

# CHAPTER 1

## Introduction

September 2021 DRAFT

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# Background

The City of Alameda is a low-lying island community in the San Francisco Bay that is highly vulnerable to climate hazards from rising seas and earthquakes as a result of its older building stock and proximity to two major faults, as well as other hazards. That a disaster will strike Alameda in its future is a certainty, what is not certain is the extent to which the hazards will damage buildings and infrastructure and disrupt life for Alameda's residents and businesses. Climate change has ensured that our future will be riskier than our past. By understanding our risks and taking proactive action now to mitigate risks and reduce our greenhouse gas emissions, Alameda can be prepared for future disasters and reduce their impact.

The Alameda Climate Adaptation and Hazard Mitigation Plan (Plan) serves as an update to the 2016 Local Hazard Mitigation Plan and the adaptation chapter of the Climate Action and Resilience Plan (CARP). Some of the information contained in CARP is directly translated into this Plan, and some of it is updated and adapted for this Plan. The Plan is aligned with the General Plan Safety Element. The Plan is a multi-jurisdictional plan that serves the City of Alameda and the Alameda Housing Authority. The Alameda Housing Authority is incorporated by annex to the City's plan in **Appendix A**.

# Purpose

The purpose of the Plan is to help Alameda adapt to climate change, reduce the impact of future disasters and help us recover more quickly when disasters do occur. The Plan:

- Meets the requirements of federal assistance grant programs, including FEMA's Hazard Mitigation Grant Program (HMGP) and Building Resilient Infrastructure and Communities (BRIC) funding as required by the Federal Disaster Mitigation Act of 2000 (DMA 2000).
- Works in conjunction with other plans, including the CARP, General Plan and the City's Emergency Management Plan.
- Updates the adaptation chapter of the CARP.
- Establishes a basis for coordination and collaboration among community entities such as private and public agencies, key stakeholders, and residents.
- Identifies and prioritizes future mitigation and adaptation projects.

The Plan addresses natural and climate induced hazards that impact the City of Alameda. A hazard is an event or physical condition that has the potential to cause fatalities, injuries, property damage, infrastructure damage, damage to the environment, interruption of business, or other types of harm or loss. Hazard mitigation and climate adaptation refers to the actions taken to reduce or eliminate risk to human life and property from natural and climate change-induced hazards.

The Plan is different from an emergency management or response plan which prepares the City to respond when a disaster occurs, and may include such actions as providing emergency response, equipment, food, shelter, and medicine. However, Climate Adaptation and Hazard Mitigation Planning support emergency response planning by minimizing the loss of life and property resulting from disasters.

The Plan lays out Alameda's strategy for mitigating natural hazards and adapting to a changing climate. The success of this plan rests not only on our ability to implement the strategies laid out in this plan, but also on our ability to implement the City's Climate Action and Resiliency Plan (CARP). The goal of CARP

is to reduce our greenhouse gas emissions (GHG) by 50% below 2005 levels by 2030 and become carbon neutral soon as possible. In 2019, the City of Alameda declared a climate emergency and called for an urgent and just citywide climate mobilization effort to reverse global warming and adapt as rapidly as possible to the growing global and local effects of climate change. By taking strong actions to reduce our GHG emissions, Alameda will do our part to achieve a climate safe path and avoid some of the extreme climate effects we face. Of course, this City of Alameda cannot avert global warming on its own. It will take an immediate and concerted effort on the part of community members, businesses, other cities and counties, the state, federal government and the world to come together and reduce our global emissions. Here in Alameda, we will do our part to reduce our emissions and prepare for the impacts that we will face.

## Focus on Equity

Alameda recognizes that some members of the community will be more significantly impacted by natural disasters and may have a more difficult time recovering than others due to lack of stable housing, financial resources, and by zoning laws that have disproportionately places people of color and community members with the fewest resources into areas of the city that are more vulnerable to natural hazards. Natural disasters disproportionately impact low-income residents, people of color, the young, the old and the disabled. The goal of this plan is to identify and mitigate those needs to reduce the impact of future disasters on all Alameda residents and speed recovery when disasters do occur.

Social equity is critical to promoting healthy, resilient communities. Equity is the idea that one's race, ethnicity, gender, age, disability, sexual orientation should not determine their outcomes and should not have an effect on the distribution resources, including housing, access to jobs and education, food, and environmental exposure.

By explicitly addressing the needs of most impacted populations, the City seeks to undo historic and structural racism and contribute to building a healthy and diverse community, where everyone truly belongs. Given the interconnectedness of our ecosystems and the shared watershed of San Leandro Bay and the Oakland-Alameda Estuary, the City must work collaboratively to address equity not only for Alamedans but also for priority equity communities in adjacent jurisdictions such as Oakland and San Leandro. Working collaboratively with key stakeholders will help ensure more uniform protections exist for all, especially for under resourced communities, and will help establish a unified voice to expedite hazard mitigation and climate adaptation.

