

HAZARDS AND CLIMATE RESILIENCE PLAN



Hazards and Climate Resilience Plan

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December 9, 2019

Overview

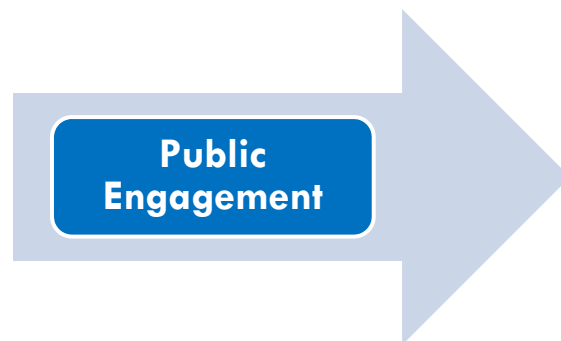
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- ▣ Assessment of SF's vulnerability to hazards, including climate change impacts
- ▣ Actionable strategies to mitigate risk and build resilience
- ▣ Plan Requirements:
 - ▣ **FEMA** pre and post-disaster mitigation funds: Local Hazard Mitigation Plan
 - ▣ **SB 379**: Climate Vulnerability Assessment and Adaptation Planning
 - ▣ **Climate Action Strategy**: Climate Hazard Assessment and Adaptation Actions



Scope and Timeline

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Goals

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- **Reduce risk** of damage and disruption
- **Build capacity** to prevent, mitigate, respond, and recover
- **Advance collaboration** towards risk reduction solutions
- **Address inequitable impacts** of hazards through policies and programs that address existing racial, economic, and health disparities
- **Increase public awareness** with education, empowerment, and engagement



Multi-Hazard Plan

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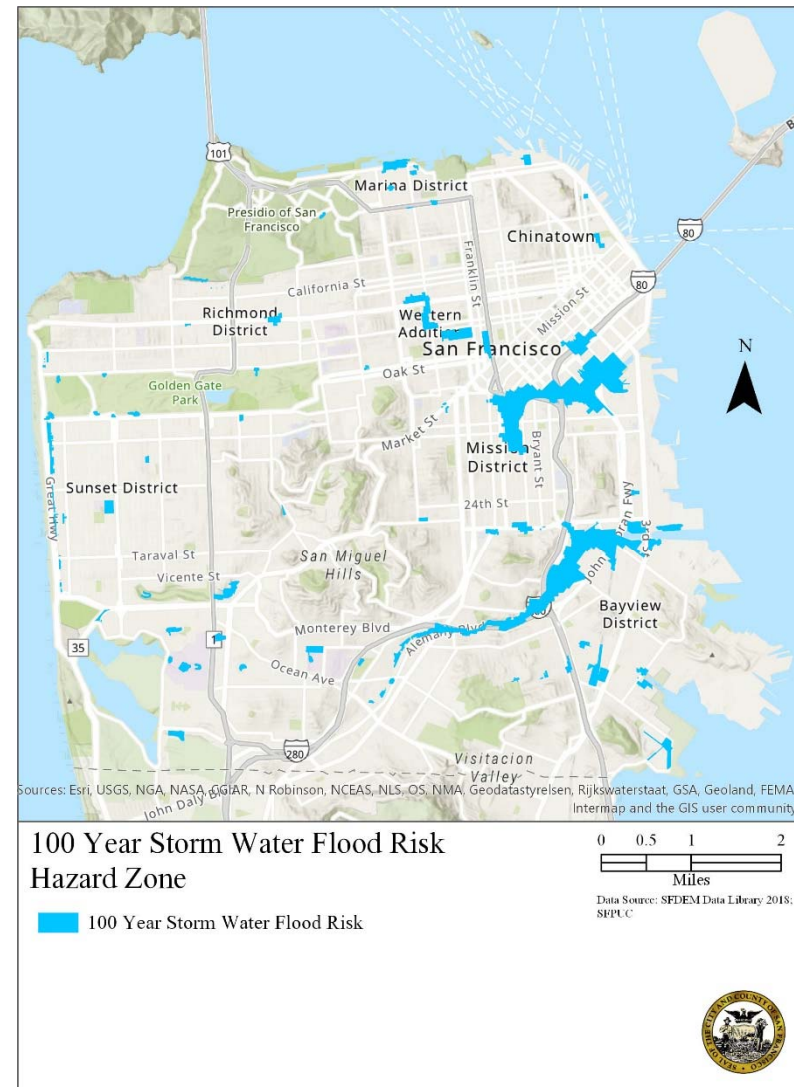
All hazards addressed are natural hazards

Earthquake Tsunami Landslide Dam or Reservoir Failure	Flooding High Wind Extreme Heat Drought	Large Urban Fire Wildfire Poor Air Quality	Pandemic Hazardous Materials
   	   	  	 
Geological	Weather	Combustion	Biological / Toxic

Sample Hazard Profile

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- Impact statement
- Nature
- History
- Location
- Severity and Probability of Future Events



