe or unavailable, or the number of evacuees exceeds the capacity of available Berkeley sites, the Alameda County Operational Area will coordinate with cities and special districts throughout the County to

identify appropriate locations for evacuation points, rally points, resource points, or shelters. Generally, sites considered for evacuation locations include schools, libraries, and other public sites. These sites are identified by responsible jurisdictions; their use is coordinated through the Alameda County Emergency Operations Center.

Regional evacuation plans, such as the Regional Catastrophic Earthquake Mass Transportation/Evacuation Plan, identify pickup locations for bus service in Alameda County. These sites are primarily parking lots, malls, and BART stations.

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3 SAFETY ELEMENT GOALS, POLICIES & PROGRAMS

The Goals, Policies, and Programs listed below were developed in partnership with a Community Advisory Committee and subsequently reviewed by a Technical Advisory Group composed of City staff across departments, ensuring the Element meets State legislative requirements, reflects community priorities, and accounts for City operations. While adoption of the Element establishes these goals, policies, and programs as City policy, the timing and extent of implementation will be guided by future priorities and available resources through the City's regular referral and budgeting processes, as directed by the City Manager and City Council.

3.1 COMMUNITY RESILIENCE AND HAZARD AWARENESS

Goal S-1 Berkeley empowers community members to prepare for disasters by expanding awareness of local hazards, promoting preparedness resources, and strengthening partnerships that build capacity for response and recovery.

Policy S-1.1 Expand Natural Hazard Awareness. Expand public awareness of Berkeley's risk of exposure to natural hazards and how that risk is projected to worsen with climate change. Recommend steps to reduce household vulnerabilities, emphasizing low-cost, high-impact actions.

Program S-1.1-A *Maintain up-to-date hazard mapping to support understanding of Berkeley's hazard vulnerabilities.*

Program S-1.1-B *Provide hazard and readiness information in a variety of formats. Partner with community-based organizations and neighborhood groups to deliver information through multiple channels. Identify and share information about financial and technical assistance resources to support residents in taking readiness actions.*

Program S-1.1-C *Coordinate with housing and health agencies to reach renters, people experiencing homelessness, and other groups that they serve.*

Program S-1.1-D *Partner with utility providers to share education and resources on utility outage preparedness.*

Policy S-1.2 Track Engagement Impact. Measure and share the impact of community engagement efforts, including populations served and tangible disaster readiness measures completed.

Policy S-1.3 Increase Training Access. Improve and expand access to disaster preparedness trainings, prioritizing communities with high hazard exposure, high social vulnerability, and/or those have not yet received City training.

Program S-1.3-A *Offer and promote regularly scheduled disaster readiness training that helps people take clear, practical steps that make them safer.*

- Program S-1.3-B** *Integrate preparedness education into existing events hosted by the City and external partners, such as community organizations, schools, and youth organizations. Prioritize events serving communities with high hazard exposure and/or high social vulnerability.*
- Program S-1.3-C** *Use community feedback to explore nontraditional training and outreach offerings and formats to better engage wider audiences in the Berkeley community. Create opportunities for community-based organizations representing communities facing high social vulnerability to provide feedback on disaster education approaches and to recommend opportunities for increased engagement with the communities they serve.*
- Program S-1.3-D** *Continue to grow the disaster preparedness training and education curriculum based on new understanding of hazards and vulnerabilities, new approaches from other related fields, and community expertise, engagement, and participation.*
- Program S-1.3-E** *Increase neighborhood-based connections and engagement, collaborating closely with neighborhood groups, community-based organizations, businesses, schools, and other partners.*
- Policy S-1.4 Strengthen Community Partnerships.** Collaborate with the Berkeley community to maintain and expand a network of distributed community-based, private, and organizational partners to bolster the municipal government capacity for disaster preparedness, response, and recovery.
- Program S-1.4-A** *Expand partnerships with community-based organizations and identify priority areas of collaboration. Establish a sustainable communication process and channel between the City and partners, including a regular cadence and protocols for disaster response. Create opportunities for coordination and resource sharing among partners. Identify and share funding opportunities for supplies and infrastructure upgrades for community-based organizations.*

3.2 NATURAL AND HUMAN-CAUSED HAZARDS

Goal S-2 Berkeley ensures life and property are resilient to seismic and geologic hazards by strengthening building safety, advancing retrofit programs, and prioritizing resources for structures that are most vulnerable.

- Policy S-2.1 Reduce Seismic Vulnerabilities.** Reduce seismic vulnerabilities for non-City-owned buildings throughout Berkeley by adopting data-driven strategies, prioritizing high-occupancy and community-serving structures, and engaging property owners, tenants, and community partners to ensure equitable implementation.
- Program S-2.1-A** *Evaluate and adopt retrofit guidelines and building codes that address structural and nonstructural mitigation in order to facilitate the retrofit of all vulnerable buildings.*

- Program S-2.1-B** *Maintain the Soft Story Retrofit Program, which requires owners of buildings with five or more units to retrofit their buildings and to inform tenants that the building is potentially hazardous.*
- Program S-2.1-C** *Maintain the Seismic Retrofit Grants Program, to financially incentivize retrofit of potentially hazardous structures, and prioritize financial assistance for vulnerable buildings with high occupancy and/or community benefit.*
- Program S-2.1-D** *Track the development, passage, and implementation of new mandatory seismic retrofit requirements for concrete buildings at the State level, trade industry standards, and peer jurisdictions. Analyze emerging regulations and best practices to inform Berkeley's future policies and compliance strategies.*
- Program S-2.1-E** *Identify and share information on local, State, and federal funding opportunities to facilitate seismic retrofitting programs. Disseminate information to building owners, property managers, and community-based organizations, with targeted outreach to owners of affordable housing and high-occupancy buildings.*

Goal S-3 Berkeley reduces vulnerability to wildfires by strengthening the built environment, guiding development away from high-risk areas, reducing fuel loads, and fostering partnerships that advance community and regional fire resilience.

- Policy S-3.1 Limit Development in Fire-Prone Areas.** Prioritize development in areas with lower wildfire hazard risk and reduce the vulnerability of people, homes, and assets located within Berkeley's High and Very High Fire Hazard Severity Zones to future disasters. Ensure that future growth does not compromise public safety or evacuation capacity during emergencies.
- Program S-3.1-A** *Develop and maintain a local ordinance requiring development standards that meet or exceed Title 14, California Code of Regulations, Division 1.5, Chapter 7, Subchapter 2, Articles 1-5 (commencing with section 1270) (SRA Fire Safe Regulations).*
- Program S-3.1-B** *Update and maintain the local ordinance to continue to meet and exceed requirements of Title 14, California Code of Regulations, Division 1.5, Chapter 7, Subchapter 3, Article 3 (commencing with section 1299.01 (Fire Hazard Reduction Around Buildings and Structure Regulations) for High and Very High Fire Hazard Severity Zones.*
- Program S-3.1-C** *Evaluate allowed land uses and consider amendments to the General Plan Land Use Map and/or Zoning Map and/or Zoning Ordinance that minimize new residential commercial development in High and Very High Fire Hazard Severity Zones.*
- Program S-3.1-D** *Per State law, require fire protection plans for any new development proposed within Berkeley's High and Very High Fire Hazard Severity Zones (VHFHSZ). Plans must include the following enhanced fire mitigation measures:*
- *Use of fire-resistant building materials*

- *Compliance with defensible space requirements outlined in the Berkeley Municipal Code § 19.48 (Berkeley Fire Code) Section 4907 Defensible Space*
- *Demonstration of adequate water supply for fire suppression, including:*
 - *Identification of the location and capacity of the nearest reliable water source (such as hydrants, tanks, or aboveground systems)*
- *A long-term maintenance and reliability plan for fire suppression water infrastructure, including inspection schedules and contingency measures*
- *Emergency vehicle access and evacuation route analysis, including vegetation clearance and maintenance along public and private roads to ensure safe ingress and egress for fire response and evacuation*
- *Installation of visible home and street addressing and signage using fire-safe materials*
- *Inclusion of community fire breaks and a plan for their ongoing maintenance*

Policy S-3.2 Reduce Fire Fuel Loads. Reduce fire fuel in the High and Very High Fire Hazard Severity Zones to limit the spread and intensity of wildfires, with consideration for changing fuel conditions due to climate change, through education, financial support, technical assistance, inspections, and enforcement.

Program S-3.2-A *Continue to educate residents on the value of defensible space and home hardening. Identify and develop strategies to reach communities located in areas with high hazard exposure, prioritizing households with high social vulnerability, such as those with seniors, people living disabilities, and people from linguistically diverse communities, ensuring that those in high fire risk areas understand fire mitigation programs and code requirements.*

Program S-3.2-B *Maintain and expand financial support, technical assistance, and grant programs to help households and communities harden homes against wildfire hazards. Prioritize resources for households in communities facing high social vulnerabilities and properties facing the greatest barriers to compliance in the High and Very High Fire Hazard Severity Zones.*

Program S-3.2-C *Continue inspections of structures within the Grizzly Peak and Panoramic Mitigation areas to verify compliance with defensible space and home hardening requirements. Emphasize education and collaboration.*

Policy S-3.3 Collaborate on Wildfire Preparedness. Collaborate with regional partners in wildfire mitigation and preparedness, including organizations that serve households in communities facing high social vulnerability in the High and Very High Fire Hazard Severity Zones.

Policy S-3.4 Pursue Regional Fire Grants. Work with external partners to develop regional projects and leverage collaborative relationships to pursue grant funding.

Policy S-3.5 Pilot Fire Safety Programs. Collaborate with community-based organizations primarily in the Grizzly Peak and Panoramic Mitigation areas to pilot programs that enhance fire safety.

Policy S-3.6 Coordinate with State Forestry. Maintain close coordination with the California Department of Forestry to minimize the risk of wildland fire in Berkeley's High and Very High Fire Hazard Severity Zones.

