File No. 250707 **Committee Item No.** 2
Board Item No. 41

COMMITTEE/BOARD OF SUPERVISORS

AGENDA PACKET CONTENTS LIST

Committee: Land Use and Transportation **Date:** July 14, 2025
Board of Supervisors Meeting: **Date:** July 22, 2025

Cmte Board

Cmte	Board	
☐	☐	**Motion**
☒	☒	**Resolution**
☐	☐	**Ordinance**
☐	☐	**Legislative Digest**
☐	☐	**Budget and Legislative Analyst Report**
☐	☐	**Youth Commission Report**
☒	☒	**Introduction Form**
☐	☐	**Department/Agency Cover Letter and/or Report**
☐	☐	**MOU**
☐	☐	**Grant Information Form**
☐	☐	**Grant Budget**
☐	☐	**Subcontract Budget**
☐	☐	**Contract / DRAFT Mills Act Agreement**
☐	☐	**Form 126 – Ethics Commission**
☐	☐	**Award Letter**
☐	☐	**Application**
☐	☐	**Public Correspondence**

OTHER

☐	☒	OCRP Presentation – July 14, 2025
☒	☒	FEMA Letter – June 6, 2025
☒	☒	SB 379 – October 8, 2015
☒	☒	Planning Memo – September 19, 2024
☒	☒	ORCP Presentation to Planning Commission – September 26, 2024
☒	☒	ADM Memo – June 11, 2025
☐	☐	
☐	☐	
☐	☐	

Prepared by: John Carroll **Date:** July 10, 2025
Prepared by: John Carroll **Date:** July 18, 2025
Prepared by: **Date:**

FILE NO. 250707 RESOLUTION NO.

[Adopt the Hazards and Climate Resilience Plan as the 2025 Local Hazard Mitigation Plan]

Resolution adopting the 2025 Hazards and Climate Resilience Plan as San Francisco's update to the 2020 Local Hazard Mitigation Plan.

WHEREAS, Local hazard mitigation planning is governed by the Stafford Act, as amended by the Disaster Management Act of 2000 ("DMA 2000"), and by federal regulations implementing the Stafford Act; and

WHEREAS, As revised by DMA 2000, the Stafford Act requires state, local, and tribal governments to develop and submit for approval a mitigation plan that outlines processes for identifying the natural hazards, risks, and vulnerabilities of the jurisdiction; and

WHEREAS, The Federal Emergency Management Agency ("FEMA") requires local governments to adopt a Local Hazard Mitigation Plan ("LHMP") as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs, and requires local governments to update their LHMP every five years; and

WHEREAS, San Francisco last updated its LHMP, titled the Hazards and Climate Resilience Plan ("HCR"), in 2020, and is therefore due for an update; and

WHEREAS, The Office of Resilience and Capital Planning within the Office of the City Administrator led the effort to update the 2020 HRC in partnership with other departments to identify mitigation goals, objectives and priority actions to reduce or eliminate long-term risks to infrastructure, buildings, and communities in San Francisco from the impacts of hazards and climate change impacts, and

WHEREAS, The 2025 HCR serves as the 2025 LHMP, and will serve as the foundation to reinforce San Francisco's Safety and Resilience Element, Emergency Operations Plan, and Climate Action Plan update; and

WHEREAS, The HCR shall be deemed the LHMP and all references in the Safety and Resilience Element to the LHMP or “CCSF Hazard Mitigation Plan” will be deemed to refer to the HCR; and

WHEREAS, San Francisco recognizes the threat that natural and human-caused hazards pose to people and property within its community; and

WHEREAS, Undertaking hazard mitigation actions will reduce the potential for harm to people and property from future hazard occurrences; and

WHEREAS, The federal government defines "hazard mitigation" as "any action taken to reduce or eliminate the long-term risk to human life and property from hazards"; and

WHEREAS, The City and County of San Francisco has experienced new and unprecedented climate-related hazard events such as the Labor Day 2017 heat wave, November 2018 wildfire smoke events, atmospheric rivers of late 2022; and high wind events of 2023; and

WHEREAS, Climate change is expected to make some natural hazard events more severe and frequent; and

WHEREAS, The City fully participated in the FEMA-prescribed mitigation planning process to prepare the HCR; and

WHEREAS, The California Office of Emergency Services and FEMA have pre-approved the HCR, contingent upon official adoption by the City; and

WHEREAS, The Board of Supervisors adopted the Safety and Resilience Element of the General Plan in 2022, in Board of Supervisors File No. 221065; and

WHEREAS, Adoption of the HCR, its reference and integration in the Safety and Resilience Element of the City’s General Plan, and providing it to the public will maintain compliance with 44 CFR Part 201, Section 201.6, and California Government Code,

Sections 8685.9, 65302.6 and 8685.9 requirements, and associated eligibility for mitigation grant funding; and

WHEREAS, The Planning Commission received an informational memo and presentation about the 2025 HCR and its integration with the Safety and Resilience Element at the September 2024 public hearing; and

WHEREAS, Senate Bill 379 (2016) requires that when a jurisdiction updates its LHMP, they must also review and update as necessary the Safety Element of the General Plan to address climate adaptation and resiliency strategies; and

WHEREAS, Adoption of the 2025 HCR by the City demonstrates the City's commitment to hazard mitigation and climate action, and to achieving the goals outlined in the Plan; now, therefore, be it

RESOLVED, That the City and County of San Francisco adopts the 2025 HCR as the City's official LHMP; and, be it

FURTHER RESOLVED, That the City Administrator shall submit this Resolution to the FEMA Region IX officials to obtain final approval of the 2025 HCR.

Hazards and Climate Resilience Plan 2025 Update

Brian Strong, Chief Resilience Officer
Melissa Higbee, Resilience Program Manager
Office of Resilience and Capital Planning
Land Use and Transportation Committee
July 14, 2025

ONESF
Building Our Future

Summary

We are asking this committee to recommend approval of the resolution proposed under file number 250707 to adopt the 2025 Hazards and Climate Resilience Plan as San Francico's Local Hazard Mitigation Plan.

This resolution would:

- Demonstrate San Francisco's continued commitment to hazard mitigation planning and climate resilience
- Allow the Office of Resilience and Capital Planning to obtain final approval of the Plan by FEMA Region IX
- Make San Francisco eligible for FEMA pre-disaster mitigation grants
- Make San Francisco eligible for reduced local cost-share for post-disaster FEMA Public Assistance per AB 2140

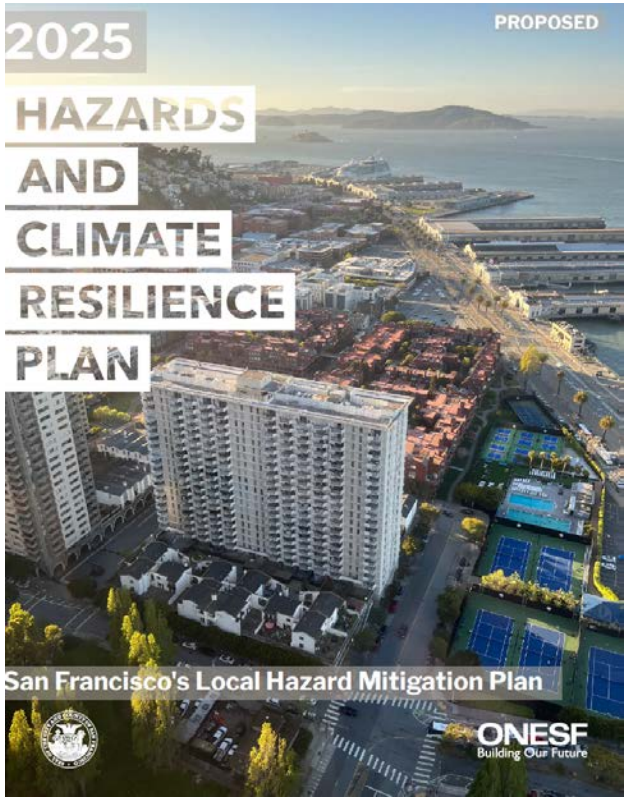
Hazards and Climate Resilience Plan

What it is:

- Citywide action plan to improve resilience to natural hazards and climate change that is updated every five years
- Set of buildings, community, and infrastructure priorities (projects, plans, programs)
- Vulnerability and risk assessment for 13 hazards

Why we have it:

- Federal: Eligibility for FEMA grants
- State: Compliance with state laws
- Local: Companion to Safety & Resilience Element; Emergency Operations Plan; Climate Action Plan



ONESF
Building Our Future

HAZARDS

The HCR characterizes 13 natural hazards that impact San Francisco. The hazards are grouped into four different types: geological, weather-related, fire-related, and biological & toxic. This chapter also includes an overview of climate change science and how climate change influences hazards in San Francisco.

GEOLOGICAL

EARTHQUAKE

TSUNAMI

LANDSLIDE

DAM OR RESERVOIR FAILURE

WEATHER-RELATED

FLOODING

HIGH WIND

EXTREME HEAT

DROUGHT

FIRE-RELATED

LARGE URBAN FIRE

WILDFIRE

POOR AIR QUALITY

BIOLOGICAL & TOXIC

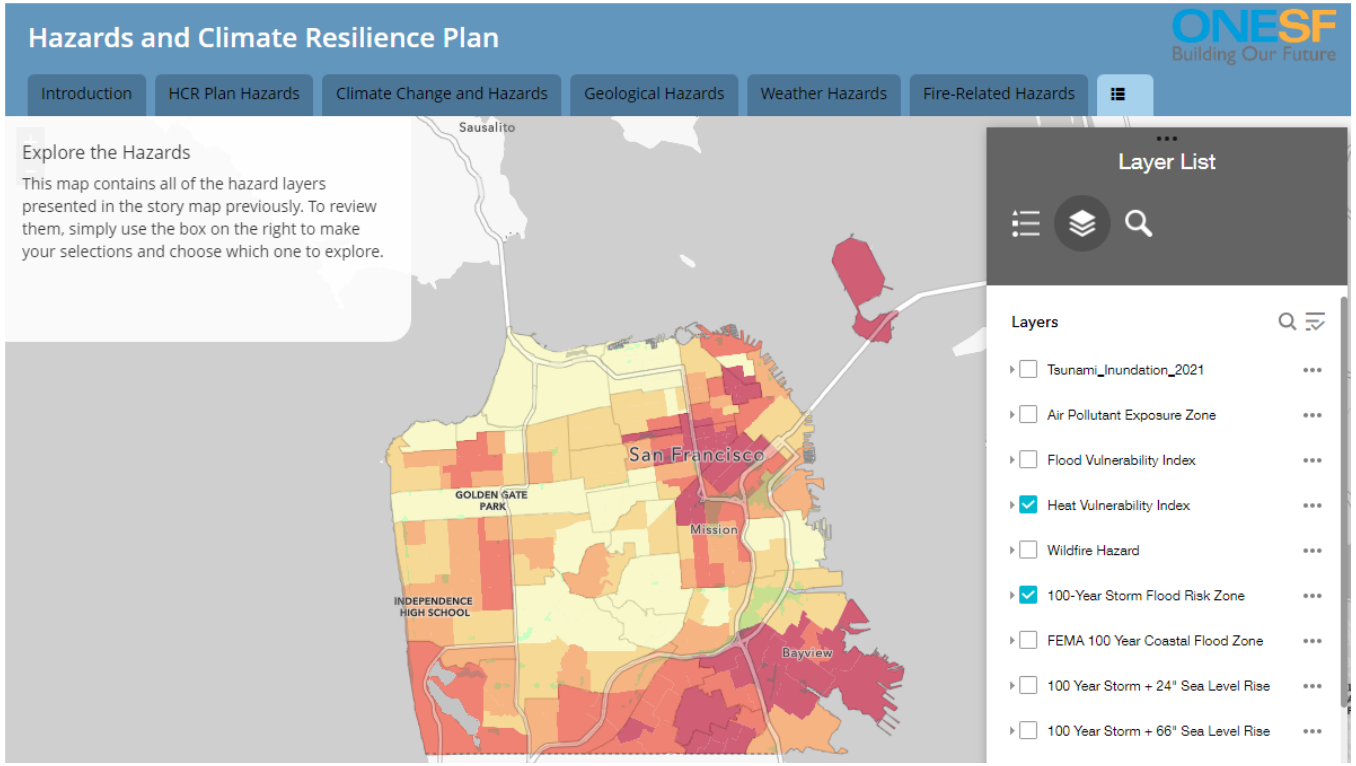
PANDEMIC

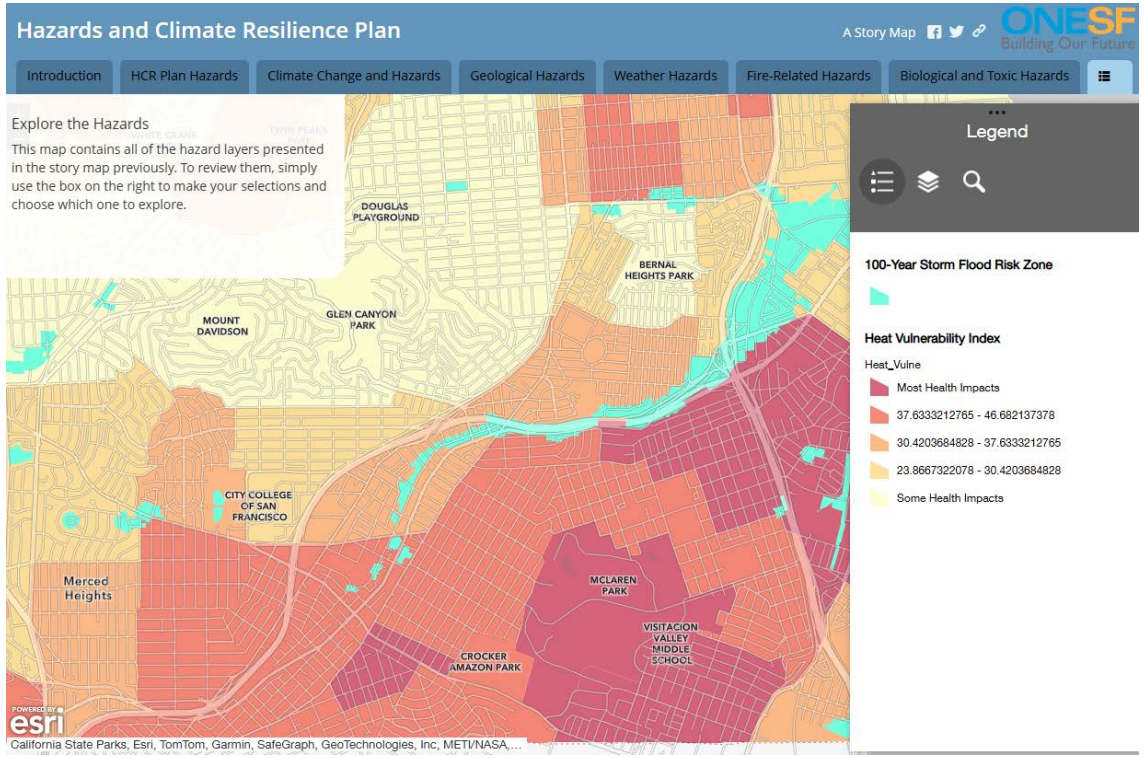
HAZARDOUS MATERIALS

Makes Hazard Data More Accessible

www.OneSanFrancisco.org/hazards

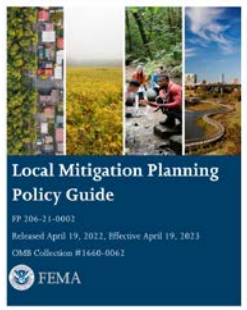
Hazards and Climate Resilience Storymap

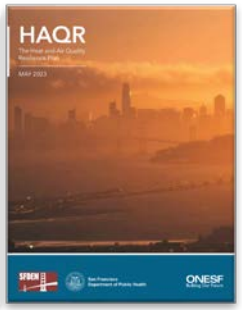




ONESF
Building Our Future

2025 Update Key Milestones





July 23: Project Kick-off

Aug 23-July 24: Quarterly Planning Team meetings; Updates to hazard profiles and actions.