The Plan's equity goal aligns with the Alameda 2040 General Plan equity goal:

“Alameda strives to be an equitable, inclusive and healthy community for everyone, irrespective of income, race, gender, sexual orientation, cultural background or ability. General Plan 2040 policies promote equity, inclusion, and environmental justice to ensure that Alameda is a place that is safe, healthy, and inclusive for all. To do so will require recognizing and addressing local policies, programs, ordinances, and practices that serve to perpetuate injustices suffered by under-served and underrepresented populations and proactively engaging these populations in all City decision-making.”

The General Plan includes several policies designed specifically to “prioritize the needs of the most vulnerable communities when prioritizing public investments and improvements to address climate change” (General Plan, CC-2).

- Equity. Ensure opportunities for leadership and actions to involve and benefit Alameda’s low-income individuals, seniors, youth, people of color, unhoused, individuals with disabilities, and socio-economically disadvantaged communities from environmental and climate change impacts.
- Environmental Justice. Ensure the equitable treatment and full involvement of all people when considering actions to reduce the adverse impacts of climate change on residents regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location. Prioritize actions that will reverse historic policies of racial discrimination and exclusion.
- Assessments. Utilize Alameda’s Social Vulnerability Assessment in the Climate Action and Resiliency Plan or similar tool to identify neighborhoods and specific groups with high levels of social vulnerability in order to prioritize locations for action and improvements.

## Vision Statement and Hazard Mitigation and Adaptation Goals

According to Alameda’s Draft 2040 General Plan Safety Element to which is Plan is aligned,

“Alameda aspires to be a resilient city that is able to adapt to a changing climate and reduce the loss of life, property damage, and environmental degradation from disasters while accelerating economic recovery from those disasters. Alameda enhances community resilience by improving the buildings and infrastructure we all rely on, responding to disasters quickly and effectively, helping owners rebuild damaged buildings quickly, protecting tenants, and keeping businesses open during recovery.”

### Vision

The Plan’s vision is that the City of Alameda will be better prepared for future hazards and climate impacts by reducing the impact of disasters and by being prepared to equitably recover from disasters.

### Hazard Mitigation and Adaptation Goals

In addition to the vision statement, nine mitigation and adaptation goals were identified. These mitigation goals were developed in the 2016 Local Hazard Mitigation Plan (LHMP) and remain unchanged. The mitigation goals are broad statements that are achieved through implementation of the more specific mitigation actions. The mitigation goals are as follows:

- Reduce exposure to hazards, where possible.
- Protect the health, safety and welfare of City of Alameda residents, workers and visitors.
- Minimize damage of public and private property.
- Minimize damage of the natural environment.
- Minimize disruption of essential services, facilities, and infrastructure.
- Timely and complete recovery.

- Increase understanding and awareness of hazards and hazard mitigation by City employees and the public.
- Participate in mitigation and resiliency by all stakeholders, as appropriate.
- Protect the City's character.

## Hazard Specific Goals

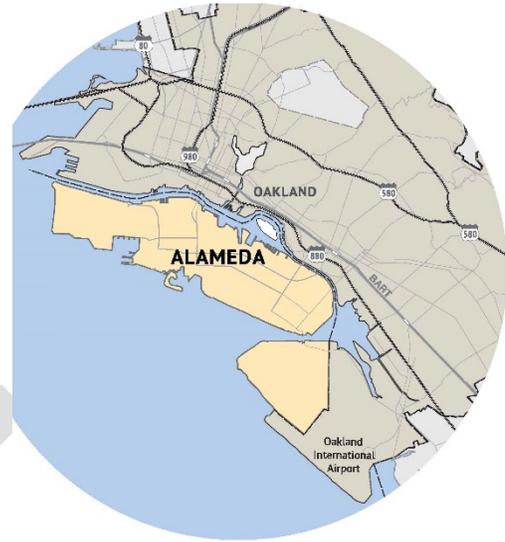
The Climate Action and Resiliency Plan (CARP) identified hazard specific goals, which have also been updated and adopted for this Plan. The hazard specific goals are as follows:

- **Sea level rise and storm surges:** Protect assets from sea level rise and storm surges, including community vitality and recreational opportunities, plan future land use to avoid impacts, and enhance natural shoreline habitat to mitigate impacts.
- **Inland flooding:** Increase the resiliency and capacity of the stormwater system to prevent flooding of assets during extreme precipitation events.
- **Drought:** Reduce water consumption and increase drought-resistant landscaping. **Extreme heat:** Reduce the heat island effect and protect vulnerable populations from heat impacts during heat waves.
- **Wildfires:** Protect public health from smoke impacts during wildfire events, especially among vulnerable populations.
- **Earthquakes:** Reduce property damage and loss of life in an earthquake, especially for areas at risk of liquefaction, and increase the ability for a timely restoration of service.
- **Tsunamis:** Reduce property damage and loss of life in a tsunami and prepare for the safe evacuation of people from the tsunami zone.
- **Effective implementation and capacity building:** Develop financial and human resources and increase transparency, community engagement, social resilience, and support for effective implementation of climate adaptation and hazard mitigation strategies.