Goal S-4 Berkeley is resilient to flooding and contamination risks through strengthened infrastructure, thoughtful development to reduce future hazard exposure, and climate adaptation strategies that protect vulnerable areas and communities.

Policy S-4.1 Upgrade Climate-Resilient Infrastructure. Create plans and expand programs to improve and maintain City infrastructure, incorporating analysis of climate change impacts, such as more intense rainfall, sea level rise, and rising groundwater.

Program S-4.1-A *Continue to rehabilitate the City's storm drain system to reduce local flooding caused by inadequate storm drainage, prioritizing areas with aging infrastructure and high flood exposure such as West Berkeley and neighborhoods along Strawberry and Codornices Creeks.*

Program S-4.1-B *Continue and strengthen programs promoting storm drain maintenance by community members and businesses to address climate-related increases in debris and sediment loads, with targeted outreach in flood-prone areas identified in the 100-year and 500-year floodplains.*

Program S-4.1-C *Continue development of a Stormwater Master Plan, identifying system deficiencies, and establish a Capital Stormwater Improvement Plan focused on infrastructure vulnerable to flooding.*

Program S-4.1-D *Pursue funding opportunities to expand and sustain existing programs that mitigate flood risks in mapped flood hazard areas, with focus on neighborhoods with high social vulnerability.*

Program S-4.1-E *Adopt and maintain a Sea Level Rise Plan that addresses projected sea level rise hazards, including flooding and groundwater rise, and outline adaptation measures for exposed areas such as the Berkeley Waterfront, Marina Boulevard, and University Avenue west of Interstate 580. The Plan will be informed by updated local flood hazard mapping that incorporates sea level rise scenarios, extreme rainfall events, and projected groundwater rise conditions, using best available science and publicly available datasets and other regional or federal climate resilience tools. It will be coordinated with the Sub-Regional Adaptation Plan being developed as part of the SB1 Ocean Protection Council funding in partnership with the San Francisco Estuary Partnership, Albany, Emeryville, and Oakland.*

Policy S-4.2 Ensure Flood-Safe Development. Use development review to ensure that new development does not increase community flood potential and is designed to remain resilient to future climate-driven flood hazards.

Program S-4.2-A *Research new development standards and local building codes that could be adopted to reduce flood risks to development in areas exposed to flooding.*

Consider projected sea level rise and extreme storms in development decisions.

Program S-4.2-B *Ensure that new development conforms to requirements and guidelines of the National Flood Insurance Program (NFIP) and integrate projected climate change impacts on flood risk, using publicly available datasets and other regional or federal climate resilience tools where possible.*

Program S-4.2-C *Research new development standards and local building codes that could be adopted to reduce flood risk to development 30 feet of an exposed streambed as required by the Preservation and Restoration of Natural Watercourses (Creeks) Ordinance, while considering likely increased stream flows and flooding driven by climate change.*

Program S-4.2-D *Require appropriate levels of onsite detention and/or retention of stormwater in qualifying new development to ensure it is designed for more intense rainfall events expected with climate change.*

Program S-4.2-E *Explore development of requirements for sea level rise vulnerability assessments and conditions of approval for projects located in areas vulnerable to inundation, including the Berkeley Waterfront, Marina Boulevard, and University Avenue west of Interstate 580. Reassess vulnerability regularly and coordinate adaptation planning across jurisdictions.*

Program S-4.2-F *Explore development of requirements for groundwater rise assessments for new development in areas with known or projected groundwater rise hazards, such as in West Berkeley with conditions of approval that ensure appropriate siting and design.*

Policy S-4.3 Lower Flood Insurance Costs. *Reduce the cost of flood insurance to property owners in the City by maintaining eligibility for national programs and promoting activities that reflect both current and projected flood risks under climate change.*

Program S-4.3-A *Incorporate FEMA guidelines and suggested activities into City plans and procedures for managing flood hazards, ensuring consistency with climate adaptation strategies.*

Policy S-4.4 Mitigate Groundwater Contamination. *Identify and mitigate contamination risks exacerbated by groundwater rise.*

Program S-4.4-A *Coordinate with environmental oversight agencies by registering for and regularly reviewing database notifications and updates related to high-priority contaminated sites to stay informed of new findings, status changes, and remediation progress.*

Program S-4.4-B *Reevaluate projected groundwater rise and contaminated site risks on a five-year cycle to account for updated sea level rise projections, new or reclassified contaminated sites, and evolving scientific knowledge or predictive tools.*

Program S-4.4-C *Consider mitigation measures for City capital improvement projects located near sites with known, historically documented, or potential contamination identified through EnviroStor, GeoTracker, or the City's Environmental*

Management Area (EMA) map to prevent the creation of preferential pathways for soil vapor or groundwater migration.

- Policy S-4.5 Maintain Flood Protection Partnerships.** Maintain cooperative working relationships among public agencies with responsibility for flood protection to reduce existing inundation hazards and prevent unnecessary exposure of people and property to risks of damage, injury, or loss from flood hazards.

Goal S-5 Berkeley is resilient to extreme heat, using cooling infrastructure, tree canopy, and strategies that protect households and communities most vulnerable to climate impacts.

- Policy S-5.1 Expand Cooling Infrastructure.** Increase cooling infrastructure throughout Berkeley, with a focus on communities facing high social vulnerability.

Program S-5.1-A Pursue funding opportunities to install and maintain additional cooling infrastructure at City facilities.

Program S-5.1-B Explore additional incentives or grant programs to facilitate additional cooling infrastructure and weatherization of existing non-City buildings.

- Policy S-5.2 Increase Urban Tree Canopy.** Maintain and increase Berkeley's tree canopy as a key strategy for reducing urban heat.

Program S-5.2-A Continue to preserve and maintain Berkeley's existing City trees.

Program S-5.2-B Continue to plant new City trees, native species where feasible, in neighborhoods with low canopy coverage and high social vulnerability, prioritizing areas with limited access to cooling infrastructure.

3.3 RESILIENT BUILT ENVIRONMENT

Goal S-6 Berkeley's buildings and utilities are resilient to hazards, using up-to-date construction standards, safe growth strategies, and systems that support community safety and continuity.

- Policy S-6.1 Maintain Modern Construction Standards.** Promote safe and resilient growth by maintaining and implementing current construction standards, including adoption of State building code updates with locally-tailored amendments, along with consistent plan review and inspection practices, to protect residents, property, and neighborhoods from environmental, climate-related, and other hazards in both new and existing buildings.

Policy S-6.2 Explore Heat-Resistant Materials. Explore mechanisms for additional requirements for energy-efficient materials in new construction and major renovations to reduce indoor and outdoor heat exposure.

Policy S-6.3 Reduce Risk to Water Systems. Collaborate with the East Bay Municipal Utility District (EBMUD) to reduce risk to water systems from natural and climate-related hazards and utility disruptions.

Policy S-6.4 Promote Backup Power and Renewables. Promote backup power and renewable energy options for non-City buildings.

Program S-6.4-A *Identify and connect community members to externally funded programs, grants, and rebate opportunities that enable Berkeley residents, community organizations, and businesses to install backup energy systems to maintain power during outages and emergencies. Identify options that are accessible to low-income households and organizations.*

Program S-6.4-B *Work with partners to advance neighborhood-scale microgrids that provide renewable, reliable energy during grid outages or extreme heat events, prioritizing installations in communities facing high social vulnerability.*

Program S-6.4-C *Advance policies and programs that reduce reliance on natural gas and other fossil fuels by promoting electrification, renewable energy integration, and energy efficiency standards in both new construction and retrofits of existing buildings, consistent with the Berkeley Climate Action Plan.*

Policy S-6.5 Advocate for Resilient Communications. Advocate for private communications providers to ensure the resilience of the systems they manage to limit communication disruptions during disasters.

Goal S-7 Critical facilities remain safe and operational during hazard events through resilient siting, infrastructure upgrades, and essential systems maintenance to support community needs under evolving climate and disaster conditions.

Policy S-7.1 Site Critical Facilities Safely. Use development review to site critical facilities outside areas with high hazard exposure, where possible.

Program S-7.1-A *Require that new essential public facilities, such as hospitals, fire stations, critical infrastructure, and public-facing sites with disaster functions are sited outside of Very High Fire Hazard Severity Zones (VHFHSZs), flood hazard zones, areas vulnerable to sea level rise, and areas vulnerable to seismic hazards when feasible. When avoidance is not possible, incorporate fire-resistant design and defensible space standards, flood resistant construction standards, and seismic safety standards to ensure long-term resilience.*

Policy S-7.2 Assess Hazard Exposure of Infrastructure. Continue to conduct citywide assessments to identify critical infrastructure located in areas with high hazard exposure. Update assessments periodically to reflect new data and hazard information, including demographic data.

Policy S-7.3 Upgrade City-Owned Critical Infrastructure. Identify, prioritize, and implement improvements to City-owned critical infrastructure, including the City's public-facing or community gathering spaces. Improvements will reduce vulnerabilities to natural and human-caused hazards, ensuring they remain resilient and able to operate and serve the community during future hazard events, and under future climate conditions.