November 2024: Submit Final Draft to CalOES/FEMA for review + up to 6 months for review and revision

June 2025: Submit to Board of Supervisors

Dec 2023 - July 2024: Community engagement events

August - September 2024: Draft Plan public comment period and Commission presentations

July 2025: Adoption by Board and Mayor + Approval by FEMA.

ONESF
Building Our Future

What's New in the 2025 Plan

- Prioritization criteria helped reduce 96 actions to 75
- New climate change research and planning
- New seismic safety programs
- Highlights nature-based solutions
- Highlights energy resilience actions
- Incorporates resilience efforts related to housing and development changes

New infrastructure and housing on Treasure Island

ONESF
Building Our Future

2025 Resilience Objectives

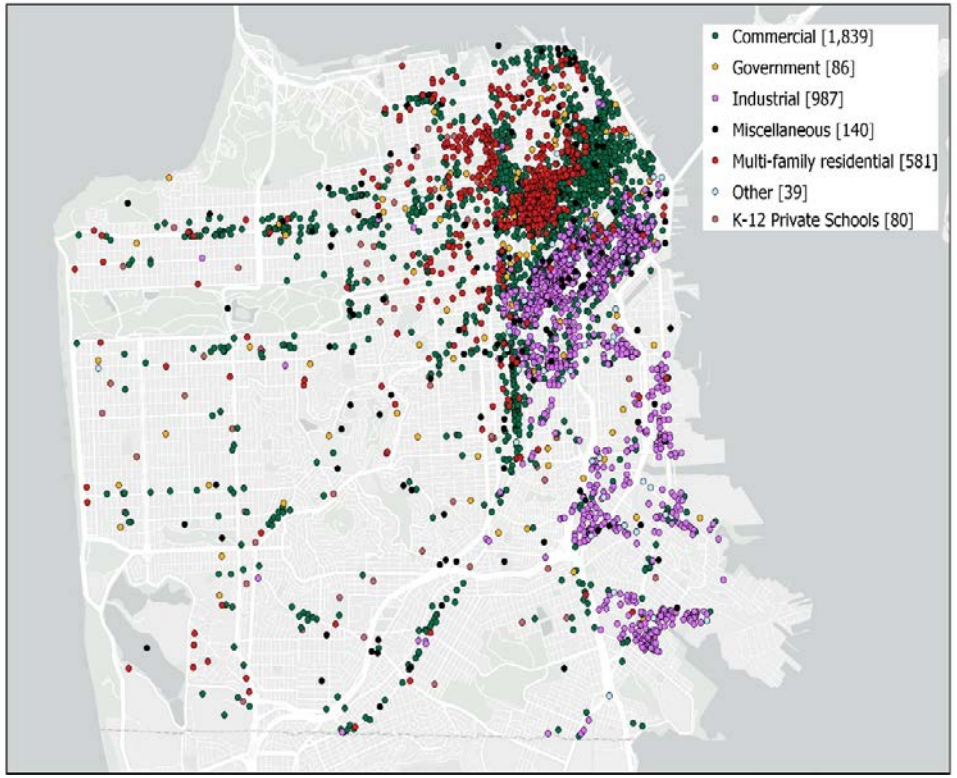
(B) BUILDINGS	
B-1	Increase the resilience of existing seismically vulnerable buildings.
B-2	Increase climate and multi-hazard resilience of existing buildings.
B-3	Design and construct new buildings for high resilience performance for current and future hazards.
(C) COMMUNITIES	
C-1	Limit exposure and protect public health against hazards related to environmental health.
C-2	Support the growth of community resilience networks to empower all people.
C-3	Increase the City's capacity to improve resilience through collaboration among peer agencies, the private sector, and community-based organizations
C-4	Support robust emergency response planning in partnership with communities most adversely impacted by hazards.
C-5	Prepare small businesses and workers to bounce back faster after a hazard.
C-6	Make housing more affordable to increase community adaptive capacity.

(IN) INFRASTRUCTURE	
IN-1	Increase the resilience of electric power systems and increase access to resilient backup power.
IN-2	Increase the resilience of critical communications systems.
IN-3	Support sustainable and resilient multi-modal mobility.
IN-4	Promote, design, and use nature-based solutions to mitigate current and future hazards.
IN-5	Protect waterfront assets and communities from near-term flooding and seismic hazards.
IN-6	Adapt the city's bay and ocean shorelines to current and future climate flood hazards.
IN-7	Increase the resilience of local water and wastewater systems to natural hazards and climate change.
IN-8	Increase resilience of the regional water system to natural hazards and climate change.

ONESF
Building Our Future

Example Buildings Actions

- **Earthquake Safety Implementation Program (ESIP)** outlines a long-term phased strategy for improving the seismic safety of buildings. To date, 4,900 soft story buildings and 1,800 un-reinforced masonry buildings have been retrofitted.
- ESIP recommends addressing **concrete** and **tilt-up** buildings as the next high priority building types. Department of Building Inspection and ORCP are implementing the concrete building screening and voluntary retrofit ordinance that recently passed (B-1.2).
- The City is also working to retrofit or replace high hazard City-owned concrete buildings through programs such as the Earthquake Safety and Emergency Response G.O. Bond (B-1.1).

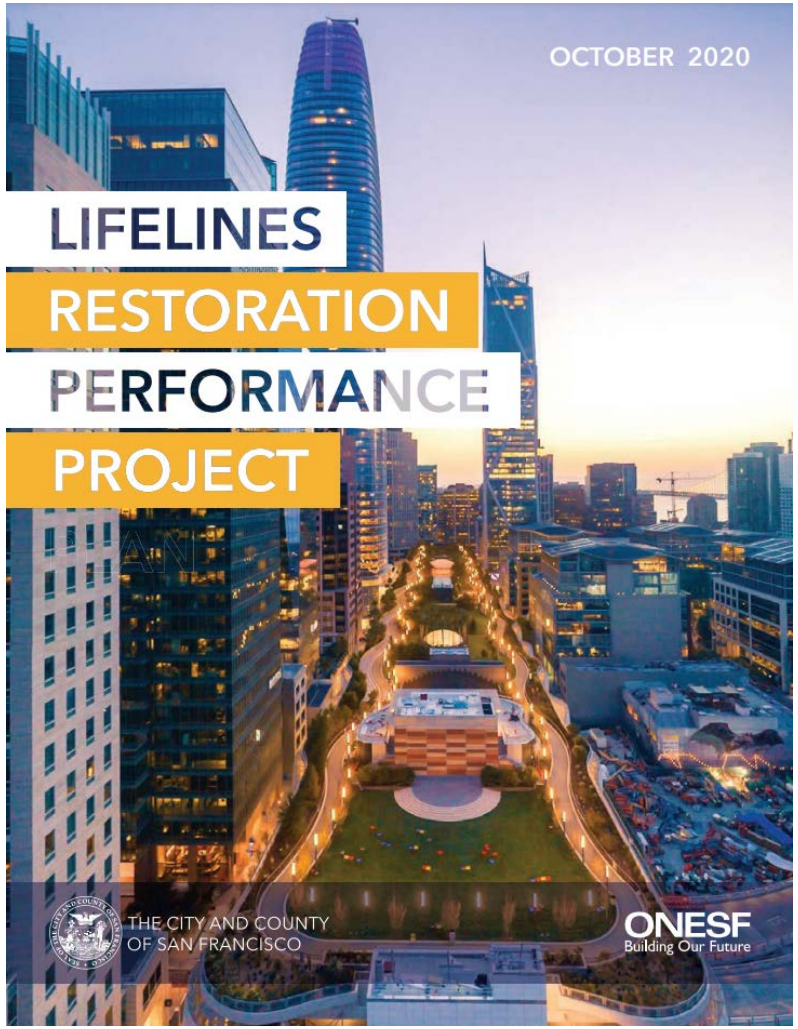


Map of possible concrete buildings (3,753 total)

ONESF
Building Our Future

Example Infrastructure Action

- **Lifelines Council** is a group of public and private infrastructure providers that meets quarterly to collaborate, coordinate, and share information to support a faster restoration and recovery of lifeline infrastructure following a disaster.
- **The Lifelines Restoration Performance Project** (2020) evaluates the expected state of restoration timelines following a **major earthquake** for lifeline systems serving San Francisco and establishes performance. The plan is undergoing a 5-year update track progress and update recommendations (C-2.2).



ONESF
Building Our Future

Example Communities Actions

- **The Heat and Air Quality Resilience Project (HAQR)** partners with community and academic stakeholders to develop and implement medium-to-long term extreme heat and wildfire smoke resilience actions to support short-term emergency response.
- Example actions: Green infrastructure priority zones (C-1.1), installing temperature and air quality sensors (C-1.4), connecting asthma patients with home weatherization (B-2.5), connecting CBOs with equipment and trainings (C-2.1).

FIGURE 4-22
HAQR GREEN INFRASTRUCTURE PRIORITY ZONES[8]

Arbor Day 2024

ONESF
Building Our Future

Example Infrastructure Actions

- **SF Bay Shoreline Adaptation Plan** will be developed and submitted to the Bay Conservation and Development Commission (BCDC) as required by SB 272. The City has a $1.5M grant to develop a vulnerability assessment and adaptation plan for all reaches of the city's Bay shoreline (IN-6.1).
- The Plan will knit together existing actions like the Port's Flood Study (IN-6.2) and Yosemite Slough Neighborhood Adaptation Plan (IN-6.3), major shoreline development projects (IN-6.5), and develop new adaptation strategies for the southern and northern waterfronts with community participation.
- SB 272 prioritizes state funding for projects in jurisdictions with BCDC-approved plans.

San Francisco's Bay Shoreline Planning Reaches

ONESF
Building Our Future

Plan Implementation and Maintenance

- Lead departments to identify and seek resources to implement actions
- ORCP considers HCR actions in Capital Plan and Budget development
- Annual "Planning Team" Meeting
- Mid-point progress report
- Continued public engagement through specific actions and other opportunities

Engagement at the Youth Climate Summit

ONESF
Building Our Future

Thank you!
Questions?

Brian.Strong@sfgov.org
Melissa.Higbee@sfgov.org

ONESF
Building Our Future

U.S. Department of Homeland Security
FEMA Region 9
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

FEMA

June 6, 2025

Melissa Higbee
Resilience Program Manager
San Francisco Office of Resilience and Capital Planning
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102

Reference: Hazard Mitigation Plan Approvable Pending Adoption Revised Notice
City and County of San Francisco, CA

Dear Melissa Higbee:

The Federal Emergency Management Agency (FEMA) has completed its additional review of the 2025 City and County of San Francisco Hazard Mitigation Plan for Element G: High Hazard Potential Dam requirements and has determined that the plan is eligible for final approval, pending its formal adoption.

Formal adoption documentation must be submitted to FEMA Region 9 within one calendar year from the original approval pending adoption date, April 14, 2025. If the adoption is not received within that timeframe, the plan must be updated and resubmitted for review.

FEMA will issue formal approval of the plan upon receipt of the adoption documentation. Adoption of the plan is required to maintain eligibility for funding under FEMA's Hazard Mitigation Assistance (HMA) programs and allow the City and County of San Francisco to apply for the Rehabilitation of High Hazard Potential Dams grant program. All funding requests will be evaluated based on the specific eligibility criteria and requirements of the applicable program.

Please note that while local hazard mitigation plans may include additional content to meet Element H: Additional State Requirements or other local objectives, FEMA's Approvable Pending Adoption (APA) status does not constitute review or approval of any content exceeding FEMA's standard mitigation planning requirements.

If you have any questions regarding the planning or review processes, please contact the FEMA Region 9 Hazard Mitigation Planning Team at fema-r9-mitigation-planning@fema.dhs.gov.

Sincerely,

Alison Kearns
Planning and Implementation Branch Chief
Mitigation Division
FEMA Region 9

Enclosure (1)
San Francisco Plan Review Tool, dated June 6, 2025

cc: Robyn Fennig, State Hazard Mitigation Officer, California Governor's Office of Emergency Services
Victoria LaMar-Haas, Hazard Mitigation Planning Chief, California Governor's Office of Emergency Services

Senate Bill No. 379

CHAPTER 608

An act to amend Section 65302 of the Government Code, relating to land use.

[Approved by Governor October 8, 2015. Filed with Secretary of State October 8, 2015.]

LEGISLATIVE COUNSEL'S DIGEST

SB 379, Jackson. Land use: general plan: safety element.