# The History of Alameda

The City of Alameda, located seven miles east of San Francisco and just west of Oakland, is made up of Alameda Island and Bay Farm Island. The City includes 10.61 square miles of land. Alameda is a charter city founded in 1854 and incorporated in 1872. The City of Alameda provides a full range of municipal services, including public safety, public works, community development, and community services. The City also provides electric utility services through Alameda Municipal Power.

Alameda in its natural state was a peninsula covered by a dense forest of coastal live oak. Prior to the arrival of the Spanish and Mexicans it was inhabited by Coastal Miwoks who sustained themselves through hunting, fishing and gathering. Settlement by non-natives began in 1776 after Luis Peralta divided part of his large East Bay land grant, the Rancho San Antonio, among his four sons. Alameda derived its original name, “the Encinal,” from the large stands of native oaks (“Encino” means “oak” in Spanish) on the Main Island. The name “Alameda,” meaning “grove of poplar trees,” was given to the City as a poetic gesture upon popular vote in 1853.



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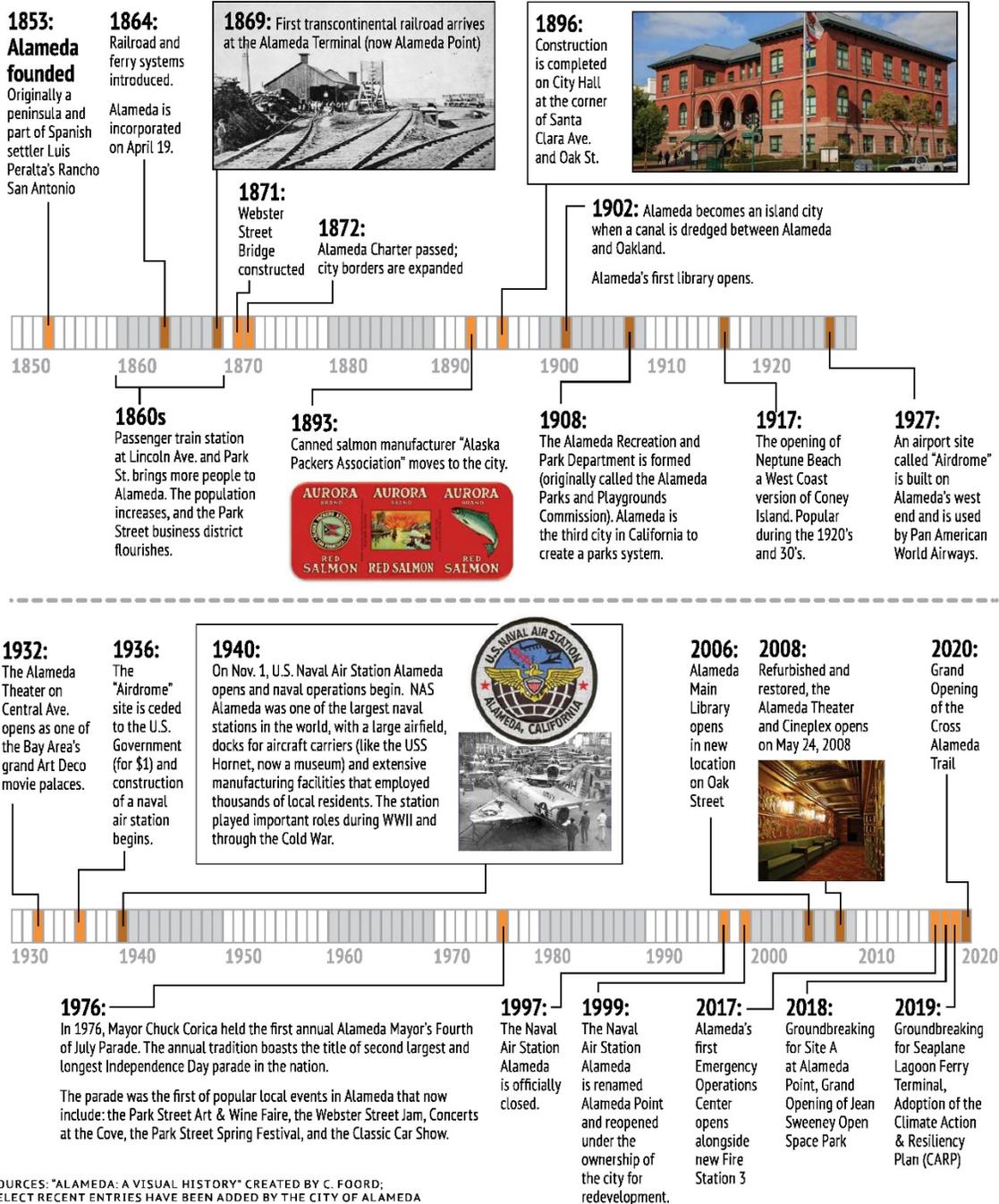