- Program S-7.3-A** *Identify City facilities that need air conditioning, HVAC or other insulation upgrades to operate and serve during emergencies, such as extreme heat and poor air quality events. Implement upgrades where possible.*
- Program S-7.3-B** *Identify City facilities that need back up power. Implement backup systems that provide renewable, reliable energy during grid outages or extreme heat events. Implement upgrades where possible.*
- Program S-7.3-C** *Pursue State, federal, and regional funding opportunities, including public-private partnerships and resilience grant programs, to implement critical infrastructure upgrades and replacements.*
- Program S-7.3-D** *Install drought-tolerant landscaping and shade structures adjacent to City-owned buildings to reduce heat in paved areas and energy used to cool buildings.*
- Policy S-7.4** **Ensure Firefighting Infrastructure Resilience.** Ensure firefighting infrastructure, including water supply systems, fire stations, communication and dispatch systems, and backup power sources, are resilient to climate change impacts including drought, extreme heat, and extended wildfire seasons.
- Program S-7.4-A** *Continually evaluate access to water supplies for fire suppression. Maintain equipment to improve the supply and reliability of water for fire suppression under future climate conditions. Continue to assess, and improve as indicated, the water supply for firefighting to assure peak load water supply capabilities. Continue to work with East Bay Municipal Utility District (EBMUD) to coordinate water supply improvements.*

3.4 EMERGENCY AND DISASTER PREPAREDNESS, RESPONSE, AND RECOVERY

Goal S-8 Berkeley maintains organizational expertise to effectively manage hazards and disasters by integrating the latest science, lessons learned, and equity principles into policies, plans, and operations to ensure informed, coordinated, and inclusive decision-making.

- Policy S-8.1** **Monitor Latest Hazard Science.** Continually monitor the latest science and research about Berkeley's vulnerability to hazards for integration into policies, plans, and procedures.
- Policy S-8.2** **Integrate Lessons from Disasters.** Systematically review and integrate lessons learned from disasters in other jurisdictions to update policies, plans, and procedures.
- Policy S-8.3** **Build Staff Hazard Awareness.** Build organizational awareness of Berkeley hazards, areas of exposure, and potential impacts, to ensure that hazard considerations are integrated into staff's day-to-day work.
- Policy S-8.4** **Embed Equity in Disaster Planning.** Establish a shared organizational understanding that disasters disproportionately affect individuals, households,

and communities with the least power and fewest resources. Integrate this awareness—and a commitment to equitably serving all members of the Berkeley community—into every aspect of disaster policy, planning, response, and recovery.

Goal S-9 Berkeley provides responsive and effective day-to-day police and fire services by maintaining well-trained first responders, modern equipment, and operational practices that reflect best practices and community needs.

Policy S-9.1 Maintain Modern Police–Fire Communications. Maintain an effective, resilient, accessible, and modern Police–Fire Communications Center capable of timely 911 response and emergency information sharing.

Program S-9.1-A *Evaluate and implement protocol-based call-taking and dispatch software for police, fire, and emergency medical incidents to standardize caller assessments, ensure consistent and evidence-based service delivery, and support the dispatch of the most appropriate resources for each call for service.*

Policy S-9.2 Staff and Equip Fire Stations. Continue to staff and equip fire stations and emergency apparatus. Monitor response time from initial call to arrival and pursue a 90th percentile dispatch time of one minute and 30 seconds, turnout time of two minutes, and travel time of five minutes.

Policy S-9.3 Use Fire Response Data for Planning. Enhance the City’s use of Fire Department response data to better understand evolving community needs and to inform deployment and response priorities, with a focus on high-acuity incidents and critical patient interventions (e.g., CPR, airway management, life-saving medication administration, hemorrhage control).

Policy S-9.4 Expand Alternative 911 Service Options. Strengthen the Fire Department’s capacity to provide alternative service delivery options for non-acute 911 callers who require care and follow-up but do not need a traditional fire department or ambulance response. Examples include telehealth consultations, nurse triage services, and scheduling pre-booked appointments with appropriate clinics or community care providers.

Policy S-9.5 Enhance First Responder Training. Acquire and build an appropriately sized and equipped all-hazards first responder training center within Berkeley that meets the needs of the modern fire department. Continually enhance first responder training curricula to incorporate best practices and changes in Berkeley’s risk, population, and service demands.

Goal S-10 Berkeley maintains robust medical and health partnerships, volunteer deployment capabilities, and coordinated systems that support continuity of care and rapid recovery during major emergencies and disasters.

Policy S-10.1 Maintain Emergency-Ready Police Department. Continue to maintain a fully staffed, trained, and equipped Police Department capable of performing emergency and disaster response functions.

Policy S-10.2 Ensure Emergency-Accessible Roadways. Ensure roadways can support timely emergency response.

Program S-10.2-A *Develop and implement a methodology to measure emergency response time changes due to specific roadway design features and use this information to contribute to roadway design processes.*

Policy S-10.3 Strengthen Local Medical and Health Coordination. Maintain and expand partnerships with local and regional medical, public health, and emergency medical service providers to enhance community preparedness, coordinate operational response, and support long-term disaster recovery.

Program S-10.3-A *Maintain capability to deploy medical/health volunteers through Disaster Health Volunteers and Medical Reserve Corps.*

Program S-10.3-B *Formalize partnerships with healthcare facilities, transport agencies and providers to prepare for, respond to, and recover from local emergencies or disasters.*

Goal S-11 Berkeley maintains strong coordination, communication, and mutual aid systems with local, regional, and State partners to ensure effective emergency response and hazard mitigation through collaboration, interoperability, and shared capacity building.

Policy S-11.1 Coordinate with Local Community Partners. Continue to build and maintain relationships and coordinate disaster readiness and response with Berkeley partners including community-based organizations, faith-based institutions, schools and the Berkeley Unified School District, businesses, UC Berkeley, and the Lawrence Berkeley National Lab.

Policy S-11.2 Collaborate with Government Partners. Continue to build and maintain relationships and coordinate disaster readiness and response with government partners from neighboring jurisdictions, special districts, and regional, State, and federal governmental agencies, including those with responsibility for flood and fire protection and hazard mitigation.

Policy S-11.3 Engage in Regional Hazard Planning. Represent City interests in regional hazard mitigation and response planning and capacity building efforts. Conduct regular joint planning, training, and exercises with external partners.

Policy S-11.4 Maintain Emergency System Interoperability. Coordinate with regional partners to maintain interoperability across equipment, data, and emergency communication systems.

Policy S-11.5 Ensure Mutual Aid Resource Capability. Ensure the City can effectively request, provide, and coordinate mutual aid resources during emergencies through established regional, County, State, and federal systems.

Policy S-11.6 Fulfill Fire Suppression Mutual Aid. Continue to fulfill obligations and support mutual aid efforts to coordinate fire suppression within Alameda and Contra Costa Counties, adjacent cities, the East Bay Regional Park District, and the State of California to prevent and suppress major wildland and urban fire destruction.

Policy S-11.7 Maintain Medical Mutual Aid Capability. Maintain the capability to request medical and health mutual aid through the existing mutual aid system in California and if necessary, at the federal level.

Goal S-12 Berkeley community members and visitors receive clear, timely, and accessible emergency alerts during hazard events from redundant systems.

Policy S-12.1 Maintain Redundant Alert Systems. Maintain redundant alert and warning systems, procedures, and training to ensure protective action messages can be sent to the community during hazard events, with special consideration for communities facing social vulnerability and accessibility needs.

Program S-12.1-A *Ensure that alert and warning systems use multiple delivery channels and messaging types to increase accessibility, comprehension, and prompt protective action.*

Policy S-12.2 Update Alert Templates and Policies. Maintain and regularly update emergency alerting templates and policies to use the latest messaging best practices to facilitate timely and effective alerting delivery, incorporating community feedback to improve clarity and relevance for all populations.

Program S-12.2-A *Maintain pre-scripted, approved emergency alerting templates, including versions in multiple languages. Ensure messages use simple language to be understood by community members with varying English proficiency and reading levels.*

Policy S-12.3 Expand Alert Access via Outreach. Facilitate access to emergency alerts by all community members, prioritizing outreach to communities facing high social vulnerability and delivering outreach through trusted community-based organizations.

Program S-12.3-A *Encourage and facilitate emergency notification signups and identify ways to increase signups, including targeted outreach through community-based organizations.*

Program S-12.3-B *Use emerging technologies to expand the reach of emergency alerting systems without requiring system signup.*

Program S-12.3-C *Explore and pursue feasible options to push out emergency alerts through trusted community-based organizations and affordable housing providers.*

Goal S-13 Municipal operations remain resilient and responsive during disasters, supported by robust emergency plans, trained staff, and resilient essential services and facilities to protect community safety and well-being.

Policy S-13.1 Maintain and Update Emergency Plans. Maintain City emergency plans that are actionable, equitable, and responsive to organizational and community needs. Regularly update them using the latest hazard information and social vulnerability data.

Policy S-13.2 Develop Continuity of Operations Plans. Continually develop and maintain plans to support the City's emergency response activities and ensure City departments can continue performing their essential functions (those ensuring life safety or meeting legal requirements) during emergencies and disasters.

Policy S-13.3 Train Staff for Large-Scale Emergencies. Organize and train City staff to respond effectively to large-scale emergencies and disasters.

Program S-13.3-A *Prepare staff for their roles in the City's emergency response organization in compliance with State and federal standards.*

Program S-13.3-B *Maintain resilient and redundant municipal facilities, equipment, technology, and systems necessary for emergency response and coordination, including Emergency Operations Center, backup power, communications, and IT infrastructure.*

Program S-13.3-C *Assess and project future emergency service needs to ensure that staffing, facilities, and resources remain adequate under evolving climate, hazard, and population scenarios.*

Policy S-13.4 Maintain Primary and Backup Facilities for Emergency Operations Center. Maintain primary and backup facilities to coordinate emergency operations during large-scale emergencies and disasters.

Policy S-13.5 Ensure Safe Post-Disaster Care Sites. Improve and maintain capacity to provide and support safe and accessible sites for post-disaster mass care, shelter, and community gathering.

Program S-13.5-A *Maintain accessible City facilities to serve as disaster shelters, mass care sites, and/or community gathering sites.*

Program S-13.5-B *Maintain relationships with institutional and community partners to ensure pre-identified schools and other non-City sites can serve as shelters, mass care sites, and/or community gathering sites during disasters, including extreme heat and poor air quality events, to align outreach and service.*

Program S-13.5-C *Maintain shelter supplies and equipment for initial response.*

Program S-13.5-D *Continue partnering with the American Red Cross to support mass care and shelter planning, capacity-building and response.*

Program S-13.5-E *Educate community members on post-disaster sheltering, including what services will be available where they could be located, and how they will be publicized during an emergency or disaster. Provide associated guidance and*

resources to help households plan ahead to identify their own best options, which may include staying with friends, family, or at a hotel.