The Planning and Zoning Law requires the legislative body of a city or county to adopt a comprehensive, long-term general plan that includes various elements, including, among others, a safety element for the protection of the community from unreasonable risks associated with the effects of various geologic hazards, flooding, and wildland and urban fires.

This bill would, upon the next revision of a local hazard mitigation plan on or after January 1, 2017, or, if the local jurisdiction has not adopted a local hazard mitigation plan, beginning on or before January 1, 2022, require the safety element to be reviewed and updated as necessary to address climate adaptation and resiliency strategies applicable to that city or county. The bill would require the update to include a set of goals, policies, and objectives based on a vulnerability assessment, identifying the risks that climate change poses to the local jurisdiction and the geographic areas at risk from climate change impacts, and specified information from federal, state, regional, and local agencies. By imposing new duties on cities and counties, the bill would impose a state-mandated local program.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

The people of the State of California do enact as follows:

SECTION 1. Section 65302 of the Government Code is amended to read:

65302. The general plan shall consist of a statement of development policies and shall include a diagram or diagrams and text setting forth objectives, principles, standards, and plan proposals. The plan shall include the following elements:

(a) A land use element that designates the proposed general distribution and general location and extent of the uses of the land for housing, business,

industry, open space, including agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other categories of public and private uses of land. The location and designation of the extent of the uses of the land for public and private uses shall consider the identification of land and natural resources pursuant to paragraph (3) of subdivision (d). The land use element shall include a statement of the standards of population density and building intensity recommended for the various districts and other territory covered by the plan. The land use element shall identify and annually review those areas covered by the plan that are subject to flooding identified by flood plain mapping prepared by the Federal Emergency Management Agency (FEMA) or the Department of Water Resources. The land use element shall also do both of the following:

(1) Designate in a land use category that provides for timber production those parcels of real property zoned for timberland production pursuant to the California Timberland Productivity Act of 1982 (Chapter 6.7 (commencing with Section 51100) of Part 1 of Division 1 of Title 5).

(2) Consider the impact of new growth on military readiness activities carried out on military bases, installations, and operating and training areas, when proposing zoning ordinances or designating land uses covered by the general plan for land, or other territory adjacent to military facilities, or underlying designated military aviation routes and airspace.

(A) In determining the impact of new growth on military readiness activities, information provided by military facilities shall be considered. Cities and counties shall address military impacts based on information from the military and other sources.

(B) The following definitions govern this paragraph:

(i) "Military readiness activities" mean all of the following:

(I) Training, support, and operations that prepare the men and women of the military for combat.

(II) Operation, maintenance, and security of any military installation.

(III) Testing of military equipment, vehicles, weapons, and sensors for proper operation or suitability for combat use.

(ii) "Military installation" means a base, camp, post, station, yard, center, homeport facility for any ship, or other activity under the jurisdiction of the United States Department of Defense as defined in paragraph (1) of subsection (g) of Section 2687 of Title 10 of the United States Code.

(b) (1) A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, any military airports and ports, and other local public utilities and facilities, all correlated with the land use element of the plan.

(2) (A) Commencing January 1, 2011, upon any substantive revision of the circulation element, the legislative body shall modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan.

(B) For purposes of this paragraph, "users of streets, roads, and highways" mean bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors.

(c) A housing element as provided in Article 10.6 (commencing with Section 65580).

(d) (1) A conservation element for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. The conservation element shall consider the effect of development within the jurisdiction, as described in the land use element, on natural resources located on public lands, including military installations. That portion of the conservation element including waters shall be developed in coordination with any countywide water agency and with all district and city agencies, including flood management, water conservation, or groundwater agencies that have developed, served, controlled, managed, or conserved water of any type for any purpose in the county or city for which the plan is prepared. Coordination shall include the discussion and evaluation of any water supply and demand information described in Section 65352.5, if that information has been submitted by the water agency to the city or county.

(2) The conservation element may also cover all of the following:

(A) The reclamation of land and waters.

(B) Prevention and control of the pollution of streams and other waters.

(C) Regulation of the use of land in stream channels and other areas required for the accomplishment of the conservation plan.

(D) Prevention, control, and correction of the erosion of soils, beaches, and shores.

(E) Protection of watersheds.

(F) The location, quantity and quality of the rock, sand, and gravel resources.

(3) Upon the next revision of the housing element on or after January 1, 2009, the conservation element shall identify rivers, creeks, streams, flood corridors, riparian habitats, and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management.

(e) An open-space element as provided in Article 10.5 (commencing with Section 65560).

(f) (1) A noise element that shall identify and appraise noise problems in the community. The noise element shall analyze and quantify, to the extent practicable, as determined by the legislative body, current and projected noise levels for all of the following sources:

(A) Highways and freeways.

(B) Primary arterials and major local streets.

(C) Passenger and freight online railroad operations and ground rapid transit systems.

(D) Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.

(E) Local industrial plants, including, but not limited to, railroad classification yards.

(F) Other ground stationary noise sources, including, but not limited to, military installations, identified by local agencies as contributing to the community noise environment.

(2) Noise contours shall be shown for all of these sources and stated in terms of community noise equivalent level (CNEL) or day-night average sound level (L_{dn}). The noise contours shall be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques for the various sources identified in paragraphs (1) to (6), inclusive.

(3) The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise.

(4) The noise element shall include implementation measures and possible solutions that address existing and foreseeable noise problems, if any. The adopted noise element shall serve as a guideline for compliance with the state's noise insulation standards.

(g) (1) A safety element for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; and other seismic hazards identified pursuant to Chapter 7.8 (commencing with Section 2690) of Division 2 of the Public Resources Code, and other geologic hazards known to the legislative body; flooding; and wildland and urban fires. The safety element shall include mapping of known seismic and other geologic hazards. It shall also address evacuation routes, military installations, peakload water supply requirements, and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards.

(2) The safety element, upon the next revision of the housing element on or after January 1, 2009, shall also do the following:

(A) Identify information regarding flood hazards, including, but not limited to, the following:

(i) Flood hazard zones. As used in this subdivision, "flood hazard zone" means an area subject to flooding that is delineated as either a special hazard area or an area of moderate or minimal hazard on an official flood insurance rate map issued by the Federal Emergency Management Agency (FEMA). The identification of a flood hazard zone does not imply that areas outside the flood hazard zones or uses permitted within flood hazard zones will be free from flooding or flood damage.

(ii) National Flood Insurance Program maps published by FEMA.

(iii) Information about flood hazards that is available from the United States Army Corps of Engineers.

(iv) Designated floodway maps that are available from the Central Valley Flood Protection Board.

(v) Dam failure inundation maps prepared pursuant to Section 8589.5 that are available from the Office of Emergency Services.

(vi) Awareness Floodplain Mapping Program maps and 200-year flood plain maps that are or may be available from, or accepted by, the Department of Water Resources.

(vii) Maps of levee protection zones.

(viii) Areas subject to inundation in the event of the failure of project or nonproject levees or floodwalls.

(ix) Historical data on flooding, including locally prepared maps of areas that are subject to flooding, areas that are vulnerable to flooding after wildfires, and sites that have been repeatedly damaged by flooding.

(x) Existing and planned development in flood hazard zones, including structures, roads, utilities, and essential public facilities.

(xi) Local, state, and federal agencies with responsibility for flood protection, including special districts and local offices of emergency services.

(B) Establish a set of comprehensive goals, policies, and objectives based on the information identified pursuant to subparagraph (A), for the protection of the community from the unreasonable risks of flooding, including, but not limited to:

(i) Avoiding or minimizing the risks of flooding to new development.

(ii) Evaluating whether new development should be located in flood hazard zones, and identifying construction methods or other methods to minimize damage if new development is located in flood hazard zones.

(iii) Maintaining the structural and operational integrity of essential public facilities during flooding.

(iv) Locating, when feasible, new essential public facilities outside of flood hazard zones, including hospitals and health care facilities, emergency shelters, fire stations, emergency command centers, and emergency communications facilities or identifying construction methods or other methods to minimize damage if these facilities are located in flood hazard zones.

(v) Establishing cooperative working relationships among public agencies with responsibility for flood protection.

(C) Establish a set of feasible implementation measures designed to carry out the goals, policies, and objectives established pursuant to subparagraph (B).

(3) Upon the next revision of the housing element on or after January 1, 2014, the safety element shall be reviewed and updated as necessary to address the risk of fire for land classified as state responsibility areas, as defined in Section 4102 of the Public Resources Code, and land classified as very high fire hazard severity zones, as defined in Section 51177. This review shall consider the advice included in the Office of Planning and Research's most recent publication of "Fire Hazard Planning, General Plan Technical Advice Series" and shall also include all of the following:

(A) Information regarding fire hazards, including, but not limited to, all of the following:

(i) Fire hazard severity zone maps available from the Department of Forestry and Fire Protection.

(ii) Any historical data on wildfires available from local agencies or a reference to where the data can be found.

(iii) Information about wildfire hazard areas that may be available from the United States Geological Survey.

(iv) General location and distribution of existing and planned uses of land in very high fire hazard severity zones and in state responsibility areas, including structures, roads, utilities, and essential public facilities. The location and distribution of planned uses of land shall not require defensible space compliance measures required by state law or local ordinance to occur on publicly owned lands or open space designations of homeowner associations.

(v) Local, state, and federal agencies with responsibility for fire protection, including special districts and local offices of emergency services.

(B) A set of goals, policies, and objectives based on the information identified pursuant to subparagraph (A) for the protection of the community from the unreasonable risk of wildfire.

(C) A set of feasible implementation measures designed to carry out the goals, policies, and objectives based on the information identified pursuant to subparagraph (B) including, but not limited to, all of the following:

(i) Avoiding or minimizing the wildfire hazards associated with new uses of land.

(ii) Locating, when feasible, new essential public facilities outside of high fire risk areas, including, but not limited to, hospitals and health care facilities, emergency shelters, emergency command centers, and emergency communications facilities, or identifying construction methods or other methods to minimize damage if these facilities are located in a state responsibility area or very high fire hazard severity zone.

(iii) Designing adequate infrastructure if a new development is located in a state responsibility area or in a very high fire hazard severity zone, including safe access for emergency response vehicles, visible street signs, and water supplies for structural fire suppression.

(iv) Working cooperatively with public agencies with responsibility for fire protection.

(D) If a city or county has adopted a fire safety plan or document separate from the general plan, an attachment of, or reference to, a city or county's adopted fire safety plan or document that fulfills commensurate goals and objectives and contains information required pursuant to this paragraph.

(4) Upon the next revision of a local hazard mitigation plan, adopted in accordance with the federal Disaster Mitigation Act of 2000 (Public Law 106-390), on or after January 1, 2017, or, if a local jurisdiction has not adopted a local hazard mitigation plan, beginning on or before January 1, 2022, the safety element shall be reviewed and updated as necessary to address climate adaptation and resiliency strategies applicable to the city or county. This review shall consider advice provided in the Office of Planning and Research's General Plan Guidelines and shall include all of the following:

(A) (i) A vulnerability assessment that identifies the risks that climate change poses to the local jurisdiction and the geographic areas at risk from climate change impacts, including, but not limited to, an assessment of how climate change may affect the risks addressed pursuant to paragraphs (2) and (3).

(ii) Information that may be available from federal, state, regional, and local agencies that will assist in developing the vulnerability assessment and the adaptation policies and strategies required pursuant to subparagraph (B), including, but not limited to, all of the following:

(I) Information from the Internet-based Cal-Adapt tool.

(II) Information from the most recent version of the California Adaptation Planning Guide.

(III) Information from local agencies on the types of assets, resources, and populations that will be sensitive to various climate change exposures.

(IV) Information from local agencies on their current ability to deal with the impacts of climate change.

(V) Historical data on natural events and hazards, including locally prepared maps of areas subject to previous risk, areas that are vulnerable, and sites that have been repeatedly damaged.

(VI) Existing and planned development in identified at-risk areas, including structures, roads, utilities, and essential public facilities.

(VII) Federal, state, regional, and local agencies with responsibility for the protection of public health and safety and the environment, including special districts and local offices of emergency services.

(B) A set of adaptation and resilience goals, policies, and objectives based on the information specified in subparagraph (A) for the protection of the community.

(C) A set of feasible implementation measures designed to carry out the goals, policies, and objectives identified pursuant to subparagraph (B) including, but not limited to, all of the following:

(i) Feasible methods to avoid or minimize climate change impacts associated with new uses of land.

(ii) The location, when feasible, of new essential public facilities outside of at-risk areas, including, but not limited to, hospitals and health care facilities, emergency shelters, emergency command centers, and emergency communications facilities, or identifying construction methods or other methods to minimize damage if these facilities are located in at-risk areas.

(iii) The designation of adequate and feasible infrastructure located in an at-risk area.

(iv) Guidelines for working cooperatively with relevant local, regional, state, and federal agencies.

(v) The identification of natural infrastructure that may be used in adaptation projects, where feasible. Where feasible, the plan shall use existing natural features and ecosystem processes, or the restoration of natural features and ecosystem processes, when developing alternatives for consideration. For the purposes of this clause, “natural infrastructure” means the preservation or restoration of ecological systems, or utilization of

engineered systems that use ecological processes, to increase resiliency to climate change, manage other environmental hazards, or both. This may include, but is not limited to, floodplain and wetlands restoration or preservation, combining levees with restored natural systems to reduce flood risk, and urban tree planting to mitigate high heat days.

(D) (i) If a city or county has adopted the local hazard mitigation plan, or other climate adaptation plan or document that fulfills commensurate goals and objectives and contains the information required pursuant to this paragraph, separate from the general plan, an attachment of, or reference to, the local hazard mitigation plan or other climate adaptation plan or document.

(ii) Cities or counties that have an adopted hazard mitigation plan, or other climate adaptation plan or document that substantially complies with this section, or have substantially equivalent provisions to this subdivision in their general plans, may use that information in the safety element to comply with this subdivision, and shall summarize and incorporate by reference into the safety element the other general plan provisions, climate adaptation plan or document, specifically showing how each requirement of this subdivision has been met.

(5) After the initial revision of the safety element pursuant to paragraphs (2), (3), and (4) upon each revision of the housing element, the planning agency shall review and, if necessary, revise the safety element to identify new information that was not available during the previous revision of the safety element.