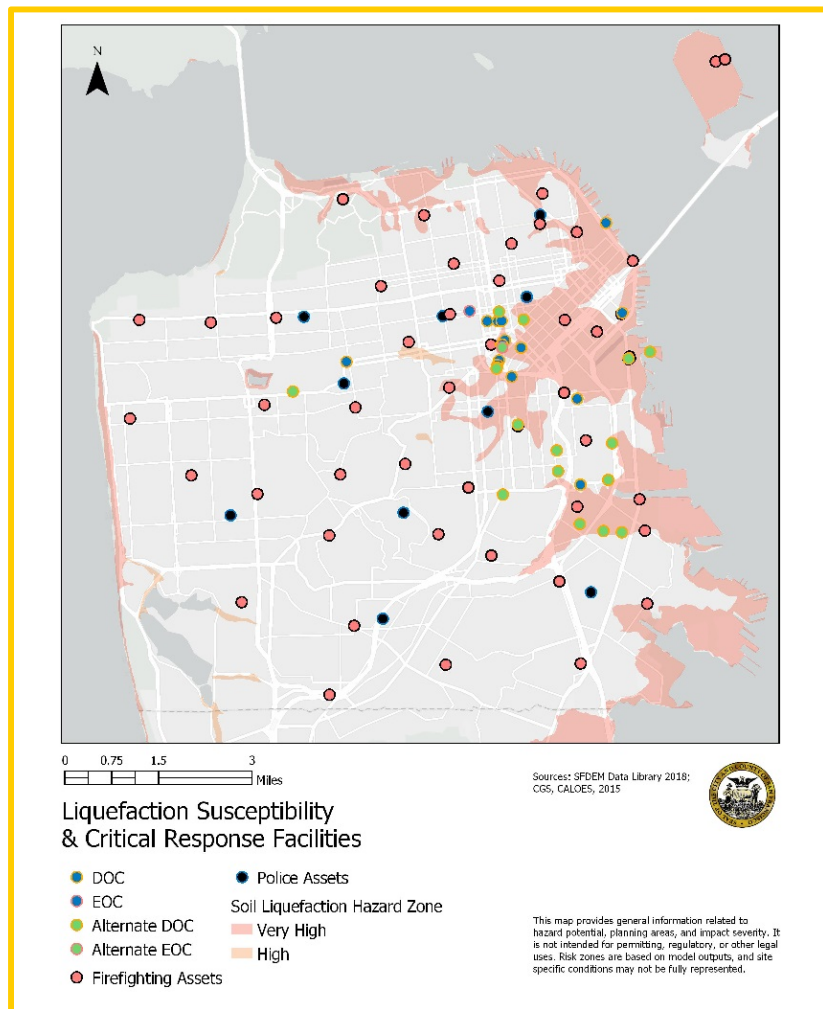
Asset Categories: Buildings, Infrastructure

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Emergency Response Facilities	Emergency Response Facilities (e.g. fire, police, EOC, DOC)
	Hospitals and Medical Facilities (Critical Care Facilities)
	Schools
	Shelter Sites
Buildings	Municipal Buildings
	Residential
	Commercial
	Industrial
	Future Building Areas (Major Projects/Plan Areas)
Transportation	Roads
	Airport (TBD)
	Seaport
	Transit Facilities
Utilities	Power
	Pipelines
	Wastewater / Stormwater
	Water Supply
	Communications
Built and Natural Protective Infrastructure	Seawalls
	Levees or other flood control infrastructure
	Parks and Open Space
	Beaches and Wetlands
HazMat Sites and Contaminated Lands	Hazardous Material Sites
	Landfills
Population	Total Population
	Populations with higher vulnerability

Vulnerability & Consequence Profiles

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Category	Vulnerability
Physical	<p>Seismic: Most of the facilities in this asset class were built or have been retrofitted to withstand strong earthquake shaking. Additional seismic improvements are prioritized based on HAZUS and Seismic Hazard Ratings, described in greater detail in the informational section below.</p> <p>The current Ambulance Deployment Facility is a tilt-up construction warehouse that is vulnerable to seismic damage, but a new facility is currently under construction. The Bureau of Equipment is another important facility housing the Fire Departments complete inventory of rescue tools and other important equipment. The building was built in 1907 with a brick foundation and is vulnerable to seismic damage.</p> <p>Flood: Several facilities in this class may be vulnerable to coastal flooding due to their location. These include Fire Station 35 on the Embarcadero in South Beach, Fire Station 48 on Treasure Island, and Police Headquarters and the Southern District Police Station in Mission Rock. The Southern District Police Station has sensitive equipment in the basement and first floor.</p> <p>Extreme Heat: Though some of the newer facilities in this class have air conditioning, such as the EOC, most do not.</p> <p>Fire: Though some of the newer facilities in this class, such as the EOC, have air filtering, most do not.</p>