Goal S-14 Berkeley's disaster recovery is coordinated and streamlined, strengthening community resilience by integrating hazard- and climate-adaptive practices into rebuilding, and supporting equitable outcomes for all community members.

Policy S-14.1 Adopt Climate-Resilient Reconstruction Guidelines. Adopt guidelines to ensure post-disaster reconstruction incorporates the latest hazard- and climate-resilient standards, materials, and energy-efficient systems.

Program S-14.1-A *Following a major disaster, evaluate opportunities for redevelopment or reuse that incorporate updated hazard mapping and fire behavior modeling, apply current fire-safe development standards, including defensible space, ignition-resistant construction, and emergency access, consider land use changes in areas with repeated fire loss or extreme hazard exposure, and engage the community in post-disaster recovery planning to align redevelopment with long-term resilience goals.*

Policy S-14.2 Protect Vulnerable Communities in Disaster Recovery. Consider adopting protections for communities facing social vulnerability and support rebuilding in place following a major disaster, provided exposure to extreme hazards is minimized.

Policy S-14.3 Maintain Disaster Recovery Funding Eligibility. Maintain eligibility for State and federal disaster recovery funding.

Program S-14.3-A *Maintain the Local Hazard Mitigation Plan, identifying Berkeley's hazards of concern, their potential impacts, and a 5-year strategic plan to reduce their impacts.*

3.5 EMERGENCY EVACUATION

Goal S-15 The City organization is equipped, and the Berkeley community is prepared for effective evacuation and leaving early.

Policy S-15.1 Public Education on Evacuation. Maintain and expand community education on evacuation protocols, including where to sign up for emergency alert updates and how to prepare.

Policy S-15.2 Refine Evacuation Strategies. Continually update and refine evacuation readiness and response strategies based on the latest data, community input, and lessons learned from local, state, and national disaster research.

Policy S-15.3 Build Evacuation Partnerships. Continue to build partnerships for evacuation planning and capacity building.

Program S-15.3-A *Represent Berkeley in regional evacuation planning efforts to develop and refine strategies and capacity for large-scale evacuation.*

Program S-15.3-B *Support Berkeley schools in developing policies for extreme fire weather, including potential relocation or closure of schools in high wildfire hazard areas.*

Policy S-15.4 Use Technology for Evacuation Monitoring. Utilize emerging technologies, including drones, automated mapping, and real-time environmental information, to monitor roadways, identify obstructions, and support informed evacuation decisions during fast-moving incidents.

Policy S-15.5 Maintain Field Operations for Evacuation. Maintain field operations capabilities that support evacuation, perimeter control, and protection of evacuated neighborhoods.

Policy S-15.6 Maintain Evacuation Traffic Operations. Maintain traffic management capabilities for use during evacuations, including road closures, traffic management planning, and emergency vehicle access.

Policy S-15.7 Promote Walking and Cycling for Evacuation. Explore and promote cycling and walking for evacuation where and when appropriate.

Policy S-15.8 Ensure Evacuation Strategies Reflect Community Needs. Collaborate with trusted community-based organizations serving households facing barriers to safe evacuation to ensure emergency evacuation strategies reflect household needs.

Policy S-15.9 Maintain Extreme Fire Weather Standards Using Latest Science. Leverage the latest science to continually update and refine Extreme Fire Weather thresholds, using transparent methodology and criteria that are replicable by other jurisdictions.

Policy S-15.10 Promote Leave Early Policy for Fire Weather. Maintain, refine, advocate for, and provide education about the Leave Early policy for Extreme Fire Weather, which recommends residents leave areas with greatest exposure to wildfire risk before a fire starts under extremely hazardous fire weather.

Goal S-16 Berkeley's roadway infrastructure supports evacuation and responder ingress during emergencies.

Policy S-16.1 Improve Roadway Infrastructure. Based on SB 99, AB 747, and Evacuation Time Study analyses, improve roadway infrastructure to support safe, reliable, and efficient mobility during emergencies. Prioritize improvements for communities at greatest exposure to hazards requiring evacuation.

Policy S-16.2 Plan all streets for evacuation, appropriate to their typology. Plan for all Berkeley streets, including collector and residential streets, to function as potential evacuation routes.

Policy S-16.3 Improve emergency access. Enhance emergency access and evacuation reliability in Berkeley's High and Very High Fire Hazard Severity Zones.

Program S-16.3-A *Maintain WUI Code to define requirements for road widths, vegetation clearance, signage, and emergency access in Berkeley's High and Very High Fire Hazard Severity Zones. Ensure any new roads in Berkeley's High and Very*

High Fire Hazard Severity Zones meet requirements of WUI Code and Fire Code.

Program S-16.3-B *Explore targeted parking restrictions, prioritizing arterial roadways in Berkeley's High and Very High Fire Hazard Severity Zones to ensure unimpeded emergency response vehicle ingress during Extreme Fire Weather.*

Policy S-16.4 Integrate Evacuation Efficiency in Roadway Planning. Consider evacuation efficiency during the planning and implementation phases of roadway infrastructure development.

Program S-16.4-A *To improve vehicular flow during evacuation, implement improvements to traffic signal infrastructure, including signal timing plans, battery backup systems, emergency vehicle preemption, communications infrastructure, transit signal priority for public transit vehicles, coordination with adjacent jurisdictions, and traffic signal software for centralized control.*

Program S-16.4-B *Ensure that private access roads are kept in good condition by a responsible party so that Fire Department vehicles can reach people quickly at all times. Ensure that any gates or locking devices remain compatible with emergency access needs.*

Program S-16.4-C *Implement practical mitigation measures to mitigate existing non-conforming development to contemporary fire safe standards. Consider roadway improvements where feasible, signage, and/or strategic vegetation management where appropriate. Prioritize investments based on overall risk.*

4 IMPLEMENTATION PROGRAMS

Table 1 identifies implementation measures for the Disaster Preparedness and Safety Element. Each program identifies the City department(s) or agency primarily responsible for implementation, recognizing that many programs will require coordination across multiple departments and with external partners. Timeframes provide a general expectation for implementation and are defined as follows: Near-Term (1–3 years), Mid-Term (3–5 years), Long-Term (6+ years), and Ongoing for recurring activities such as maintenance, monitoring, outreach, partnerships, and program administration. Where applicable, the table also identifies legislative requirements associated with individual implementation programs. These references identify California Government Code sections and other applicable State laws that the program is intended to address or help implement; however, the absence of a legislative citation does not imply that a program is optional or of lesser importance, as all programs contribute to achieving the City's Disaster Preparedness and Safety goals and advancing implementation of the General Plan.

Table 1 Disaster Preparedness and Safety Element Goals, Policies, and Programs

Goals/Policies/Programs	Program Leads	Timeframe	Legislative Requirements
Goal S-1: Berkeley empowers community members to prepare for disasters by expanding awareness of local hazards, promoting preparedness resources, and strengthening partnerships that build capacity for response and recovery.			
Policy S-1.1 Expand Natural Hazard Awareness. Expand public awareness of Berkeley's risk of exposure to natural hazards and how that risk is projected to worsen with climate change. Recommend steps to reduce household vulnerabilities, emphasizing low-cost, high-impact actions.			
Program S-1.1-A Maintain up-to-date hazard mapping to support understanding of Berkeley's hazard vulnerabilities.	Fire Department, Office of Emergency Services	Ongoing	Gov. Code §65302(g)(1), (g)(4)
Program S-1.1-B Provide hazard and readiness information in a variety of formats. Partner with community-based organizations and neighborhood groups to deliver information through multiple channels. Identify and share information about financial and technical assistance resources to support residents in taking readiness actions.	Fire Department, Office of Emergency Services	Ongoing	
Program S-1.1-C Coordinate with housing and health agencies to reach renters, people experiencing homelessness, and other groups that they serve.	Fire Department; Health, Housing, and Community Services Department	Ongoing	
Program S-1.1-D Partner with utility providers to share education and resources on utility outage preparedness.	Fire Department,	Ongoing	

Goals/Policies/Programs	Program Leads	Timeframe	Legislative Requirements
	Office of Emergency Services		
Policy S-1.2 Track Engagement Impact. Measure and share the impact of community engagement efforts, including populations served and tangible disaster readiness measures completed.			
Policy S-1.3 Increase Training Access. Improve and expand access to disaster preparedness trainings, prioritizing communities with high hazard exposure, high social vulnerability, and/or those have not yet received City training.			
Program S-1.3-A Offer and promote regularly scheduled disaster readiness training that helps people take clear, practical steps that make them safer.	Fire Department, Office of Emergency Services	Ongoing	
Program S-1.3-B Integrate preparedness education into existing events hosted by the City and external partners, such as community organizations, schools, and youth organizations. Prioritize events serving communities with high hazard exposure and/or high social vulnerability.	Fire Department, Office of Emergency Services	Ongoing	
Program S-1.3-C Use community feedback to explore nontraditional training and outreach offerings and formats to better engage wider audiences in the Berkeley community. Create opportunities for community-based organizations representing communities facing high social vulnerability to provide feedback on disaster education approaches and to recommend opportunities for increased engagement with the communities they serve.	Fire Department, Office of Emergency Services	Ongoing	
Program S-1.3-D Continue to grow the disaster preparedness training and education curriculum based on new understanding of hazards and vulnerabilities, new approaches from other related fields, and community expertise, engagement, and participation.	Fire Department, Office of Emergency Services	Ongoing	
Program S-1.3-E Increase neighborhood-based connections and engagement, collaborating closely with neighborhood groups, community-based organizations, businesses, schools, and other partners.	Fire Department, Office of Emergency Services	Ongoing	
Policy S-1.4 Strengthen Community Partnerships. Collaborate with the Berkeley community to maintain and expand a network of distributed community-based, private, and organizational partners to bolster the municipal government capacity for disaster preparedness, response, and recovery.			
Program S-1.4-A Expand partnerships with community-based organizations and identify priority areas of collaboration. Establish a sustainable communication process and channel between the City and partners, including a regular cadence and protocols for disaster response. Create	Fire Department, Office of	Near-term	Gov. Code §65302(g)(4)(C)(iv)