(6) Cities and counties that have flood plain management ordinances that have been approved by FEMA that substantially comply with this section, or have substantially equivalent provisions to this subdivision in their general plans, may use that information in the safety element to comply with this subdivision, and shall summarize and incorporate by reference into the safety element the other general plan provisions or the flood plain ordinance, specifically showing how each requirement of this subdivision has been met.

(7) Prior to the periodic review of its general plan and prior to preparing or revising its safety element, each city and county shall consult the California Geological Survey of the Department of Conservation, the Central Valley Flood Protection Board, if the city or county is located within the boundaries of the Sacramento and San Joaquin Drainage District, as set forth in Section 8501 of the Water Code, and the Office of Emergency Services for the purpose of including information known by and available to the department, the agency, and the board required by this subdivision.

(8) To the extent that a county's safety element is sufficiently detailed and contains appropriate policies and programs for adoption by a city, a city may adopt that portion of the county's safety element that pertains to the city's planning area in satisfaction of the requirement imposed by this subdivision.

SEC. 2. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because a local agency or

school district has the authority to levy service charges, fees, or assessments sufficient to pay for the program or level of service mandated by this act, within the meaning of Section 17556 of the Government Code.

O

San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

INFORMATIONAL MEMO TO THE PLANNING COMMISSION

HEARING DATE: SEPTEMBER 26, 2024

September 19, 2024

Project Name:	2025 Draft Hazards and Climate Resilience Plan
Case Number:	2018-014712CWP
Staff Contact:	Melissa Higbee, Resilience Program Manager at the Office of Resilience and Capital Planning melissa.higbee@sfgov.org, (415) 554-4939 Danielle Ngo, Senior Planner danielle.ngo@sfgov.org, (628) 652-7591
Reviewed by:	Jeremy Shaw, Principal Planner jeremy.shaw@sfgov.org, (628) 652-7449

Recommendation:	None – Informational

Background

The Hazards and Climate Resilience Plan (HCR) is an action plan for building a safer and more resilient future in San Francisco by reducing the impacts of natural hazards, such as earthquakes, landslides, and pandemics. The HCR also addresses the ways in which hazards like flooding, extreme heat, and wildfire smoke are becoming more frequent and severe due to climate change. As the City's Local Hazard Mitigation Plan, it is required to be updated every five years for the City to be eligible for critical Federal Emergency Management Agency (FEMA) funding sources, such as Building Resilient Infrastructure and Communities (BRIC) grants.

In 2019, the Office of Resilience and Capital Planning (ORCP) presented the proposed HCR to the Planning Commission for review and comment. FEMA approved that plan in 2020. The HCR was adopted by reference into the existing Safety Element of the General Plan in 2020 and then helped underpin the comprehensive update to the Safety and Resilient Element in 2022. Reference and adoption of the HCR in the Safety and Resilience Element fulfills the climate vulnerability and adaptation planning requirements of SB 379 and qualifies San Francisco for potential state cost-sharing on eligible FEMA Public Assistance projects per AB 2140.

ORCP is leading the effort to update the 2020 HCR and the 2025 Draft HCR is now available for review[1]. ORCP is requesting public comment by September 30, 2024, prior to submitting the Final Draft to FEMA and ultimately to the Board of Supervisors and Mayor for adoption no later than July 2025.

[1] Link to the 2025 Hazards and Climate Resilience Plan Executive Summary:
https://onesanfrancisco.org/sites/default/files/inline-files/2025_HCR_ES_PublicReviewDraft.pdf
Link to the complete 2025 Hazards and Climate Resilience Plan (7/29/24) – Public Review Draft:
https://onesanfrancisco.org/sites/default/files/inline-files/2025_HCR_PublicReviewDraft_0.pdf

Plan Update

Scope

Since the 2020 HCR, San Francisco communities have remained engaged in several resilience planning efforts and there have been limited changes in risk and development. The 2025 update process has therefore been targeted, focusing on the following goals:

- Building greater understanding of San Francisco's hazard and climate risks among City leaders, staff, and community stakeholders.
- Learning from community members, especially in Environmental Justice (EJ) Communities,[2] about their experiences with and concerns about hazards and incorporate their priorities for resilience into the Plan update.
- Providing strategic policy guidance and direction for ongoing and future citywide multi-hazard risk reduction efforts.
- Building the capacity of City staff and partners to develop hazard and climate resilience projects and programs.

Engagement Efforts

The engagement process for updating the HCR is detailed in Chapter 2 of the 2025 Draft Plan. ORCP worked with an interdepartmental Planning Team, which included staff from the Planning Department and several other agencies to identify new climate science, risk assessments, and emerging priorities since 2020. Rather than convening standalone community workshops, City staff attended ongoing convenings hosted by community-based organizations (CBOs), especially in EJ Communities and with CBO partners from the 2020 HCR. Lastly, ORCP leveraged other opportunities for engagement, such as tabling at the Waterfront Flood Study Public Workshops, hosting a workshop at the San Francisco Lifelines Council, and meeting with organizations by request.

Resilience Strategy

Chapter 7 of the HCR details the City's resilience strategy, which consists of 3 pillars, 17 objectives (see Table 1), and 74 actions. ORCP updated the 2020 strategy based on an evaluation of progress made to date, emerging issues, and community engagement. Actions were prioritized for inclusion based on feasibility to make progress on by 2030 and providing significant benefit, especially for those who are most likely to be adversely impacted by hazards. The Planning Department will lead two [2] resilience actions (see Table 2 and Exhibit B), both of which are new for the 2025 HCR. The Planning Department will partner on another 14 actions (see Table 3). Four of the Planning Department's "partnering" actions are new for the 2025 HCR (C-3.1, C-3.5, IN-6.5 and IN-6.7).

[2] The Environmental Justice Communities Map identifies the top one-third of areas experiencing environmental burden in the City. These EJ Communities include the Bayview Hunters Point, Chinatown, Excelsior, Japantown, Mission, Ocean View-Merced Heights-Ingleside, Outer Mission, Potrero Hill, SoMa, Tenderloin, Treasure Island, Visitacion Valley, and Western Addition. https://sfplanning.org/project/environmental-justice-framework-and-general-plan-policies

TABLE 1: PILLARS AND OBJECTIVES IN THE 2025 DRAFT HCR

(B) BUILDINGS	
B-1	Increase the resilience of existing seismically vulnerable buildings.
B-2	Increase climate and multi-hazard resilience of existing buildings.
B-3	Design and construct new buildings for high resilience performance for current and future hazards.
(C) COMMUNITIES	
C-1	Limit exposure and protect public health against hazards related to environmental health.
C-2	Support the growth of community resilience networks to empower all people.
C-3	Increase the City's capacity to improve resilience through collaboration among peer agencies, the private sector, and community-based organizations
C-4	Support robust emergency response planning in partnership with communities most adversely impacted by hazards.
C-5	Prepare small businesses and workers to bounce back faster after a hazard.
C-6	Make housing more affordable to increase community adaptive capacity.
(IN) INFRASTRUCTURE	
IN-1	Increase the resilience of electric power systems and increase access to resilient backup power.
IN-2	Increase the resilience of critical communications systems.
IN-3	Support sustainable and resilient multi-modal mobility.
IN-4	Promote, design, and use nature-based solutions to mitigate current and future hazards.
IN-5	Protect waterfront assets and communities from near-term flooding and seismic hazards.
IN-6	Adapt the city's bay and ocean shorelines to current and future climate flood hazards.
IN-7	Increase the resilience of local water and wastewater systems to natural hazards and climate change.
IN-8	Increase resilience of the regional water system to natural hazards and climate change.

TABLE 2: 2025 DRAFT ACTIONS WITH PLANNING DEPARTMENT AS A LEAD AGENCY

Code	Action Title	Lead(s)
IN-6.1	Develop subregional shoreline resiliency plan by 2034 per SB 272	Planning, ORCP
IN-6.3	Develop the Yosemite Slough Neighborhood Adaptation Plan	Planning

TABLE 3: 2025 DRAFT ACTIONS WITH PLANNING DEPARTMENT AS A PARTNERING AGENCY

Code	Action Title	Lead(s)
B-3.1	Continue to implement the Sea Level Rise Capital Planning Guidance and update as new science is available.	ORCP
B-3.2	Develop multi-hazard resilience design guidelines for capital planning.	ORCP
B-3.3	Incorporate flood resilience into the San Francisco Building Code.	SFPUC
C-2.1	Continue to support neighborhood level capacity building.	DEM, DPH, ORCP
C-3.1	Coordinate resilience engagement across departments and projects through ClimateSF.	ORCP
C-3.5	Develop citywide policy and proposed governance structure for flood resilience.	SFPUC
C-6.1	Continue to meet housing production goals.	MOHCD, OCII, TIDA
IN-3.2	Study, plan, design, and implement improvements to the multimodal transportation system that are vulnerable to coastal flooding.	SFMTA
IN-5.1	Implement Embarcadero Early Projects to address areas of highest earthquake and flood risk along the Embarcadero waterfront.	Port
IN-5.3	Develop projects and seek funding to implement the Islais Creek Southeast Mobility Adaptation Strategy (ICSMAS).	Port, DPW, SFMTA
IN-6.2	Advance the Waterfront Resilience Program and San Francisco Waterfront Coastal Flood Study to reduce flooding and seismic risk along the 7.5 miles of Port jurisdiction.	Port
IN-6.5	Advance the Adaptive Management Strategy from the Treasure Island Infrastructure Plan to ensure continual protection to changing conditions.	TIDA
IN-6.6	Develop and support major development projects and public/private partnerships that deliver resilient waterfront infrastructure.	Port, TIDA, OCII
IN-6.7	Develop comprehensive assessments of combined flood risks in each watershed.	SFPUC

Schedule

The 2025 Draft HCR was published on July 29, 2024 and the public comment period will remain open until September 30, 2024. ORCP is continuing to offer informational hearings to interested commissions and briefings to the Board of Supervisors. In October, ORCP will submit a Final Draft to FEMA for their review. Pending FEMA's approval, ORCP will submit the Final Plan to the Board of Supervisors and Mayor for adoption by July 2025.

Required Commission Action

None. Informational.

Attachments:

Exhibit A: Executive Summary of the 2025 Draft Hazards and Climate Resilience Plan
Exhibit B: Excerpt of 2025 Draft Resilience Actions led by the Planning Department

EXHIBIT A

EXECUTIVE SUMMARY OF THE 2025 DRAFT HAZARDS AND CLIMATE RESILIENCE PLAN

2025 HAZARDS AND CLIMATE RESILIENCE PLAN

PUBLIC REVIEW DRAFT

JULY 29 2024

ONESF
Building Our Future

Executive Summary

SOMA Street Tree Nursery

The City and County of San Francisco's 2025 Hazards and Climate Resilience Plan (HCR) is an action plan for reducing the impacts of hazards that have long been a part of life in San Francisco, such as earthquakes, and hazards that are becoming more frequent and severe due to climate change, including flooding, drought, extreme heat, and poor air quality. The HCR is a combined hazard mitigation and climate adaptation plan and is closely aligned with the City's Safety and Resilience Element of the General Plan and the Climate Action Plan. It includes goals, objectives, and actions to increase the resilience of San Francisco's buildings, infrastructure, and communities. By making hazard information more accessible, engaging the community in plan development, and identifying priority resilience actions, the Hazards and Climate Resilience Plan (HCR) is an important tool for building a safer and more resilient future in San Francisco.

Vision and Guiding Principles

The vision of the HCR is to make San Francisco more resilient to the immediate and long-term threats of climate change and natural hazards through actions to mitigate risks, adapt built and natural assets, and build a more equitable and sustainable city. This includes ensuring systems are in place so that individuals, communities, institutions and businesses survive, adapt, and thrive no matter the kinds of chronic stresses and acute shocks they experience. The HCR also coordinates with and supports the City's Climate Action Plan, which outlines urgent strategies needed to reduce greenhouse gas emissions and minimize the severity of climate change and its associated impacts.

The following principles guided how the City developed the HCR, from scoping the assessment to evaluating strategies:

FIGURE ES-1: GUIDING PRINCIPLES

Planning Process

Chapter 02 describes the HCR planning process. The scope of the update was "right-sized" to reflect the comprehensive nature of the 2020 HCR assessment, limited changes in risk and development since 2020, and on-going community engagement on resilience plans since 2020. The goals of the planning process are as follows:

- Build greater understanding of San Francisco's hazard and climate risks among City leaders, staff, and community stakeholders.
- Learn from community members, especially in Environmental Justice Communities, about their experiences with and concerns about hazards and incorporate their priorities for resilience into the Plan update.
- Provide strategic policy guidance and direction for ongoing and future citywide multi-hazard risk reduction efforts.
- Build the capacity of City staff and partners to develop hazard and climate resilience projects and programs.

This approach included working with a multi-departmental team and departmental leadership to identify information that has changed since 2020 and new priorities. Community engagement focused on attending existing community convenings hosted by community organizations rather than creating standalone workshops. This outreach emphasized receiving feedback from Environmental Justice (EJ) Communities and community organizations that were partners on the 2020 HCR. Lastly, the Project Team leveraged other opportunities for engagement, such as meetings with organizations by request, attending the Waterfront Flood Study Public Workshops, and hosting a workshop at the San Francisco Lifelines Council.

FIGURE ES-2: COMMUNITY AND STAKEHOLDER ENGAGEMENT EVENTS

Themes from Stakeholder Engagement

The Project Team reviewed the data collected from stakeholder engagement events and found five high level themes that were most prevalent in stakeholder feedback.

Energy Resilience	• Energy access for low-income residents • Grid improvements to avoid power outages • Battery back up power and microgrids • Support with electrification
Earthquake Resilience	• Neighborhood scale planning • Unretrofitted soft story buildings (<5 units) • Fire-following earthquake and water supplies
Waterfront Resilience	• Addressing contaminated sites and sea level rise • Protecting and adapting bridges and other transportation routes • Using nature based solutions where feasible
Transportation	• Maintaining state-of-good repair of the public realm, including sidewalks and streets • Reliable transit service
Neighborhood Capacity Building	• Importance of neighorhood based organizations • Supporting the elderly • Developing community networks

Climate Change Implications for Hazards

Chapter 03 describes how changes in the global climate system influences the severity and frequency of local hazards. Climate change is happening and its effects are impacting more people every year. The 10 warmest years on record have all occurred during the last decade from 2014-2023.[1] Extreme temperatures have a cascading impact on global weather patterns. High temperatures melt polar ice caps and contribute to the thermal expansion of the oceans which cause global sea levels to rise. Warm ocean temperatures also increase evaporation, and this increased concentration of water vapor in the atmosphere changes rainfall patterns as storms and droughts both become more extreme.