Figure 1-1 Timeline of Alameda History

In 1849, the California Gold Rush brought Americans and Northern Europeans to San Francisco Bay. Many made their fortunes in supplying goods and services to the region's burgeoning population. Among these were two young entrepreneurs, William Worthington Chipman and Gideon Aughinbaugh, who purchased the Encinal from Antonio Maria Peralta for \$14,000 in 1851, the year after California became a state. They subdivided the land and sold tracts for residences and orchards. By 1872, three separate settlements, the Town of Alameda, Encinal and adjacent lands, and Woodstock, were established in the

east, central and western sections of the peninsula. The Town of Alameda was granted a charter by the State Legislature in 1854; incorporation of all peninsula settlements under one local government occurred in 1872.

Early growth of residential, commercial and industrial areas depended upon water and rail transportation, and an excellent climate. The City's industrial waterfront and small commercial districts ("the stations") developed in conjunction with rail improvements, while neighborhoods of Victorian homes were built, and beach resorts attracted tens of thousands of weekend visitors. In 1902, the Tidal Canal was completed and Alameda became an island. Major shipyards and Neptune Beach (the "Coney Island of the West") were established along the northern and southern shores to take advantage of the island's assets.

The decades between 1920 and 1970 witnessed cycles of boom and bust. Following an enlightened era of civic building during the 1920s, Alameda endured difficult years of political scandal and corruption through the 1930s. The entry of the United States into World War II focused the City's attention on the war effort. During World War II, shifts ran around the clock at the Naval Air Station (commissioned in 1940) and in the City's shipyards, and the City's population reached an all-time high of 89,000.

By 1973 concern about replacement of Victorian homes by boxy apartment buildings and the prospect of all-apartment development on Bay Farm Island led to passage of initiative Measure A, which prohibits residential structures having more than two units. Despite this restriction, an average of 300 homes per year were built between 1970 and 1990, mainly on Bay Farm Island. Bay Area growth pressure has facilitated redevelopment of unused shipyards on the Northern Waterfront as business park, homes, and marinas.

The City is currently redeveloping the former Alameda Naval Air Station into mixed use residential, commercial, and industrial use called Alameda Point. Master planning and environmental documents that were developed in 2014 envision a cumulative build out by 2035 of 1,425 housing units and 5.5 million square feet of office, retail and manufacturing, with a significant portion of the buildout during the first 10 years (by 2025).<sup>1</sup>

## What Has Changed Since the Last Plan

Since the 2016 Local Hazard Mitigation Plan was adopted, several significant things have occurred. Alameda has updated its General Plan, which includes a Safety Element and new Conservation and Climate Change Element. Alameda also adopted a Climate Action and Resiliency Plan (CARP) in 2019, which laid out the first comprehensive strategy for the city to adapt to the effects of climate change. Alameda was also previously aligned with a regional hazard mitigation planning effort with the Association of Bay Area Governments that is no longer active.

In light of these developments, the Plan was significantly revised and reorganized to better meet the needs to Alameda today and to align with the updated General Plan and CARP. The Plan more fully considers climate change impacts and serves as an update to the adaptation chapter in CARP.

The Plan considers two new hazards:

- wildfire-related hazards we now regularly face of smoky air and power shut-offs,

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<sup>1</sup> Alameda Point Transportation Demand Management Plan, 2014

- dam failure hazard resulting from the very unlikely failure of Chabot and New Upper San Leandro Dams

In light of recent developments and climatic changes, significant updates were made regarding the hazards of drought, heat and the future flooding assessment, which were incorporated from CARP.

Detailed risk assessments were developed for the two most significant hazards facing Alameda: flooding and earthquakes.

The plan also includes focus on equity as a priority and includes equity considerations for the mitigation and adaptation strategies.

## Scope and Content

The Climate Adaptation and Hazard Mitigation Plan presents recommendations and strategies for implementing climate change adaptation and mitigation actions in Alameda. **Error! Reference source not found.** describes the process used to update the plan. **Error! Reference source not found.** describes the assets within Alameda, including the people, economy, buildings, and infrastructure at risk in natural disasters. **Error! Reference source not found.** describes the hazards we face and consequences of those hazards for Alameda. **Error! Reference source not found.** describes the actions the City will take to reduce our risk from natural and climate-related hazards. Finally, **Error! Reference source not found.** describes how the City will implement and maintain the Plan over time.