Goals/Policies/Programs	Program Leads	Timeframe	Legislative Requirements
opportunities for coordination and resource sharing among partners. Identify and share funding opportunities for supplies and infrastructure upgrades for community-based organizations.	Emergency Services		
Goal S-2: Berkeley ensures life and property are resilient to seismic and geologic hazards by strengthening building safety, advancing retrofit programs, and prioritizing resources for structures that are most vulnerable.			
Policy S-2.1 Reduce Seismic Vulnerabilities. Reduce seismic vulnerabilities for non-City-owned buildings throughout Berkeley by adopting data-driven strategies, prioritizing high-occupancy and community-serving structures, and engaging property owners, tenants, and community partners to ensure equitable implementation.			
Program S-2.1-A Evaluate and adopt retrofit guidelines and building codes that address structural and nonstructural mitigation in order to facilitate the retrofit of all vulnerable buildings.	Planning and Development Department, Building and Safety Division	Near-term	Gov. Code §65302(g)(1)
Program S-2.1-B Maintain the Soft Story Retrofit Program, which requires owners of buildings with five or more units to retrofit their buildings and to inform tenants that the building is potentially hazardous.	Planning and Development Department, Building and Safety Division	Ongoing	
Program S-2.1-C Maintain the Seismic Retrofit Grants Program, to financially incentivize retrofit of potentially hazardous structures, and prioritize financial assistance for vulnerable buildings with high occupancy and/or community benefit.	Planning and Development Department, Building and Safety Division	Ongoing	
Program S-2.1-D Track the development, passage, and implementation of new mandatory seismic retrofit requirements for concrete buildings at the State level, trade industry standards, and peer jurisdictions. Analyze emerging regulations and best practices to inform Berkeley's future policies and compliance strategies.	Planning and Development Department, Building and Safety Division	Near-term	
Program S-2.1-E Identify and share information on local, State, and federal funding opportunities to facilitate seismic retrofitting programs. Disseminate information to building owners, property managers, and community-based organizations, with targeted outreach to owners of affordable housing and high-occupancy buildings.	Planning and Development Department, Building and Safety Division	Near-term	
Goal S-3: Berkeley reduces vulnerability to wildfires by strengthening the built environment, guiding development away from high-risk areas, reducing fuel loads, and fostering partnerships that advance community and regional fire resilience.			
Policy S-3.1 Limit Development in Fire-Prone Areas. Prioritize development in areas with lower wildfire hazard risk and reduce the vulnerability of people, homes, and assets located within Berkeley's High and Very High Fire Hazard Severity Zones to future disasters. Ensure that future growth does not compromise public safety or evacuation capacity during emergencies.			

Goals/Policies/Programs	Program Leads	Timeframe	Legislative Requirements
Program S-3.1-A Develop and maintain a local ordinance requiring development standards that meet or exceed Title 14, California Code of Regulations, Division 1.5, Chapter 7, Subchapter 2, Articles 1-5 (commencing with section 1270) (SRA Fire Safe Regulations).	Fire Department, Wildland-Urban Interface Division	Near-term	Gov. Code §65302(g)(3)(C)(i), (iii)
Program S-3.1-B Update and maintain the local ordinance to continue to meet and exceed requirements of Title 14, California Code of Regulations, Division 1.5, Chapter 7, Subchapter 3, Article 3 (commencing with section 1299.01 (Fire Hazard Reduction Around Buildings and Structure Regulations) for High and Very High Fire Hazard Severity Zones.	Fire Department, Wildland-Urban Interface Division	Near-term	Gov. Code §65302(g)(3)(C)(i), (iii)
Program S-3.1-C Evaluate allowed land uses and consider amendments to the General Plan Land Use Map and/or Zoning Map and/or Zoning Ordinance that minimize new residential commercial development in High and Very High Fire Hazard Severity Zones.	Fire Department, Wildland-Urban Interface Division	Mid-term	Gov. Code §65302(g)(3)(C)(i)
Program S-3.1-D Per State law, require fire protection plans for any new development proposed within Berkeley's High and Very High Fire Hazard Severity Zones (VHFHSZ). Plans must include the following enhanced fire mitigation measures: • Use of fire-resistant building materials • Compliance with defensible space requirements outlined in the Berkeley Municipal Code § 19.48 (Berkeley Fire Code) Section 4907 Defensible Space • Demonstration of adequate water supply for fire suppression, including: • Identification of the location and capacity of the nearest reliable water source (such as hydrants, tanks, or aboveground systems) • A long-term maintenance and reliability plan for fire suppression water infrastructure, including inspection schedules and contingency measures • Emergency vehicle access and evacuation route analysis, including vegetation clearance and maintenance along public and private roads to ensure safe ingress and egress for fire response and evacuation • Installation of visible home and street addressing and signage using fire-safe materials • Inclusion of community fire breaks and a plan for their ongoing maintenance.	Public Works Department; Planning and Development Department; Fire Department	Ongoing	Gov. Code §65302(g)(3)(C)(ii), (iii)
Policy S-3.2 Reduce Fire Fuel Loads. Reduce fire fuel in the High and Very High Fire Hazard Severity Zones to limit the spread and intensity of wildfires, with consideration for changing fuel conditions due to climate change, through education, financial support, technical assistance, inspections, and enforcement.			
Program S-3.2-A Continue to educate residents on the value of defensible space and home hardening. Identify and develop strategies to reach communities located in areas with high hazard exposure, prioritizing households with high social vulnerability, such as those with seniors, people living disabilities, and people from linguistically diverse communities, ensuring	Fire Department, Wildland-Urban Interface	Ongoing	Gov. Code §65302(g)(3)(C)(i), (iv)

Goals/Policies/Programs	Program Leads	Timeframe	Legislative Requirements
that those in high fire risk areas understand fire mitigation programs and code requirements.	Division		
Program S-3.2-B Maintain and expand financial support, technical assistance, and grant programs to help households and communities harden homes against wildfire hazards. Prioritize resources for households in communities facing high social vulnerabilities and properties facing the greatest barriers to compliance in the High and Very High Fire Hazard Severity Zones.	Fire Department, Wildland-Urban Interface Division	Mid-term	
Program S-3.2-C Continue inspections of structures within the Grizzly Peak and Panoramic Mitigation areas to verify compliance with defensible space and home hardening requirements. Emphasize education and collaboration.	Fire Department, Wildland-Urban Interface Division	Ongoing	Gov. Code §65302(g)(3)(C)(i)
Policy S-3.3 Collaborate on Wildfire Preparedness. Collaborate with regional partners in wildfire mitigation and preparedness, including organizations that serve households in communities facing high social vulnerability in the High and Very High Fire Hazard Severity Zones.			
Policy S-3.4 Pursue Regional Fire Grants. Work with external partners to develop regional projects and leverage collaborative relationships to pursue grant funding.			
Policy S-3.5 Pilot Fire Safety Programs. Collaborate with community-based organizations primarily in the Grizzly Peak and Panoramic Mitigation areas to pilot programs that enhance fire safety.			
Policy S-3.6 Coordinate with State Forestry. Maintain close coordination with the California Department of Forestry to minimize the risk of wildland fire in Berkeley's High and Very High Fire Hazard Severity Zones.			
Goal S-4: Berkeley is resilient to flooding and contamination risks through strengthened infrastructure, thoughtful development to reduce future hazard exposure, and climate adaptation strategies that protect vulnerable areas and communities.			
Policy S-4.1 Upgrade Climate-Resilient Infrastructure. Create plans and expand programs to improve and maintain City infrastructure, incorporating analysis of climate change impacts, such as more intense rainfall, sea level rise, and rising groundwater.			
Program S-4.1-A Continue to rehabilitate the City's storm drain system to reduce local flooding caused by inadequate storm drainage, prioritizing areas with aging infrastructure and high flood exposure such as West Berkeley and neighborhoods along Strawberry and Codornices Creeks.	Public Works Department, Engineering Division	Long-term	Gov. Code §65302(g)(2), (g)(4)
Program S-4.1-B Continue and strengthen programs promoting storm drain maintenance by community members and businesses to address climate-related increases in debris and sediment loads, with targeted outreach in flood-prone areas identified in the 100-year and 500-year floodplains.	Public Works Department, Engineering Division	Ongoing	
Program S-4.1-C Continue development of a Stormwater Master Plan, identifying system deficiencies, and establish a Capital Stormwater Improvement Plan focused on infrastructure vulnerable to flooding.	Public Works Department, Engineering Division	Near-term	Gov. Code §65302(g)(2), (g)(4)
Program S-4.1-D Pursue funding opportunities to expand and sustain existing programs that	Planning and	Near-term	Gov. Code §65302(g)(4)