TABLE ES-1: SUMMARY OF CLIMATE CHANGE IMPLICATIONS FOR HAZARDS

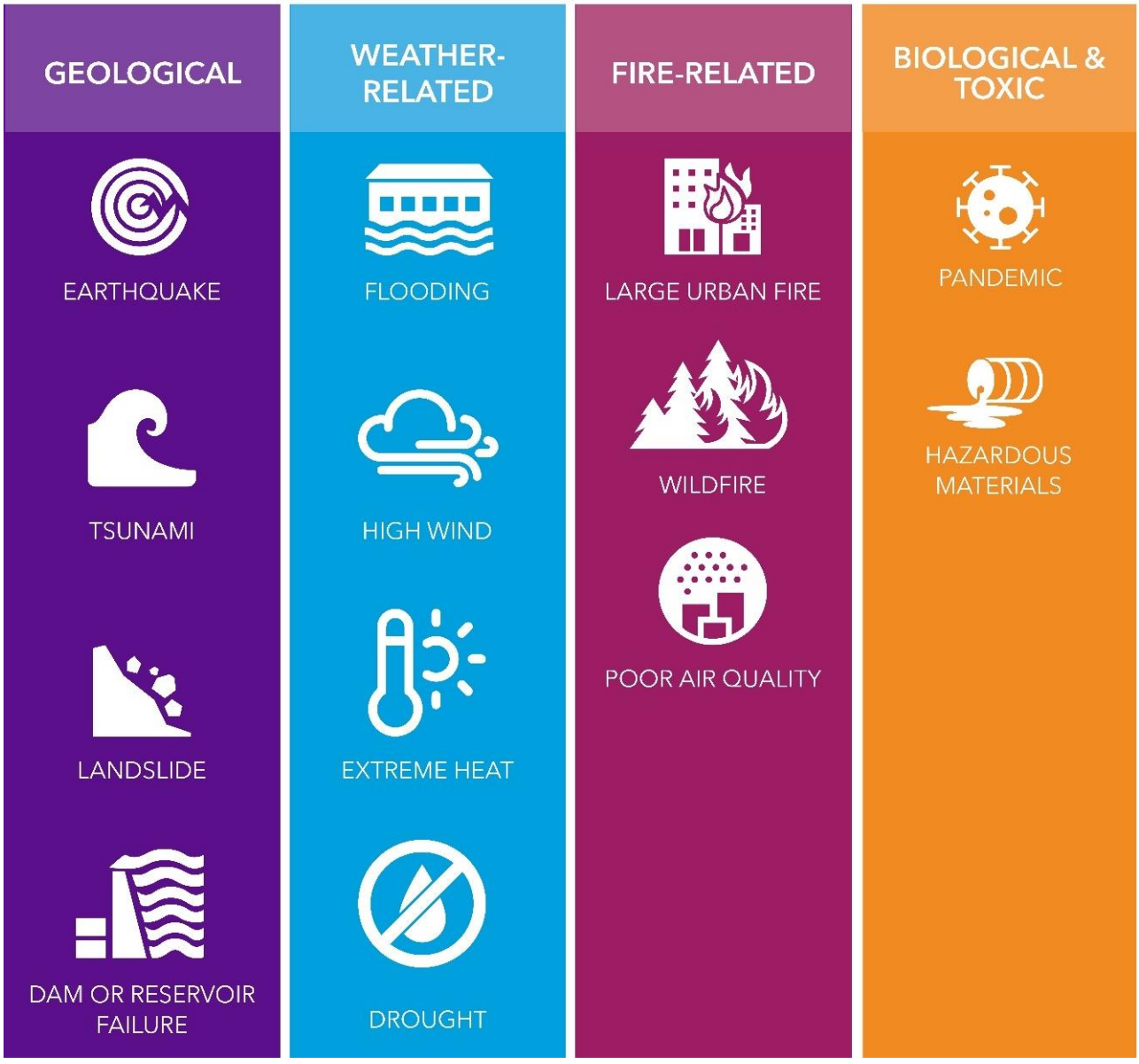
Increasing Temperatures	Rising Sea Levels	Changing Precipitation Patterns
More extreme heat days, making heatwaves more frequent and longer-lasting. **Drought and wildland-urban-interface fires** may become more frequent and severe. Wildfires create **poor air quality**.	More frequent, extensive and longer-lasting **coastal flooding**, especially during storm events. **Stormwater flooding** may increase as high bay levels can impede drainage of stormwater runoff. Higher groundwater table may **increase the susceptibility of some soils to liquefaction** during an earthquake.	More intense precipitation in discrete storm events may increase **stormwater flooding**, risk of **landslides** and **dam/reservoir** failure. **Droughts** may be more frequent and severe. Reduced snowpack in the Sierras may also exacerbate **drought**.

[1] Annual 2023 Global Climate Report (June, 2024). Retrieved from: https://www.ncei.noaa.gov/access/monitoring/monthly-report/global/202313#:~:text=The%20year%202023%20was%20the,decade%20(2014%E2%80%932023).

Hazard Profiles

The HCR profiles 13 natural hazards that impact San Francisco, as listed in Figure ES-3 below and discussed in Chapter 04. The hazards are grouped into four categories; geological, weather-related, combustion-related, and biological/toxic. The profiles describe past events, location, extent, probability of future events and potential impacts.

FIGURE ES-3: NATURAL HAZARDS PROFILED IN THE HCR



Earthquake

Damage from the 1989 Loma Prieta Eathquake

San Francisco has experienced several devastating earthquakes in its history, and there is a 72 percent chance that an earthquake of magnitude (Mw) 6.7 or greater will strike the region between now and 2043, which would result in in widespread casualties and infrastructure damage. The energy released in earthquakes can produce different types of hazards, including groundshaking, liquefaction, tsunami, landslide, fire-following-earthquake, and dam failure. All of San Francisco is susceptible to very strong to extreme ground shaking during a major earthquake. Liquefiable soils in San Francisco are generally found in water saturated sandy or silty soils or landfill along the Pacific coast and San Francisco Bay.

Landslide

Landslides are most likely to occur on steep slopes on hills and cliffs. In addition, weak saturated soils that are bordered by steep or unsupported embankments are prone to landslide. Given the dense urban nature of San Francisco, landslides can result in casualties and serious damage to homes and other infrastructure. An increase in heavy rainfall events due to climate change may also increase the risk of landslides in the future.

Tsunami

A tsunami is a series of ocean waves caused by sudden movement of the sea floor, typically as a result of major earthquakes. Tsunamis not only affect beaches open to the ocean, but also may cause damage to bays, ports, harbors, tidal flats, and coastal inlets. Areas within San Francisco susceptible to tsunami inundation include Pacific Coast areas of Lake Merced, the Sunset and Richmond Districts, Sea Cliff, and the Presidio. Areas adjacent to San Francisco Bay are also subject to tsunami inundation. Tsunamis

are infrequent, but high impact events that may result in widespread damage, injuries and deaths.

Dam or Reservoir Failure

Dam or reservoir failure may impact the Sunset, Midtown Terrace, Twin Peaks, Clarendon Heights, and University Mound areas of San Francisco, where state-regulated reservoirs are located. Factors that increase the risk of dam or reservoir failure include the age of the structures and the likelihood of an earthquake. Climate change, including changing precipitation patterns, may also increase the risk of dam or reservoir failure in and outside of the County.

Flooding

Parts of San Francisco's shoreline currently experience temporary flooding during extreme high tides and coastal storm events. As sea level rises, temporary coastal flooding will be more frequent and will flood larger areas. Areas that are particularly susceptible to increasing risk of coastal flooding include Mission Bay, Islais Creek, Hunters Point, Candlestick Point, the Financial District, the Marina District, Treasure Island, and SFO.

King Tide Flooding

Stormwater flooding occurs during storm events as runoff collects in areas that at one time were naturally formed waterways but are now managed through the City's combined sewer and stormwater collection system. The Islais Creek area (Cayuga/Alemany), South of Market, Inner Mission, and Civic/Center Western Addition include significant areas that are at risk of stormwater flooding during a 100-year storm, as well as during rainfall events that occur more frequently. As climate change causes sea level rise and precipitation events to become more intense, the frequency and extent of stormwater flooding may increase. Regardless of the source of the water, flooding poses a threat to life and public safety, can cause physical damage to buildings and infrastructure, can disrupt economic activity, and can impair public health.

Extreme Heat

Historically, San Francisco has experienced six to seven extreme heat days per year. By 2100, San Francisco could have up to 51 extreme heat days per year. The elderly, the very young, and those with chronic health problems are most at risk when extreme heat occurs. Neighborhoods with the greatest risk, based on sociodemographic characteristics, include Chinatown, SOMA, Tenderloin Center, Bayview/ Hunters Point, and the Mission District. Climate change is expected to increase the frequency and severity of extreme heat events.

Drought

California's Mediterranean climate is typified by dry summers followed by long, wet winters, thus making the state particularly susceptible to drought and flooding. The majority of San Francisco's water is brought to the city from the Hetch Hetchy watershed located in the Sierra Nevada Mountains through a complex series of reservoirs, tunnels, pipelines, and treatment systems.[2] As a result, changes in precipitation in the Sierra Nevada impacts the water supply in the Bay Area. Climate models project that a warming planet will lead to a reduced Sierra snowpack.[3]

High Wind

The most disruptive "high winds" occur either with strong storms in the winter or spring, or in late fall as part of the warm "Diablo winds". The "Diablo winds" can stoke fires in nearby counties and transport smoke to San Francisco. Storm-related wind can down trees or power lines and contribute to electrical outages.

Tree Damaged by High Winds

[2] San Francisco Public Utilities Commission, "About Us: Overview", accessed September 28, 2018, https://sfwater.org/index.aspx?page=355

[3] Reich, KD, N Berg, DB Walton, M Schwartz, F Sun, X Huang, and A Hall, 2018: "Climate Change in the Sierra Nevada: California's Water Future." UCLA Center for Climate Science.

Wildfire

Within San Francisco, a small portion of the Crocker Amazon neighborhood has been designated as a high fire hazard severity area by CAL FIRE. Moderate fire hazard severity areas in the city include wooded areas such as Mounts Sutro and Davidson, as well as Yerba Buena Island. A significant portion of the Hetch Hetchy Regional Water System in San Mateo, Santa Clara, and Tuolumne Counties is also located in state-designated very high fire hazard areas. This can impact the system through increasing sedimentation, damaging pump stations and other associated infrastructure. Global warming and lower precipitation rates due to climate change are increasing the risk of damaging fires in Northern California.

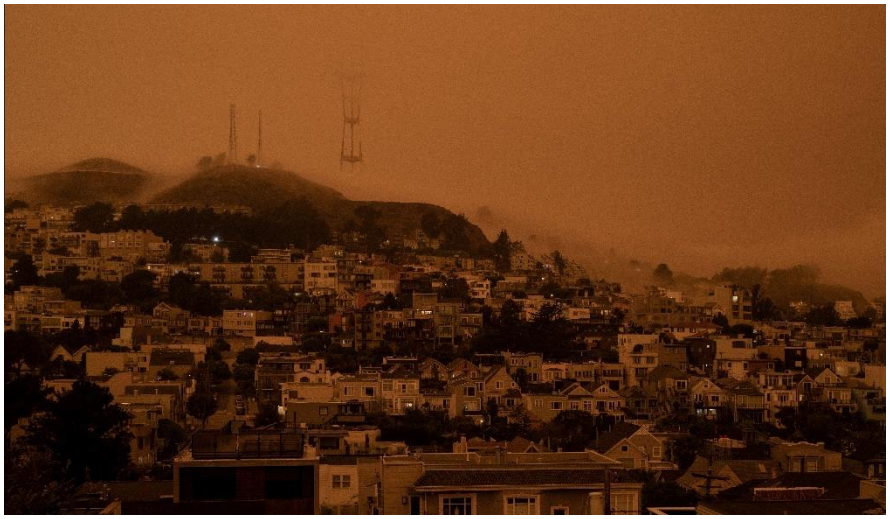
Crews clean up from the 2013 Rim Fire that threatened the Hetch Hetchy Water System

Large Urban Fire

The most likely cause of large urban fire in San Francisco is a severe earthquake (fire following earthquake). When making decisions about capital projects, maintenance, operations, and investments in the City's fire fighting systems, the San Francisco Fire Department (SFFD), San Francisco Public Utilities Commission (SFPUC), and San Francisco Public Works (SFPW) utilize a model that reflects the fires that could arise after a 7.8 earthquake on the San Andres fault. Most of San Francisco is believed to have a moderate risk of large urban fires, but areas believed to be at greatest risk include the North Waterfront, South Beach, Mission Bay, Potrero Hill, Hunters Point, Civic Center, Downtown, Tenderloin, and Hayes Valley neighborhoods.

Poor Air Quality

San Francisco is vulnerable to air quality impacts of wildfires. Wildfire smoke from may be transported into the city and significantly impact San Francisco's air quality. Air quality is closely associated with public health.



Wildfire Smoke Causing "Orange Sky Day" in 2020

Pandemic

COVID-19 had severe health, social, and economic impacts in San Francisco and throughout the world. Pandemics severely strain the healthcare system by causing prolonged patient surge. Because of their frequency, duration, and scale, pandemics are one of the greater public health threats to San Francisco; this threat has only increased with the rise in population density and international travel.

Hazardous Materials Release

According to state & local databases there are approximately 2,700 Hazardous Materials facilities throughout San Francisco[4]. Accidental hazardous materials releases can occur wherever hazardous materials are manufactured, stored, transported, or used. The majority of these facilities are located along the east/south east portion of the city; therefore, the risk is greatest in that part of the city.

[4] Josuwa Bernardo (SFDPH), *SF Hazardous Materials Sites*, 2018, Distributed by California State Water Resource Board (SWRCB). Email Correspondence regarding compiled data.

Vulnerabilities and Consequences

Chapter 05 describes Key Planning Issues that highlight significant and/or near-term vulnerabilities that require coordination between numerous asset managers, issues that may cluster in a particular geography, and vulnerabilities that require regulatory changes to solve. They are used to support the development of the objectives in Chapter 07.

Existing Buildings: San Francisco has a relatively older building stock and numerous barriers exist to improving their resilience. Many older buildings were designed before engineers understood certain types of seismic vulnerabilities and are not designed to be resilient to increasing climate hazards, such as extreme heat and flooding.

New Housing and Development: To accommodate a growing population, major development projects are planned in areas that may be exposed to hazards, including coastal flooding and liquefaction. Development agreements are an important tool for delivering resilient infrastructure and housing. Due to recent changes in state laws, there has been a recent emphasis on increasing housing development in "high opportunity" neighborhoods on the west side of the city, which also happen to be less vulnerable to some hazard events.

Communities at Increased Risk: Numerous factors contribute to communities being at increased risk including socioeconomic and demographic factors, housing quality and living conditions, community characteristics and social cohesion, and pre-existing health conditions.

Engagement and Capacity Building: San Franciscans may not have access to information about hazards and climate change impacts. They may not know how the City is working to increase resilience, and how they can participate, prepare, and benefit. Strong relationships within neighborhoods, at the block level, and even within large buildings can ensure that residents stay safe during and following a hazard event.

Business and Workforce: Many businesses don't have resources to invest in hazard mitigation and are dependent upon building owners to invest in mitigation. Many businesses, especially smaller ones, can't withstand disruption from a hazard. In addition, a missed paycheck for a lower-income worker puts severe strain on ability to pay for housing and other essential needs.

Transportation: San Franciscans depend on reliable, affordable, and accessible transportation on a daily basis. Critical transportation assets are vulnerable to current and future hazards and impairment could have citywide or regional consequences.

Water and Wastewater: Water and wastewater utilities are critical for the daily needs of households and businesses and protecting water quality. Disruption can have significant consequences for public health, ecosystem health, and the economy. The SFPUC has made significant improvements, and more are planned/underway through Sewer System Improvement Program (SSIP), Water System Improvement Program (WSIP), and the Emergency Firefighting Water System (EFWS).

Open Space and Biodiversity: 95% of San Francisco's land area has been developed and its remaining natural heritage is in a precarious state due to the ongoing challenges of invasive species, urban growth, pollutants, and the effects of climate change. Nature-based solutions weave natural features and processes into a community's landscape through planning, design, and engineering practices.5

Communications and Power: Functioning power and communications systems are critical for response and recovery following a disaster. Additionally, many other systems are dependent upon power and communications. Hardening these systems is not only essential to reducing potential disruptions, but it can also be life or death for residents that rely on power for medical devices.

Waterfront: San Francisco's waterfront communities may be exposed to multiple hazards, including increasing flood risks due to sea level rise, liquefaction, and tsunami. The waterfront includes a mix of densely populated neighborhoods (existing and planned), vulnerable populations, and critical infrastructure, including transit, shoreline protection, and stormwater/wastewater.

[5] FEMA, 2021. "Building Community Resilience with Nature Based Solutions: A Guide for Local Communities." https://www.fema.gov/sites/default/files/documents/fema_riskmap-nature-based-solutions-guide_2021.pdf

Capabilities

Chapter 06 describes the roles that the City and County of San Francisco plays with respect to how it develops and implements measures to increase resilience to hazards. These roles are organized into five categories listed below with examples of such capabilities.

Funding and Finance

San Francisco is one of the most expensive places in the world to live and build so the ability to have strong funding and financial mechanisms is critical to San Francisco's mitigation efforts. The **City's 10-Year Capital Plan** and its **5-Year Financial Plan** lay the foundation for hazard mitigation and climate adaptation funding. Federal sources such as FEMA grant programs are also essential.

Public Asset Owner

As an owner and builder of buildings and infrastructure, San Francisco has strong programs, mechanisms, and staff expertise to design, develop, construct, and maintain its assets. An example includes the **Earthquake Safety and Emergency Response General Obligation Bond Program** that funds critical seismic improvements to fire stations and other emergency response infrastructure.

Community Services Delivery

The City and County of San Francisco offers many services that assist vulnerable populations, helping them access services that reduce their vulnerability before and after a natural disaster. An Example is the **Extreme Weather Resilience Program** that DEM launched in 2023. This program establishes a network of community-based organizations and equips them to maintain services during extreme weather event.

Research, Planning, and Guidance

The City invests in innovative hazards and climate change research that directly inform policies, programs, and services. An example includes the **Guidance for Incorporating Sea Level Rise into Capital Planning,** which provides direction to departments on how to incorporate sea level rise into new construction, capital improvement, and maintenance projects.

Adopts & Enforces Regulations

San Francisco adopts regulations that govern the construction of buildings, the form of urban development, and natural resource protection, among others. For example, San Francisco passed a **Soft Story Retrofit Ordinance** in 2013 which mandated the retrofit of wood-frame buildings of two or more stories with five or more residential dwelling units built before 1978 that are vulnerable to potential collapse in an earthquake. This program was completed in 2021 and improved the safety of nearly 5,000 buildings and more than 111,000 residents.

Resilience Strategy

Chapter 7 details the resilience strategy, which consists of 3 pillars (buildings, communities, infrastructure), 17 objectives, and 74 actions that update the 2020 HCR based on an evaluation of progress made and new priorities. The strategy balances being comprehensive of the range of hazards, risks, and priorities within the San Francisco community with a pragmatic lens of what will be feasible to make progress on by 2030 and will provide significant benefit, especially for those who are most likely to be adversely impacted by hazards. The 2025 goals build upon related citywide planning documents and remain unchanged from the 2020 Hazards and Climate Resilience Plan.

FIGURE ES-4: 2025 HCR GOALS

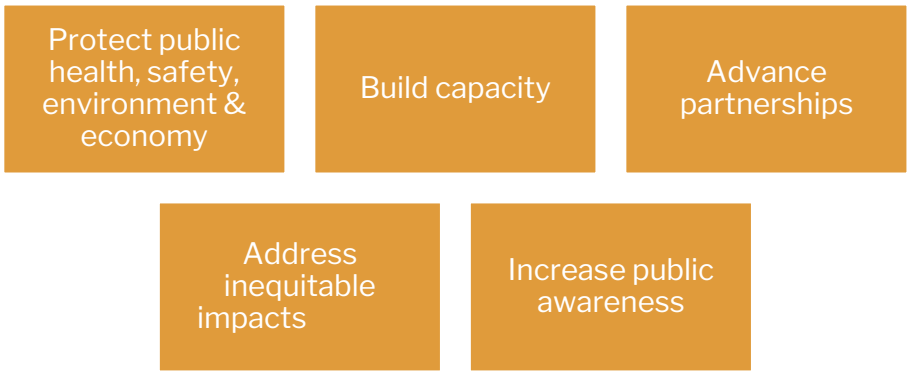


TABLE 7-3: BUILDINGS-RELATED OBJECTIVES AND ACTIONS

CODE	OBJECTIVE/ACTION TITLE	LEAD
B-1	**Increase the resilience of existing seismically vulnerable buildings.**	
B-1.1	Assess and seismically retrofit municipal buildings or secure new resilient facilities as needed.	ORCP
B-1.2	Implement priority tasks of the Earthquake Safety Implementation Program, such as addressing concrete and steel buildings.	ORCP, DBI
B-1.3	Implement the recommendations of the Tall Building Safety Strategy.	ORCP, DBI
B-1.4	Address mandatory seismic retrofit needs within San Francisco's affordable housing stock.	MOHCD
B-2	**Increase climate and multi-hazard resilience of existing buildings.**	
B-2.1	Increase resilience and operation efficiency of municipal maintenance yards.	DPW
B-2.2	Determine the City and community facilities that will comprise a network of respite locations open to the public for a range of emergencies and the services, roles, and responsibilities necessary to facilitate their use.	DEM
B-2.3	Seek to add resilience scope to affordable housing rehabilitation funding opportunities with support from state/federal funds.	MOHCD
B-2.4	Continue to implement Floodwater Management Grant Program to assist residents with floodproofing.	SFPUC
B-2.5	Support increased building electrification (fuel switching), mechanical upgrade, and weatherization.	SFE, SFPUC
B-3	**Design and construct new buildings for high resilience performance for current and future hazards.**	
B-3.1	Continue to implement the Sea Level Rise Capital Planning Guidance and update as new science is available.	ORCP
B-3.2	Develop multi-hazard resilience design guidelines for capital planning.	ORCP
B-3.3	Incorporate flood resilience into the San Francisco Building Code.	SFPUC

TABLE 7-4: COMMUNITIES-RELATED OBJECTIVES AND ACTIONS

COMMUNITIES		LEAD
C-1	**Limit exposure and protect public health against hazards related to environmental health.**	
C-1.1	Facilitate the development of priority areas for green infrastructure investment using health-equity data.	ORCP
C-1.2	Develop public education initiatives to connect benefits of green infrastructure to public health.	DPW
C-1.3	Investigate and pilot strategies to cool impervious surfaces.	SFO, DPW
C-1.4	Enhance monitoring, measurement, and improvement of indoor air quality and temperatures.	SFO, DPH
C-1.5	Conduct studies to better understand how sea level rise may interact with contaminated lands and potential health risks.	DPH
C-1.6	Protect human health and the environmental through close involvement in the framework of property controls and mitigations at the Hunters Point Shipyard	OCII
C-1.7	Expand household hazardous waste collection efforts.	SFE
C-2	**Support the growth of community resilience networks to empower all people.**	
C-2.1	Continue to support neighborhood level capacity building.	DEM, DPH, ORCP
C-2.2	Support volunteer emergency preparedness, response, and recovery programs including the Neighborhood Emergency Response Team (NERT).	SFFD
C-3	**Increase the City's capacity to improve resilience through collaboration among peer agencies, the private sector, and community-based organizations.**	
C-3.1	Coordinate resilience engagement across departments and projects through ClimateSF	ORCP
C-3.2	Track progress and update the Lifelines Restoration Performance Project recommendations	ORCP
C-3.3	Develop and improve systems for hazard and climate resilience data.	ORCP
C-3.4	Improve San Francisco's climate health research capacity.	DPH
C-3.5	Develop citywide policy and proposed governance structure for flood resilience.	SFPUC

C-4	**Support robust emergency response planning in partnership with communities most adversely impacted by hazards.**	
C-4.1	Establish an evacuation strategy for people with Access and Functional Needs, including vertical evacuation and large-building refuges.	DEM
C-4.2	Pilot a wellness check program for vulnerable populations including homebound seniors, and people with access and functional needs.	HSA
C-4.3	Develop a Homelessness Disaster Response Plan	HSH
C-4.4	Develop a public outreach campaign and wayfinding plan for tsunami awareness and evacuation procedures	DEM
C-4.5	Improve citywide resilience to pandemics and infectious diseases.	DPH
C-5	**Prepare small businesses and workers to bounce back faster after a hazard.**	
C-5.1	Establish disaster relief funding and small business resilience fund.	OEWD
C-5.2	Continue to scale and mobilize layoff outplacement services for post-disaster economic impacts.	OEWD
C-6	**Make housing more affordable to increase community adaptive capacity.**	
C-6.1	Continue to meet housing production goals.	MOHCD, OCII, TIDA

TABLE 7-5: INFRASTRUCTURE RELATED ACTIONS

INFRASTRUCTURE		LEAD
IN-1	**Increase the resilience of electric power systems and increase access to resilient backup power.**	
IN-1.1	Enhance energy resilience at Critical Community Institutions	SFPUC, DPW
IN-1.2	Improve and expand power distribution infrastructure and advanced energy systems to support new development and increase resiliency.	SFPUC
IN-1.3	Complete the Electrical Capacity Upgrade Project to ensure redundant electrical power capacity and distribution across SFO	SFO
IN-1.4	Develop a roadmap for disaster resilient EV charging infrastructure	Fleet, ORCP
IN-2	**Increase the resilience of critical communications systems**	
IN-2.1	Increase the Resilience of the Municipal Fiber Optic Network	DT
IN-2.2	Increase the Resilience of the 911 Radio System	DT
IN-3	**Support sustainable and resilient multi-modal mobility**	
IN-3.1	Incorporate opportunities for hazard mitigation into the planning and design of all SFMTA facility improvements and property re-development.	SFMTA
IN-3.2	Study, plan, design, and implement improvements to the multimodal transportation system that are vulnerable to coastal flooding.	SFMTA
IN-3.3	Improve the public right-of-way state-of-good-repair, including retrofitting bridges and other key structures.	ORCP, DPW
IN-3.4	Decrease the geographic vulnerability inherent to the island communities on Treasure Island and Yerba Buena Islands by increasing low-emission, connectivity to San Francisco.	TIMMA
IN-3.5	Implement the SFO Infrastructure Resilience Framework to improve resilience of critical facilities, assets, operations, and lifeline utility systems.	SFO
IN-4	**Promote, design, and use nature-based solutions to mitigate current and future hazards.**	
IN-4.1	Continue to improve wildfire prevention through vegetation management in Recreation Areas.	RPD
IN-4.2	Maximize drought tolerant and native species in plantings for parks and landscaping whenever feasible.	RPD, DPW
IN-4.2	Strengthen citywide efforts to conserve, restore, and steward biodiversity.	SFE
IN-4.4	Develop public private partnerships to conserve and steward biodiversity and habitat on Treasure Island and Yerba Buena Islands.	TIDA

IN-4.5	Adapt shoreline parks to sea level rise and salt water intrusion, using marshes and plant diversity.	RPD
IN-5	**Protect waterfront assets and communities from near-term flooding and seismic hazards.**	
IN-5.1	Implement Embarcadero Early Projects to address areas of highest earthquake and flood risk along the Embarcadero waterfront.	Port
IN-5.2	Make under deck pier structure utilities more resilient to flooding and seismic hazards.	Port
IN-5.3	Develop projects and seek funding to implement the Islais Creek Southeast Mobility Adaptation Strategy (ICSMAS).	Port, DPW, SFMTA
IN-5.4	Implement the Marina Improvement and Remediation Project	RPD
IN-5.5	Implement the Ocean Beach Climate Adaptation Project, which represent 2 of 6 "Key Moves" of the Ocean Beach Master Plan.	SFPUC
IN-5.6	Implement the San Francisco Airport Shoreline Protection Program.	SFO
IN-6	**Adapt the City's bay and ocean shorelines to current and future climate flood hazards.**	
IN-6.1	Develop subregional shoreline resiliency plan by 2034 per SB 272	Planning, ORCP
IN-6.2	Advance the Waterfront Resilience Program and San Francisco Waterfront Coastal Flood Study to reduce flooding and seismic risk along the 7.5 miles of Port jurisdiction.	Port
IN-6.3	Develop the Yosemite Slough Neighborhood Adaptation Plan	Planning
IN-6.4	Advance plans and projects for Ocean Beach and Great Highway North of Sloat Blvd.	RPD, GGNRA
IN-6.5	Advance the Adaptive Management Strategy from the Treasure Island Infrastructure Plan to ensure continual protection to changing conditions.	TIDA
IN-6.6	Develop and support major development projects and public/private partnerships that deliver resilient waterfront infrastructure.	Port, TIDA, OCII
IN-6.7	Develop comprehensive assessments of combined flood risks in each watershed.	SFPUC