Goals/Policies/Programs	Program Leads	Timeframe	Legislative Requirements
mitigate flood risks in mapped flood hazard areas, with focus on neighborhoods with high social vulnerability.	Development Department, Office of Energy and Sustainable Development; Public Works Department		
Program S-4.1-E Adopt and maintain a Sea Level Rise Plan that addresses projected sea level rise hazards, including flooding and groundwater rise, and outline adaptation measures for exposed areas such as the Berkeley Waterfront, Marina Boulevard, and University Avenue west of Interstate 580. The Plan will be informed by updated local flood hazard mapping that incorporates sea level rise scenarios, extreme rainfall events, and projected groundwater rise conditions, using best available science and publicly available datasets and other regional or federal climate resilience tools. It will be coordinated with the Sub-Regional Adaptation Plan being developed as part of the SB1 Ocean Protection Council funding in partnership with the San Francisco Estuary Partnership, Albany, Emeryville, and Oakland.	Public Works Department	Near-term	Gov. Code §65302(g)(4)
Policy S-4.2 Ensure Flood-Safe Development. Use development review to ensure that new development does not increase community flood potential and is designed to remain resilient to future climate-driven flood hazards.			
Program S-4.2-A Research new development standards and local building codes that could be adopted to reduce flood risks to development in areas exposed to flooding. Consider projected sea level rise and extreme storms in development decisions.	Planning and Development Department, Land Use Planning Division	Near-term	Gov. Code §65302(g)(2)(B), (g)(4)
Program S-4.2-B Ensure that new development conforms to requirements and guidelines of the National Flood Insurance Program (NFIP) and integrate projected climate change impacts on flood risk, using publicly available datasets and other regional or federal climate resilience tools where possible.	Planning and Development Department, Land Use Planning and Building and Safety Divisions	Ongoing	Gov. Code §65302(g)(2); 44 CFR Part 60 (NFIP)
Program S-4.2-C Research new development standards and local building codes that could be adopted to reduce flood risk to development 30 feet of an exposed streambed as required by the Preservation and Restoration of Natural Watercourses (Creeks) Ordinance, while considering likely increased stream flows and flooding driven by climate change.	Planning and Development Department, Land Use Planning Division	Near-term	Gov. Code §65302(g)(2)(B), (g)(4)
Program S-4.2-D Require appropriate levels of onsite detention and/or retention of stormwater in qualifying new development to ensure it is designed for more intense rainfall events expected	Public Works Department,	Mid-term	Gov. Code

Goals/Policies/Programs	Program Leads	Timeframe	Legislative Requirements
with climate change.	Engineering Division		§65302(g)(2)(B), (g)(4)
Program S-4.2-E Explore development of requirements for sea level rise vulnerability assessments and conditions of approval for projects located in areas vulnerable to inundation, including the Berkeley Waterfront, Marina Boulevard, and University Avenue west of Interstate 580. Reassess vulnerability regularly and coordinate adaptation planning across jurisdictions.	Parks, Recreation, and Waterfront Department	Mid-term	Gov. Code §65302(g)(4)
Program S-4.2-F Explore development of requirements for groundwater rise assessments for new development in areas with known or projected groundwater rise hazards, such as in West Berkeley with conditions of approval that ensure appropriate siting and design.	Planning and Development Department, Land Use Planning Division	Near-term	Gov. Code §65302(g)(4)
Policy S-4.3 Lower Flood Insurance Costs. Reduce the cost of flood insurance to property owners in the City by maintaining eligibility for national programs and promoting activities that reflect both current and projected flood risks under climate change.			
Program S-4.3-A Incorporate FEMA guidelines and suggested activities into City plans and procedures for managing flood hazards, ensuring consistency with climate adaptation strategies.	Public Works Department	Ongoing	Gov. Code §65302(g)(2); 44 CFR Part 60
Policy S-4.4 Mitigate Groundwater Contamination. Identify and mitigate contamination risks exacerbated by groundwater rise.			
Program S-4.4-A Coordinate with environmental oversight agencies by registering for and regularly reviewing database notifications and updates related to high-priority contaminated sites to stay informed of new findings, status changes, and remediation progress.	Planning and Development Department, Toxics Management Division; Public Works Department	Ongoing	
Program S-4.4-B Reevaluate projected groundwater rise and contaminated site risks on a five-year cycle to account for updated sea level rise projections, new or reclassified contaminated sites, and evolving scientific knowledge or predictive tools.	Planning and Development Department, Toxics Management Division; Public Works Department	Ongoing	Gov. Code §65302(g)(4)
Program S-4.4-C Consider mitigation measures for City capital improvement projects located near sites with known, historically documented, or potential contamination identified through EnviroStor, GeoTracker, or the City's Environmental Management Area (EMA) map to prevent the creation of preferential pathways for soil	Planning and Development Department, Toxics	Ongoing	

Goals/Policies/Programs	Program Leads	Timeframe	Legislative Requirements
vapor or groundwater migration.	Management Division; Public Works Department		
Policy S-4.5 Maintain Flood Protection Partnerships. Maintain cooperative working relationships among public agencies with responsibility for flood protection to reduce existing inundation hazards and prevent unnecessary exposure of people and property to risks of damage, injury, or loss from flood hazards.			
Goal EJ-5: Berkeley is resilient to extreme heat, using cooling infrastructure, tree canopy, and strategies that protect households and communities most vulnerable to climate impacts.			
Policy S-5.1 Expand Cooling Infrastructure. Increase cooling infrastructure throughout Berkeley, with a focus on communities facing high social vulnerability.			
Program S-5.1-A Pursue funding opportunities to install and maintain additional cooling infrastructure at City facilities.	Public Works Department, Facilities Management Division	Mid-term	Gov. Code §65302(g)(4); §65302.01
Program S-5.1-B Explore additional incentives or grant programs to facilitate additional cooling infrastructure and weatherization of existing non-City buildings.	Planning and Development Department, Office of Energy and Sustainable Development	Mid-term	Gov. Code §65302(g)(4); §65302.01
Policy S-5.2 Increase Urban Tree Canopy. Maintain and increase Berkeley's tree canopy as a key strategy for reducing urban heat.			
Program S-5.2-A Continue to preserve and maintain Berkeley's existing City trees.	Parks, Recreation, and Waterfront Department, Urban Forestry	Ongoing	Gov. Code §65302(g)(4); §65302.01
Program S-5.2-B Continue to plant new City trees, native species where feasible, in neighborhoods with low canopy coverage and high social vulnerability, prioritizing areas with limited access to cooling infrastructure.	Parks, Recreation, and Waterfront Department, Urban Forestry	Long-term	Gov. Code §65302(g)(4); §65302.01
Goal S-6: Berkeley's buildings and utilities are resilient to hazards, using up-to-date construction standards, safe growth strategies, and systems that support community safety and continuity.			
Policy S-6.1 Maintain Modern Construction Standards. Promote safe and resilient growth by maintaining and implementing current construction standards, including adoption of State building code updates with locally-tailored amendments, along with consistent plan review and inspection practices, to			

Goals/Policies/Programs	Program Leads	Timeframe	Legislative Requirements
protect residents, property, and neighborhoods from environmental, climate-related, and other hazards in both new and existing buildings.			
Policy S-6.2 Explore Heat-Resistant Materials. Explore mechanisms for additional requirements for energy-efficient materials in new construction and major renovations to reduce indoor and outdoor heat exposure.			
Policy S-6.3 Reduce Risk to Water Systems. Collaborate with the East Bay Municipal Utility District (EBMUD) to reduce risk to water systems from natural and climate-related hazards and utility disruptions.			
Policy S-6.4 Promote Backup Power and Renewables. Promote backup power and renewable energy options for non-City buildings.			
Program S-6.4-A Identify and connect community members to externally funded programs, grants, and rebate opportunities that enable Berkeley residents, community organizations, and businesses to install backup energy systems to maintain power during outages and emergencies. Identify options that are accessible to low-income households and organizations.	Planning and Development Department, Office of Energy and Sustainable Development	Ongoing	
Program S-6.4-B Work with partners to advance neighborhood-scale microgrids that provide renewable, reliable energy during grid outages or extreme heat events, prioritizing installations in communities facing high social vulnerability.	Planning and Development Department, Office of Energy and Sustainable Development	Long-term	
Program S-6.4-C Advance policies and programs that reduce reliance on natural gas and other fossil fuels by promoting electrification, renewable energy integration, and energy efficiency standards in both new construction and retrofits of existing buildings, consistent with the Berkeley Climate Action Plan.	Planning and Development Department, Building and Safety Division and Office of Energy and Sustainable Development	Long-term	
Policy S-6.5 Advocate for Resilient Communications. Advocate for private communications providers to ensure the resilience of the systems they manage to limit communication disruptions during disasters.			
Goal S-7: Critical facilities remain safe and operational during hazard events through resilient siting, infrastructure upgrades, and essential systems maintenance to support community needs under evolving climate and disaster conditions.			
Policy S-7.1 Site Critical Facilities Safely. Use development review to site critical facilities outside areas with high hazard exposure, where possible.			
Program S-7.1-A Require that new essential public facilities, such as hospitals, fire stations, critical infrastructure, and public-facing sites with disaster functions are sited outside of Very High Fire Hazard Severity Zones (VHFHSZs), flood hazard zones, areas vulnerable to sea level rise, and areas vulnerable to seismic hazards when feasible. When avoidance is not possible, incorporate fire-resistant design and defensible space standards, flood resistant construction	Planning and Development Department, Land Use Planning	Ongoing	Gov. Code §65302(g)(2)(B)(iv), (g)(3)(C)(ii), (g)(4)(C)(ii)

Goals/Policies/Programs	Program Leads	Timeframe	Legislative Requirements
standards, and seismic safety standards to ensure long-term resilience.	Division		
Policy S-7.2 Assess Hazard Exposure of Infrastructure. Continue to conduct citywide assessments to identify critical infrastructure located in areas with high hazard exposure. Update assessments periodically to reflect new data and hazard information, including demographic data.			
Policy S-7.3 Upgrade City-Owned Critical Infrastructure. Identify, prioritize, and implement improvements to City-owned critical infrastructure, including the City's public-facing or community gathering spaces. Improvements will reduce vulnerabilities to natural and human-caused hazards, ensuring they remain resilient and able to operate and serve the community during future hazard events, and under future climate conditions.			
Program S-7.3-A Identify City facilities that need air conditioning, HVAC or other insulation upgrades to operate and serve during emergencies, such as extreme heat and poor air quality events. Implement upgrades where possible.	Public Works Department, Facilities Management Division	Near-term	Gov. Code §65302(g)(4)(C)(iii)
Program S-7.3-B Identify City facilities that need back up power. Implement backup systems that provide renewable, reliable energy during grid outages or extreme heat events. Implement upgrades where possible.	Public Works Department, Facilities Management Division	Mid-term	Gov. Code §65302(g)(4)(C)(iii)
Program S-7.3-C Pursue State, federal, and regional funding opportunities, including public-private partnerships and resilience grant programs, to implement critical infrastructure upgrades and replacements.	Public Works Department, Facilities Management Division	Ongoing	
Program S-7.3-D Install drought-tolerant landscaping and shade structures adjacent to City-owned buildings to reduce heat in paved areas and energy used to cool buildings.	Public Works Department; Parks, Recreation, and Waterfront Department	Mid-term	Gov. Code §65302(g)(4); §65302.01
Policy S-7.4 Ensure Firefighting Infrastructure Resilience. Ensure firefighting infrastructure, including water supply systems, fire stations, communication and dispatch systems, and backup power sources, are resilient to climate change impacts including drought, extreme heat, and extended wildfire seasons.			
Program S-7.4-A Continually evaluate access to water supplies for fire suppression. Maintain equipment to improve the supply and reliability of water for fire suppression under future climate conditions. Continue to assess, and improve as indicated, the water supply for firefighting to assure peak load water supply capabilities. Continue to work with East Bay Municipal Utility District (EBMUD) to coordinate water supply improvements.	Fire Department	Ongoing	Gov. Code §65302(g)(1), (g)(3)(C)(iii)
Goal S-8: Berkeley maintains organizational expertise to effectively manage hazards and disasters by integrating the latest science, lessons learned, and equity principles into policies, plans, and operations to ensure informed, coordinated, and inclusive decision-making.			
Policy S-8.1 Monitor Latest Hazard Science. Continually monitor the latest science and research about Berkeley's vulnerability to hazards for integration			

Goals/Policies/Programs	Program Leads	Timeframe	Legislative Requirements
into policies, plans, and procedures.			
Policy S-8.2 Integrate Lessons from Disasters. Systematically review and integrate lessons learned from disasters in other jurisdictions to update policies, plans, and procedures.			
Policy S-8.3 Build Staff Hazard Awareness. Build organizational awareness of Berkeley hazards, areas of exposure, and potential impacts, to ensure that hazard considerations are integrated into staff's day-to-day work.			
Policy S-8.4 Embed Equity in Disaster Planning. Establish a shared organizational understanding that disasters disproportionately affect individuals, households, and communities with the least power and fewest resources. Integrate this awareness—and a commitment to equitably serving all members of the Berkeley community—into every aspect of disaster policy, planning, response, and recovery.			
Goal S-9: Berkeley provides responsive and effective day-to-day police and fire services by maintaining well-trained first responders, modern equipment, and operational practices that reflect best practices and community needs.			
Policy S-9.1 Maintain Modern Police–Fire Communications. Maintain an effective, resilient, accessible, and modern Police–Fire Communications Center capable of timely 911 response and emergency information sharing.			
Program S-9.1-A Evaluate and implement protocol-based call-taking and dispatch software for police, fire, and emergency medical to standardize caller assessments, ensure consistent and evidence-based service delivery, and support the dispatch of the most appropriate resources for each call for service.	Fire Department; Police Department	Mid-term	
Policy S-9.2 Staff and Equip Fire Stations. Continue to staff and equip fire stations and emergency apparatus. Monitor response time from initial call to arrival and pursue a 90th percentile dispatch time of one minute and 30 seconds, turnout time of two minutes, and travel time of five minutes.			
Policy S-9.3 Use Fire Response Data for Planning. Enhance the City's use of Fire Department response data to better understand evolving community needs and to inform deployment and response priorities, with a focus on high-acuity incidents and critical patient interventions (e.g., CPR, airway management, life-saving medication administration, hemorrhage control).			
Policy S-9.4 Expand Alternative 911 Service Options. Strengthen the Fire Department's capacity to provide alternative service delivery options for non-acute 911 callers who require care and follow-up but do not need a traditional fire department or ambulance response. Examples include telehealth consultations, nurse triage services, and scheduling pre-booked appointments with appropriate clinics or community care providers.			
Policy S-9.5 Enhance First Responder Training. Acquire and build an appropriately sized and equipped all-hazards first responder training center within Berkeley that meets the needs of the modern fire department. Continually enhance first responder training curricula to incorporate best practices and changes in Berkeley's risk, population, and service demands.			
Goal S-10: Berkeley maintains robust medical and health partnerships, volunteer deployment capabilities, and coordinated systems that support continuity of care and rapid recovery during major emergencies and disasters.			
Policy S-10.1 Maintain Emergency-Ready Police Department. Continue to maintain a fully staffed, trained, and equipped Police Department capable of performing emergency and disaster response functions.			
Policy S-10.2 Ensure Emergency-Accessible Roadways. Ensure roadways can support timely emergency response.			
Program S-10.2-A Develop and implement a methodology to measure emergency response time changes due to specific roadway design features and use this information to contribute to roadway design processes.	Fire Department	Near-term	Gov. Code §65302(g)(5)

Goals/Policies/Programs	Program Leads	Timeframe	Legislative Requirements
Policy S-10.3 Strengthen Local Medical and Health Coordination. Maintain and expand partnerships with local and regional medical, public health, and emergency medical service providers to enhance community preparedness, coordinate operational response, and support long-term disaster recovery.			
Program S-10.3-A Maintain capability to deploy medical/health volunteers through Disaster Health Volunteers and Medical Reserve Corps.	Health, Housing, and Community Services Department, Public Health Division	Ongoing	
Program S-10.3-B Formalize partnerships with healthcare facilities, transport agencies and providers to prepare for, respond to, and recover from local emergencies or disasters.	Health, Housing, and Community Services Department, Public Health Division	Ongoing	
Goal S-11 Berkeley maintains strong coordination, communication, and mutual aid systems with local, regional, and State partners to ensure effective emergency response and hazard mitigation through collaboration, interoperability, and shared capacity building.			
Policy S-11.1 Coordinate with Local Community Partners. Continue to build and maintain relationships and coordinate disaster readiness and response with Berkeley partners including community-based organizations, faith-based institutions, schools and the Berkeley Unified School District, businesses, UC Berkeley, and the Lawrence Berkeley National Lab.			
Policy S-11.2 Collaborate with Government Partners. Continue to build and maintain relationships and coordinate disaster readiness and response with government partners from neighboring jurisdictions, special districts, and regional, State, and federal governmental agencies, including those with responsibility for flood and fire protection and hazard mitigation.			
Policy S-11.3 Engage in Regional Hazard Planning. Represent City interests in regional hazard mitigation and response planning and capacity building efforts. Conduct regular joint planning, training, and exercises with external partners.			
Policy S-11.4 Maintain Emergency System Interoperability. Coordinate with regional partners to maintain interoperability across equipment, data, and emergency communication systems.			
Policy S-11.5 Ensure Mutual Aid Resource Capability. Ensure the City can effectively request, provide, and coordinate mutual aid resources during emergencies through established regional, County, State, and federal systems.			
Policy S-11.6 Fulfill Fire Suppression Mutual Aid. Continue to fulfill obligations and support mutual aid efforts to coordinate fire suppression within Alameda and Contra Costa Counties, adjacent cities, the East Bay Regional Park District, and the State of California to prevent and suppress major wildland and urban fire destruction.			
Policy S-11.7 Maintain Medical Mutual Aid Capability. Maintain the capability to request medical and health mutual aid through the existing mutual aid system in California and if necessary, at the federal level.			
Goal S-12: Berkeley community members and visitors receive clear, timely, and accessible emergency alerts during hazard events from redundant systems.			
Policy S-12.1 Maintain Redundant Alert Systems. Maintain redundant alert and warning systems, procedures, and training to ensure protective action messages can be sent to the community during hazard events, with special consideration for communities facing social vulnerability and accessibility needs.			

Goals/Policies/Programs	Program Leads	Timeframe	Legislative Requirements
Program S-12.1-A Ensure that alert and warning systems use multiple delivery channels and messaging types to increase accessibility, comprehension, and prompt protective action.	Fire Department, Office of Emergency Services	Ongoing	
Policy S-12.2 Update Alert Templates and Policies. Maintain and regularly update emergency alerting templates and policies to use the latest messaging best practices to facilitate timely and effective alerting delivery, incorporating community feedback to improve clarity and relevance for all populations.			
Program S-12.2-A Maintain pre-scripted, approved emergency alerting templates, including versions in multiple languages. Ensure messages use simple language to be understood by community members with varying English proficiency and reading levels.	Fire Department, Office of Emergency Services	Ongoing	
Policy S-12.3 Expand Alert Access via Outreach. Facilitate access to emergency alerts by all community members, prioritizing outreach to communities facing high social vulnerability and delivering outreach through trusted community-based organizations.			
Program S-12.3-A Encourage and facilitate emergency notification signups and identify ways to increase signups, including targeted outreach through community-based organizations.	Fire Department, Office of Emergency Services	Ongoing	
Program S-12.3-B Use emerging technologies to expand the reach of emergency alerting systems without requiring system signup.	Fire Department, Office of Emergency Services	Mid-term	
Program S-12.3-C Explore and pursue feasible options to push out emergency alerts through trusted community-based organizations and affordable housing providers.	Fire Department, Office of Emergency Services	Mid-term	
Goal S-13: Municipal operations remain resilient and responsive during disasters, supported by robust emergency plans, trained staff, and resilient essential services and facilities to protect community safety and well-being.			
Policy S-13.1 Maintain and Update Emergency Plans. Maintain City emergency plans that are actionable, equitable, and responsive to organizational and community needs. Regularly update them using the latest hazard information and social vulnerability data.			
Policy S-13.2 Develop Continuity of Operations Plans. Continually develop and maintain plans to support the City's emergency response activities and ensure City departments can continue performing their essential functions (those ensuring life safety or meeting legal requirements) during emergencies and disasters.			