IN-7	**Increase the resilience of local water and wastewater systems to natural hazards and climate change.**	
IN-7.1	Implement the Pipe Replacement Prioritization Program	SFPUC
IN-7.2	Support the completion and handover of new power, water, wastewater distribution infrastructure at Treasure Island and discontinue the use of the legacy navy systems.	TIDA, SFPUC
IN-7.3	Complete construction of the Treasure Island Water Resource Recovery Facility to improve water treatment, increase water security, and to connect recycled water to San Francisco's first neighborhood with a complete green infrastructure system.	SFPUC
IN-7.4	Complete studies and capital projects to improve and expand the Emergency Firefighting Water System (EFWS).	SFPUC
IN-7.5	Improve the capacity of the Portable Water Supply System to fight fires following earthquakes and other large urban fires.	SFFD
IN-7.6	Pursue data-driven implementation of Green (GI) Infrastructure projects to be able to manage 1 billion gallons of stormwater per year using GI by 2050.	SFPUC
IN-7.7	Complete construction of the Recycled Water Treatment Plant to ensure redundancy of water supply on SFO campus.	SFO
IN-8	**Increase resilience of the regional water system to natural hazards and climate change.**	
IN-8.1	Improve Resilience and Sustainability for regional dams and ancillary facilities from flood and earthquake events	SFPUC
IN-8.2	Mitigate wildfire hazards in SFPUC owned-watersheds to protect source water quality and minimize risk to SFPUC water and power infrastructure.	SFPUC
IN-8.3	Diversify water supply options year-round by improving the use of new water sources and drought management	SFPUC
IN-8.4	Continue climate adaptation planning for the Hetch Hetchy Regional Water System	SFPUC

Action Snapshots

The HCR actions were developed in partnership with numerous departments, organizations that serve vulnerable communities, and other stakeholders. The actions are organized into three pillars that support a more resilient city: buildings, communities, and infrastructure. A sample action for each of these areas is listed below. Detailed tables of all the actions are available in Chapter 07.

Sample Buildings Strategy

B-1.2	Implement priority tasks of the Earthquake Safety Implementation Program, such as addressing concrete and steel buildings.	
KEY PLANNING ISSUES: Existing Buildings	VULNERABILITY ADDRESSED: Some older, un-retrofitted buildings are vulnerable to damage in an earthquake.	
LEAD: ORCP, DBI PARTNERS: DPW, MOHCD, OEWD, DEM	ACTION SUMMARY: The Earthquake Safety Implementation Program is a 30-year set of tasks for improving the seismic safety of privately-owned buildings. Upcoming priority tasks include addressing vulnerable concrete buildings, tilt-up buildings, pre-Northridge steel-moment frame buildings, and soft-story buildings with fewer than 5 units. Other tasks include developing post-earthquake repair and retrofit guidance for steel and concrete buildings, developing performance standards for building uses important to post-disaster recovery, and reducing the risk of fire-following earthquake.	
COST: Medium to develop program, High to implement	SF GOVERNMENT ACTIVITY: Adopt & Enforce Regulations	STATUS: Sustaining
POTENTIAL FUNDING SOURCES: Special Funds, Privately Funded, Grants	PRIORITY LEVEL: High	TIMELINE: Concrete screening by 2028 Steel inventory by 2027

Maxine Hall Health Center, a concrete building that was seismically retrofitted in 2022

Sample Communities Strategy

C-1.2	Develop public education initiatives to connect benefits of green infrastructure to public health	
KEY PLANNING ISSUES: Communities at Increased Risk Engagement and Capacity Building	VULNERABILITY ADDRESSED: Historic disinvestment has led to communities of color having less access to green space and tree canopy coverage, which contributes to disproportionate climate and health impacts.	
LEAD: DPW PARTNERS: DPH, ORCP	ACTION SUMMARY: This action involves developing and carrying out a public awareness campaign to educate residents on the numerous benefits of green infrastructure to encourage increased stewardship and buy-in for tree plantings initiatives. Green infrastructure provides significant benefits to San Francisco's residents, including health benefits from mitigating climate hazards in addition to the mental benefits of interacting with green spaces. This supports the City's goals on adaptation and specifically supports environmental justice and resilience to heat and poor air quality.	
COST: Low	SF GOVERNMENT ACTIVITY: Community Services Delivery	STATUS: New
POTENTIAL FUNDING SOURCES: General Funds, Grants	PRIORITY LEVEL: Medium	TIMELINE: 2030

Arbor Day 2024

Sample Infrastructure Strategy

IN-6.5	Advance the Adaptive Management Strategy from the Treasure Island Infrastructure Plan to ensure continual protection to changing conditions.	
KEY PLANNING ISSUES: Waterfront New Housing and Development	VULNERABILITY ADDRESSED: Given the low-lying geography and artificial construction, the Treasure Island Infrastructure Plan address vulnerabilities related to earthquake, tsunami, flooding, drought, and hazardous materials.	
LEAD: TIDA PARTNERS: Planning, SFPUC, SFMTA	ACTION SUMMARY: As Treasure Island continues to develop over the coming decade, resilience measures in the Treasure Island Infrastructure Plan and related development agreements will be critical to implement and require partnerships with private developers, public infrastructure owners, non-profits. Adaptive management strategies for SLR include elevating grades to 3 feet above the current 100-year flood elevation with the first floor of buildings 42 inches above that level; building shoreline protection and development setbacks that can accommodate future SLR adaptation; maximizing the use of green infrastructure, and resorting of 300 acres of open spaces with native species.	
COST: High	SF GOVERNMENT ACTIVITY: Public Assets Owner	STATUS: Sustaining
POTENTIAL FUNDING SOURCES: CFD, Grants	PRIORITY LEVEL: High	TIMELINE: 2040 and beyond

Treasure Island as seen from Yerba Buena Island

Plan Maintenance

The HCR will be maintained through an Annual Progress Report that will report and evaluate on progress towards implementing the Plan's objectives and actions and will be posted online. The Annual Report will also include any notable new hazard events, risk assessments, capabilities, or challenges. Opportunities for on-going public feedback will be integrated into other resilience projects and plans as coordinated through ClimateSF.

The 2025 HCR will be integrated into the following plans as they are updated:

- 10-Year Capital Plan
- Climate Action Plan
- Safety and Resilience Element
- Subregional Shoreline Resiliency Plan (SB 272)

EXHIBIT B

EXCERPT OF 2025 DRAFT RESILIENCE ACTIONS LED BY THE PLANNING DEPARTMENT

IN-6.1	Develop subregional shoreline resiliency plan per SB 272	
KEY PLANNING ISSUES: Waterfront	VULNERABILITY ADDRESSED: San Francisco's waterfront is vulnerable to coastal flooding due to sea level rise and seismic risks.	
LEAD: Planning, ORCP PARTNERS: Port, RPD, TIDA, OCII, GGNRA, others	ACTION SUMMARY: SB 272 mandates local jurisdictions to develop subregional (i.e. county-wide) resiliency plans and submit to Bay Conservation and Development Commission (BCDC) by 2034. The legislation prioritizes state funding to create these plans and prioritizes funding for projects in jurisdictions with approved plans. The action involves identifying gaps in San Francisco's existing/on-going shoreline adaptation plans in order to meet BCDC guidelines and developing partnerships, scopes of work, and funding applications to address those gaps. Key gaps include parts of the Northern and Southern Waterfronts.	
COST: Low	SF GOVERNMENT ACTIVITY: Research, Planning & Guidance	STATUS: New
POTENTIAL FUNDING SOURCES: General Funds, Grants	PRIORITY LEVEL: Medium	TIMELINE: By 2034

IN-6.3	Develop the Yosemite Slough Neighborhood Adaptation Plan	
KEY PLANNING ISSUES: Waterfront Communities at Increased Risk	VULNERABILITY ADDRESSED: San Francisco's waterfront is vulnerable to coastal flooding due to sea level rise and seismic risks. The Yosemite Slough neighborhood also faces environment justice burdens and racial inequities.	
LEAD: Planning PARTNERS: Port, PUC, ORCP, SFMTA, DPH, RPD, DPW, OCII	ACTION SUMMARY: Focused on the Yosemite Slough wetland and surrounding neighborhood, the adaptation plan will develop strategies to protect the community from sea level rise through the end of the century. The project is designed to advance racial & social equity, cross-sector collaboration, and community capacity in planning for multiple climate risks. City staff are partnering with CBOs to deliver the project and will align adaptation strategies with existing sea level rise efforts elsewhere in the City. The City is continuing to pursue state and federal funding opportunities to bring necessary investments to Bayview Hunters Point and advance environmental justice, including opportunities with the U.S. Army Corps of Engineers.	
COST: Medium	SF GOVERNMENT ACTIVITY: Research, Planning & Guidance	STATUS: New
POTENTIAL FUNDING SOURCES: General Funds, Grants	PRIORITY LEVEL: High	TIMELINE: By 2026

Hazards and Climate Resilience Plan 2025 Update

Melissa Higbee, Resilience Program Manager
Office of Resilience and Capital Planning
Planning Commission
September 26, 2024

ONESF
Building Our Future

Background and Purpose

What it is:

- Citywide action plan to improve resilience to natural hazards and climate change impacts. Includes priority actions (projects, plans, programs) for strategic funding.

Why we have it:

- Fed: Eligibility for FEMA grants. *2020 Plan needs to be updated and adopted by July 2025.*
- State: Compliance with SB 379; AB 2140 incentive
  Local: Companion to Safety & Resilience Element; Climate Action Plan.

2025 Draft available for public comment available at: www.OneSanFrancisco.org

ONESF
Building Our Future

HAZARDS

The HCR characterizes 13 natural hazards that impact San Francisco. The hazards are grouped into four different types: geological, weather-related, fire-related, and biological & toxic. This chapter also includes an overview of climate change science and how climate change influences hazards in San Francisco.