Goals/Policies/Programs	Program Leads	Timeframe	Legislative Requirements
Policy S-13.3 Train Staff for Large-Scale Emergencies. Organize and train City staff to respond effectively to large-scale emergencies and disasters.			
Program S-13.3-A Prepare staff for their roles in the City's emergency response organization in compliance with State and federal standards.	Fire Department, Office of Emergency Services	Ongoing	
Program S-13.3-B Maintain resilient and redundant municipal facilities, equipment, technology, and systems necessary for emergency response and coordination, including Emergency Operations Center, backup power, communications, and IT infrastructure.	Fire Department, Office of Emergency Services	Ongoing	Gov. Code §65302(g)(4)(C)(iii)
Program S-13.3-C Assess and project future emergency service needs to ensure that staffing, facilities, and resources remain adequate under evolving climate, hazard, and population scenarios.	Fire Department, Office of Emergency Services	Ongoing	Gov. Code §65302(g)(4)
Policy S-13.4 Maintain Primary and Backup Facilities for Emergency Operations Center. Maintain primary and backup facilities to coordinate emergency operations during large-scale emergencies and disasters.			
Policy S-13.5 Ensure Safe Post-Disaster Care Sites. Improve and maintain capacity to provide and support safe and accessible sites for post-disaster mass care, shelter, and community gathering.			
Program S-13.5-A Maintain accessible City facilities to serve as disaster shelters, mass care sites, and/or community gathering sites.	Public Works Department; Parks, Recreation, and Waterfront Department	Ongoing	Gov. Code §65302(g)(2)(B)(iv), (g)(4)(C)(ii)
Program S-13.5-B Maintain relationships with institutional and community partners to ensure pre-identified schools and other non-City sites can serve as shelters, mass care sites, and/or community gathering sites during disasters, including extreme heat and poor air quality events, to align outreach and service.	Fire Department, Office of Emergency Services	Ongoing	
Program S-13.5-C Maintain shelter supplies and equipment for initial response.	Fire Department, Office of Emergency Services	Ongoing	
Program S-13.5-D Continue partnering with the American Red Cross to support mass care and	Fire	Ongoing	

Goals/Policies/Programs	Program Leads	Timeframe	Legislative Requirements
shelter planning, capacity-building and response.	Department, Office of Emergency Services		
Program S-13.5-E Educate community members on post-disaster sheltering, including what services will be available where they could be located, and how they will be publicized during an emergency or disaster. Provide associated guidance and resources to help households plan ahead to identify their own best options, which may include staying with friends, family, or at a hotel.	Fire Department, Office of Emergency Services	Ongoing	
Goal S-14: Berkeley's disaster recovery is coordinated and streamlined, strengthening community resilience by integrating hazard- and climate-adaptive practices into rebuilding, and supporting equitable outcomes for all community members.			
Policy S-14.1 Adopt Climate-Resilient Reconstruction Guidelines. Adopt guidelines to ensure post-disaster reconstruction incorporates the latest hazard- and climate-resilient standards, materials, and energy-efficient systems.			
Program S-14.1-A Following a major disaster, evaluate opportunities for redevelopment or reuse that incorporate updated hazard mapping and fire behavior modeling, apply current fire-safe development standards, including defensible space, ignition-resistant construction, and emergency access, consider land use changes in areas with repeated fire loss or extreme hazard exposure, and engage the community in post-disaster recovery planning to align redevelopment with long-term resilience goals.	Planning and Development Department, Land Use Planning and Building and Safety Divisions; Fire Department, Office of Emergency Services	Ongoing	Gov. Code §65302(g)(3), (g)(4)
Policy S-14.2 Protect Vulnerable Communities in Disaster Recovery. Consider adopting protections for communities facing social vulnerability and support rebuilding in place following a major disaster, provided exposure to extreme hazards is minimized.			
Policy S-14.3 Maintain Disaster Recovery Funding Eligibility. Maintain eligibility for State and federal disaster recovery funding.			
Program S-14.3-A Maintain the Local Hazard Mitigation Plan, identifying Berkeley's hazards of concern, their potential impacts, and a 5-year strategic plan to reduce their impacts.	Planning and Development Department, Land Use Planning Division; Fire Department, Office of Emergency Services	Ongoing	Gov. Code §65302.6

Goals/Policies/Programs	Program Leads	Timeframe	Legislative Requirements
Goal S-15: The City organization is equipped, and the Berkeley community is prepared for effective evacuation and leaving early.			
Policy S-15.1 Public Education on Evacuation. Maintain and expand community education on evacuation protocols, including where to sign up for emergency alert updates and how to prepare.			
Policy S-15.2 Refine Evacuation Strategies. Continually update and refine evacuation readiness and response strategies based on the latest data, community input, and lessons learned from local, state, and national disaster research.			
Policy S-15.3 Build Evacuation Partnerships. Continue to build partnerships for evacuation planning and capacity building.			
Program S-15.3-A Represent Berkeley in regional evacuation planning efforts to develop and refine strategies and capacity for large-scale evacuation.	Fire Department, Office of Emergency Services; Health, Housing, and Community Services	Ongoing	Gov. Code §65302(g)(5)
Program S-15.3-B Support Berkeley schools in developing policies for extreme fire weather, including potential relocation or closure of schools in high wildfire hazard areas.	Fire Department, Office of Emergency Services; Health, Housing, and Community Services	Ongoing	
Policy S-15.4 Use Technology for Evacuation Monitoring. Utilize emerging technologies, including drones, automated mapping, and real-time environmental information, to monitor roadways, identify obstructions, and support informed evacuation decisions during fast-moving incidents.			
Policy S-15.5 Maintain Field Operations for Evacuation. Maintain field operations capabilities that support evacuation, perimeter control, and protection of evacuated neighborhoods.			
Policy S-15.6 Maintain Evacuation Traffic Operations. Maintain traffic management capabilities for use during evacuations, including road closures, traffic management planning, and emergency vehicle access.			
Policy S-15.7 Promote Walking and Cycling for Evacuation. Explore and promote cycling and walking for evacuation where and when appropriate.			
Policy S-15.8 Ensure Evacuation Strategies Reflect Community Needs. Collaborate with trusted community-based organizations serving households facing barriers to safe evacuation to ensure emergency evacuation strategies reflect household needs.			
Policy S-15.9 Maintain Extreme Fire Weather Standards Using Latest Science. Leverage the latest science to continually update and refine Extreme Fire Weather thresholds, using transparent methodology and criteria that are replicable by other jurisdictions.			
Policy S-15.10 Promote Leave Early Policy for Fire Weather. Maintain, refine, advocate for, and provide education about the Leave Early policy for Extreme Fire Weather, which recommends residents leave areas with greatest exposure to wildfire risk before a fire starts under extremely hazardous fire weather.			

Goals/Policies/Programs	Program Leads	Timeframe	Legislative Requirements
Goal S-16: Berkeley's roadway infrastructure supports evacuation and responder ingress during emergencies.			
Policy S-16.1 Improve Roadway Infrastructure. Based on SB 99, AB 747, and Evacuation Time Study analyses, improve roadway infrastructure to support safe, reliable, and efficient mobility during emergencies. Prioritize improvements for communities at greatest exposure to hazards requiring evacuation.			
Policy S-16.2 Plan all streets for evacuation, appropriate to their typology. Plan for all Berkeley streets, including collector and residential streets, to function as potential evacuation routes.			
Policy S-16.3 Improve emergency access. Enhance emergency access and evacuation reliability in Berkeley's High and Very High Fire Hazard Severity Zones.			
Program S-16.3-A Maintain WUI Code to define requirements for road widths, vegetation clearance, signage, and emergency access in Berkeley's High and Very High Fire Hazard Severity Zones. Ensure any new roads in Berkeley's High and Very High Fire Hazard Severity Zones meet requirements of WUI Code and Fire Code.	Fire Department, Wildland-Urban Interface Division	Ongoing	Gov. Code §65302(g)(3)(C)(iii); PRC §4290
Program S-16.3-B Explore targeted parking restrictions, prioritizing arterial roadways in Berkeley's High and Very High Fire Hazard Severity Zones to ensure unimpeded emergency response vehicle ingress during Extreme Fire Weather.	Public Works Department, Transportation Division; Fire Department	Near-term	
Policy S-16.4 Integrate Evacuation Efficiency in Roadway Planning. Consider evacuation efficiency during the planning and implementation phases of roadway infrastructure development.			
Program S-16.4-A To improve vehicular flow during evacuation, implement improvements to traffic signal infrastructure, including signal timing plans, battery backup systems, emergency vehicle preemption, communications infrastructure, transit signal priority for public transit vehicles, coordination with adjacent jurisdictions, and traffic signal software for centralized control.	Public Works Department, Transportation Division; Fire Department	Long-term	Gov. Code §65302(g)(5)
Program S-16.4-B Ensure that private access roads are kept in good condition by a responsible party so that Fire Department vehicles can reach people quickly at all times. Ensure that any gates or locking devices remain compatible with emergency access needs.	Fire Department	Ongoing	Gov. Code §65302(g)(3)(C)(iii); PRC §4290
Program S-16.4-C Implement practical mitigation measures to mitigate existing non-conforming development to contemporary fire safe standards. Consider roadway improvements where feasible, signage, and/or strategic vegetation management where appropriate. Prioritize investments based on overall risk.	Fire Department; Public Works Department	Long-term	Gov. Code §65302(g)(3)(C)(iii)

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