GEOLOGICAL

EARTHQUAKE

TSUNAMI

LANDSLIDE

DAM OR RESERVOIR FAILURE

WEATHER-RELATED

FLOODING

HIGH WIND

EXTREME HEAT

DROUGHT

FIRE-RELATED

LARGE URBAN FIRE

WILDFIRE

POOR AIR QUALITY

BIOLOGICAL & TOXIC

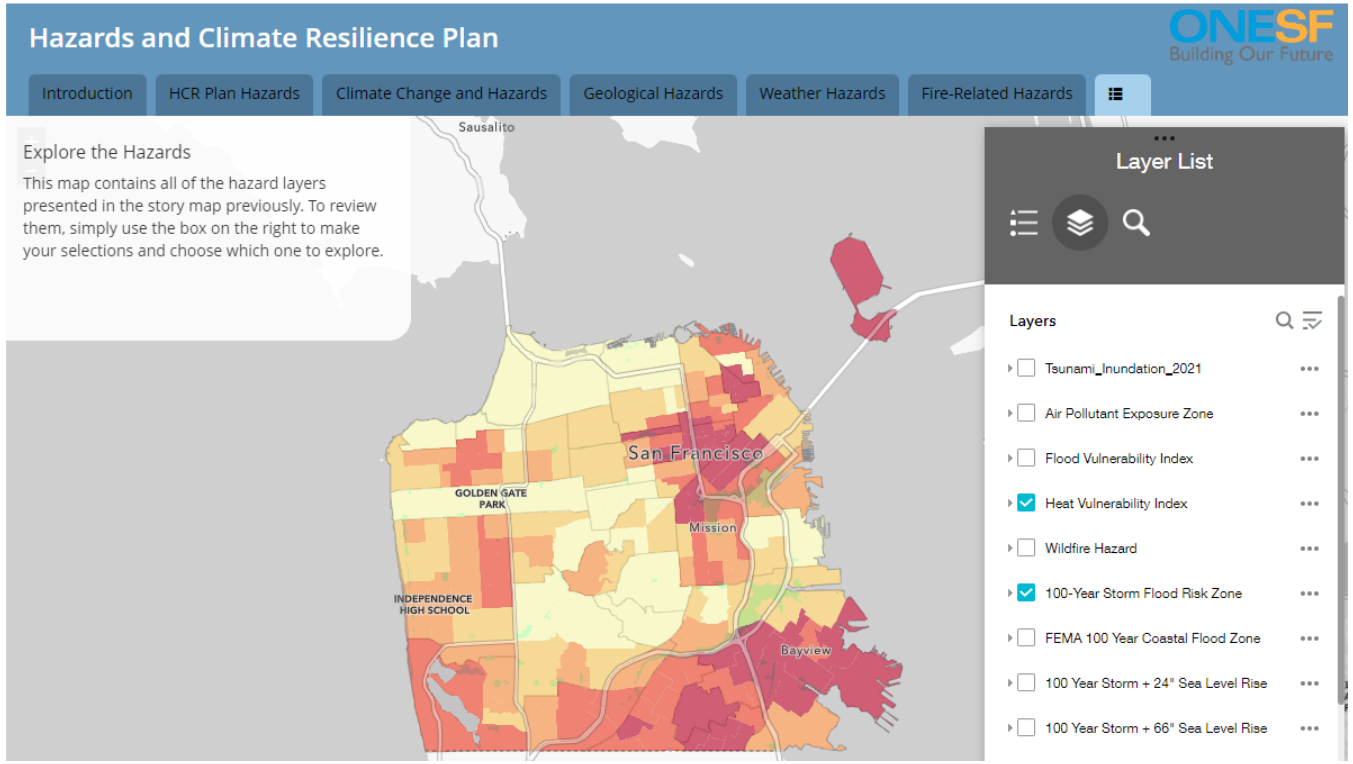
PANDEMIC

HAZARDOUS MATERIALS

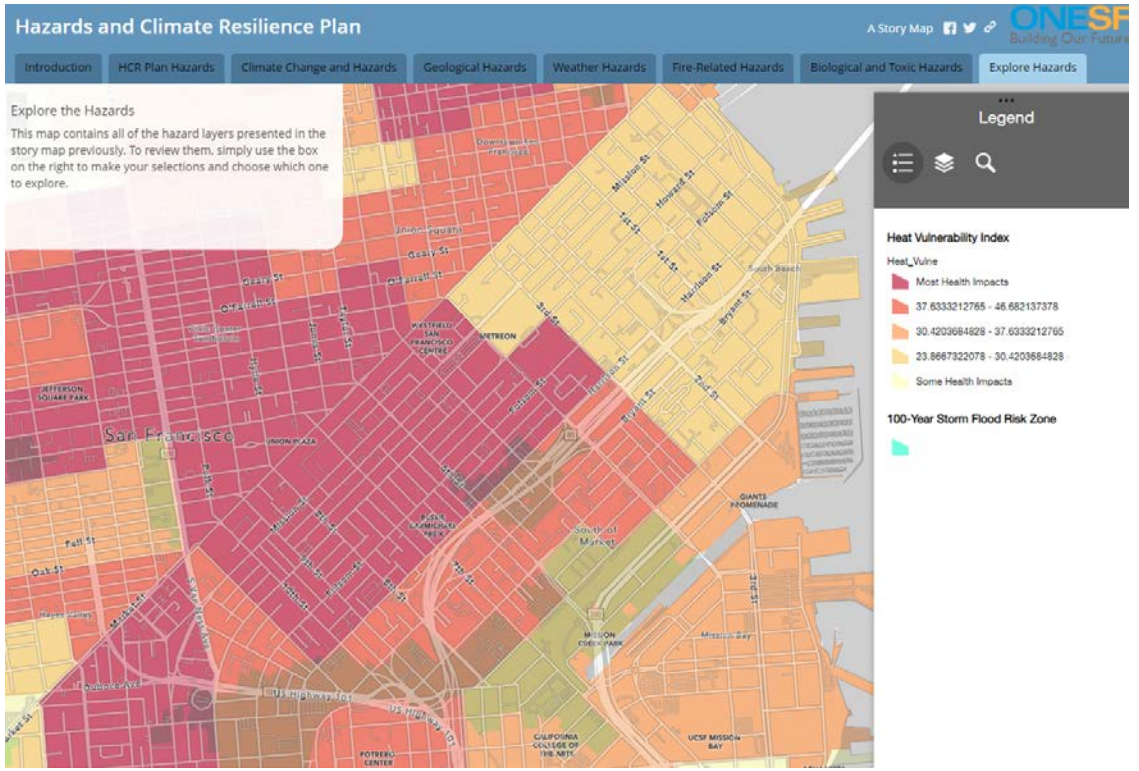
Makes Hazard Data More Accessible

Hazards and Climate Resilience Storymap

www.OneSanFrancisco.org/hazards



Toggle on and off a wide range of hazards, such as extreme heat and 100-year storm flood risk.



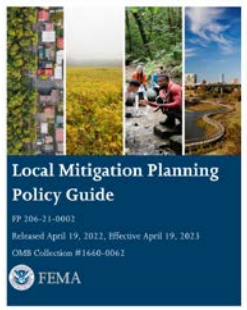
Zoom into a neighborhood of interest.

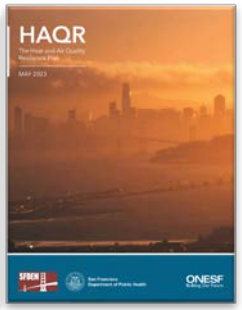
ONESF
Building Our Future

Climate Resilience in San Francisco

ONESF
Building Our Future

2025 Update Key Milestones





July 23: Project Kick-off

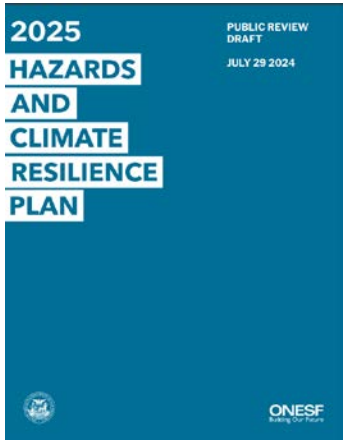
Aug 23-July 24: Quarterly Planning Team meetings; Updates to hazard profiles and actions.

October 2024: Submit Final Draft to CalOES/FEMA for review + up to 6 months for review and revision

April 2025: Submit to Board of Supervisors

Dec 2023 - July 2024: Community engagement events

August - September 2024: Draft Plan public comment period



By July 2025: Adoption by Board and Mayor + Approval by FEMA.

ONESF
Building Our Future

2025 Draft Resilience Pillars and Objectives

(B) BUILDINGS	
B-1	Increase the resilience of existing seismically vulnerable buildings.
B-2	Increase climate and multi-hazard resilience of existing buildings.
B-3	Design and construct new buildings for high resilience performance for current and future hazards.

(C) COMMUNITIES	
C-1	Limit exposure and protect public health against hazards related to environmental health.
C-2	Support the growth of community resilience networks to empower all people.
C-3	Increase the City's capacity to improve resilience through collaboration among peer agencies, the private sector, and community-based organizations
C-4	Support robust emergency response planning in partnership with communities most adversely impacted by hazards.
C-5	Prepare small businesses and workers to bounce back faster after a hazard.
C-6	Make housing more affordable to increase community adaptive capacity.

(IN) INFRASTRUCTURE	
IN-1	Increase the resilience of electric power systems and increase access to resilient backup power.
IN-2	Increase the resilience of critical communications systems.
IN-3	Support sustainable and resilient multi-modal mobility.
IN-4	Promote, design, and use nature-based solutions to mitigate current and future hazards.
IN-5	Protect waterfront assets and communities from near-term flooding and seismic hazards.
IN-6	Adapt the city's bay and ocean shorelines to current and future climate flood hazards.
IN-7	Increase the resilience of local water and wastewater systems to natural hazards and climate change.
IN-8	Increase resilience of the regional water system to natural hazards and climate change.

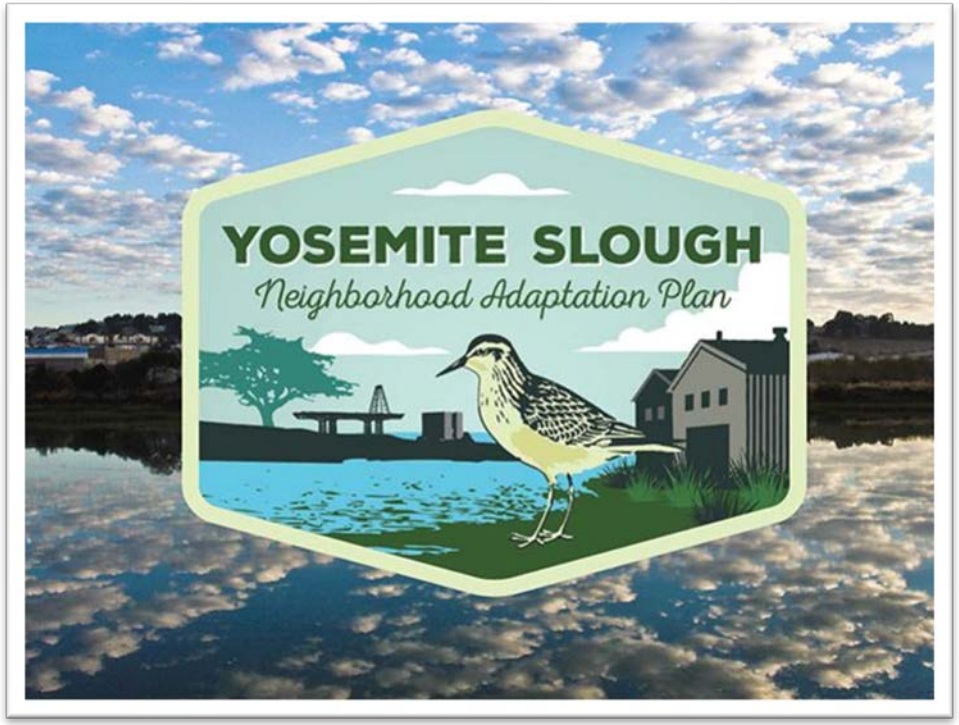
= Objective with Planning-led action(s)

= Objective with Planning-partnered action(s)

ONESF
Building Our Future

2025 Draft Actions with Planning as Lead

Code	Action Title	Lead(s)	
(IN) INFRASTRUCTURE			
IN-6.1	Develop subregional shoreline resiliency plan by 2034 per SB 272	Planning, ORCP	*New*
IN-6.3	Develop the Yosemite Slough Neighborhood Adaptation Plan	Planning	*New*



Shoreline planning reaches and sea level rise vulnerability zone

ONESF
Building Our Future

2025 Draft Actions With Planning as Partner

Code	Action Title	Lead(s)	
(B) BUILDINGS			
B-3.1	Continue to implement the Sea Level Rise Capital Planning Guidance and update as new science is available.	ORCP	
B-3.2	Develop multi-hazard resilience design guidelines for capital planning.	ORCP	
B-3.3	Incorporate flood resilience into the San Francisco Building Code.	SFPUC	
(C) COMMUNITIES			
C-1.1	Develop projects in green infrastructure priority zones.	ORCP	*New*
C-2.1	Continue to support neighborhood level capacity building.	DEM, ORCP, DPH	
C-3.1	Coordinate resilience engagement across departments and projects through ClimateSF.	ORCP	*New*
C-3.5	Develop citywide policy and proposed governance structure for flood resilience.	SFPUC	*New*
C-6.1	Continue to meet housing production goals.	MOHCD, OCII, TIDA, OEWD	

2025 Draft Actions With Planning as Partner

Code	Action Title	Lead(s)	
(IN) INFRASTRUCTURE			
IN-3.2	Study, plan, design, and implement improvements to the multimodal transportation system that are vulnerable to coastal flooding.	SFMTA	
IN-5.1	Implement Embarcadero Early Projects to address areas of highest earthquake and flood risk along the Embarcadero waterfront.	Port	
IN-5.3	Develop projects and seek funding to implement the Islais Creek Southeast Mobility Adaptation Strategy (ICSMAS).	Port, DPW, SFMTA	
IN-6.2	Advance the Waterfront Resilience Program and San Francisco Waterfront Coastal Flood Study to reduce flooding and seismic risk along the 7.5 miles of Port jurisdiction.	Port	
IN-6.5	Advance the Adaptive Management Strategy from the Treasure Island Infrastructure Plan to ensure continual protection to changing conditions.	TIDA	*New*
IN-6.6	Develop and support major development projects and public/private partnerships that deliver resilient waterfront infrastructure.	Port, TIDA, OCII	*New*
IN-6.7	Develop comprehensive assessments of combined flood risks in each watershed.	SFPUC	

Thank you!
Questions or feedback?

Melissa.Higbee@sfgov.org

ONESF
Building Our Future

City & County of San Francisco
Daniel Lurie, Mayor

Office of the City Administrator
Carmen Chu, City Administrator

To:	Angela Calvillo, Clerk of the Board of Supervisors
From:	Sophie Hayward, Director of Public Affairs; Lily Moser, Legislative and Communications Analyst
Date:	June 11, 2025
Subject:	Resolution adopting the 2025 Hazards and Climate Resilience Plan as San Francisco's update to the 2020 Local Hazard Mitigation Plan
Resolution Title:	[Adopt the Hazards and Climate Resilience Plan as the 2025 Local Hazard Mitigation Plan]

Dear Clerk of the Board,

Attached please find the necessary documents for a Department submission of a resolution proposing the adoption of the 2025 Hazards and Climate Resilience Plan as San Francisco's update to the 2020 Local Hazard Mitigation Plan.

The following is a list of accompanying documents:

- Proposed Resolution (Word document)
- Draft HCR plan
- FEMA Letter
- Cover memo

Please contact Lily Moser, Legislative and Communications Analyst in the Office of the City Administrator, at lily.moser@sfgov.org or (415) 412-4750 with any questions.

We respectfully request that this matter be scheduled at the Rules Committee.

Departmental representative to receive a copy of the adopted resolution:

Name: Lily Moser Phone: 415-412-4750

Interoffice Mail Address: City Hall Room 362

City & County of San Francisco
Daniel Lurie, Mayor

Office of the City Administrator
Carmen Chu, City Administrator

Certified copy required Yes ☐ No ☒

Introduction Form

(by a Member of the Board of Supervisors or the Mayor)

I hereby submit the following item for introduction (select only one):

- [x] 1. For reference to Committee (Ordinance, Resolution, Motion or Charter Amendment)
- [ ] 2. Request for next printed agenda (For Adoption Without Committee Reference)
  (Routine, non-controversial and/or commendatory matters only)
- [ ] 3. Request for Hearing on a subject matter at Committee
- [ ] 4. Request for Letter beginning with "Supervisor _____ inquires…"
- [ ] 5. City Attorney Request
- [ ] 6. Call File No. _____ from Committee.
- [ ] 7. Budget and Legislative Analyst Request (attached written Motion)
- [ ] 8. Substitute Legislation File No. _____
- [ ] 9. Reactivate File No. _____
- [ ] 10. Topic submitted for Mayoral Appearance before the Board on _____

The proposed legislation should be forwarded to the following (please check all appropriate boxes):

☐ Small Business Commission ☐ Youth Commission ☐ Ethics Commission

☐ Planning Commission ☐ Building Inspection Commission ☐ Human Resources Department

General Plan Referral sent to the Planning Department (proposed legislation subject to Charter 4.105 & Admin 2A.53):

☐ Yes ☐ No

(Note: For Imperative Agenda items (a Resolution not on the printed agenda), use the Imperative Agenda Form.)

Sponsor(s):

Supervisor Melgar

Subject:

Adopt the Hazards and Climate Resilience Plan as the 2025 Local Hazard Mitigation Plan

Long Title or text listed:

Resolution adopting the 2025 Hazards and Climate Resilience Plan as San Francisco's update to the 2020 Local Hazard Mitigation Plan.

Signature of Sponsoring Supervisor: /s/Myrna Melgar