Stakeholder Engagement

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- Workshops with 70 organizations, agencies and businesses
 - Businesses and Commercial Property Owners
 - Older Adults + People w/ Access & Functional Needs
 - Children, Youth, and Families
 - Housing Managers and Developers (with a focus on affordable housing)
 - Environmental, Racial, and Social Justice Organizations

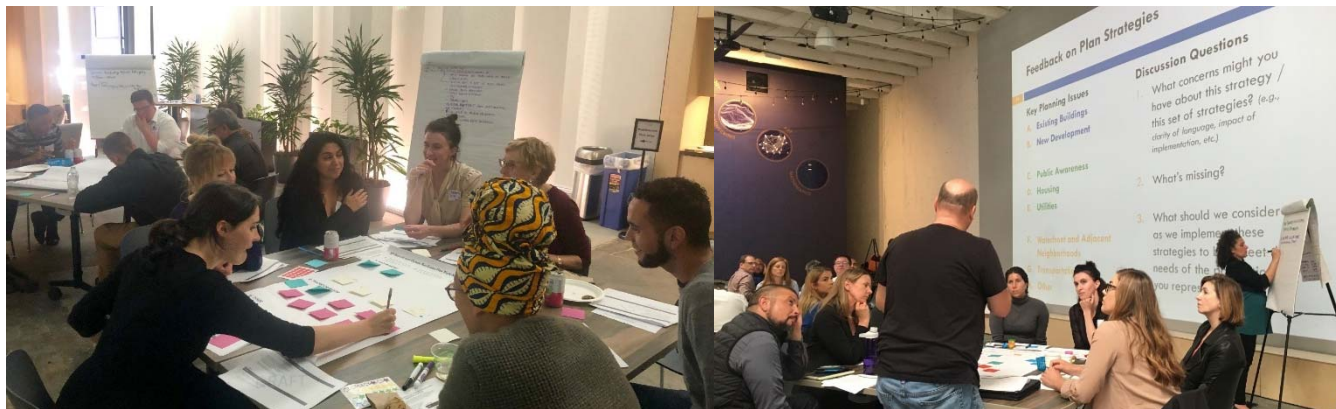
- HCR Plan online survey in 4 languages
 - A total of 597 surveys were submitted.

- Opportunities to provide feedback on Draft HCR Plan

Stakeholder Engagement Themes

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- Solutions need to be diversified, multi-pronged, and coordinated
- Most concern about earthquakes and unhealthy air quality
- Support for improving resilience of key City assets
- Importance of community cohesion
- More specific emergency preparedness recommendations based on location and population served



Strategies

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Includes Over 90 Strategies To Mitigate Risks

	Domains		
City and County of San Francisco Roles	Resilient Infrastructure (IN)	Resilient Buildings (B)	Resilient Communities (C)
Public Asset Owner			
Community Services Delivery			
Research, Planning, and Guidance			
Adopt & Enforce Regulations			

Sample Strategies

DOMAIN: RESILIENT BUILDINGS

Primary Hazard Group: Geological

B-1.01.01		Assess and seismically retrofit municipal buildings	
KEY PLANNING ISSUES: Existing Buildings		VULNERABILITY ADDRESSED: Community members rely on services provided by the City. The consequences of municipal building disruption are more severe for residents who are resource-constrained.	
LEAD: ORCP PARTNERS: BOS, ADM, MYR, Budget Office, DPW, all impacted departments		STRATEGY SUMMARY: ORCP uses seismic hazard ratings, HAZUS, and other analytical tools to assess risk and prioritize seismic-strengthening projects within the public facilities portfolio. This strategy allows for effective prioritization. This strategy ensures retrofits first work to reduce life safety risk and then to minimize potential interruptions to essential services for San Francisco's most vulnerable populations. Known priority buildings at the time of this Plan's publication include 170 Otis, Kezar Pavilion, the Hall of Justice, the City's homeless shelters, as well as the City's Temporary shelters.	
COST: High: \$5M and above		SF GOVERNMENT ACTIVITY: Public Assets Owner	STATUS: New

Sample Strategies

DOMAIN: RESILIENT INFRASTRUCTURE

Primary Hazard Group: Weather

IN-2.01		Develop projects to address flooding around Islais Creek	
KEY PLANNING ISSUES: Waterfront		VULNERABILITY ADDRESSED: Numerous transportation assets in the vicinity of Islais Creek would be subjected to flooding from urban precipitation and sea level rise in the future.	
LEAD: Planning PARTNERS: Port, SFMTA	STRATEGY SUMMARY: In coordination with the Port, SFMTA, and other partners, the Planning Department will create designs for priority projects that address current and future flooding concerns while addressing other neighborhood and citywide goals, as identified through the ISMAS process. These designs will come from extensive public process and benefit an underserved neighborhood as well as citywide infrastructure and biodiversity by incorporating eco-system services.		
COST: Medium: \$500K to \$5M		SF GOVERNMENT ACTIVITY: Public Assets Owner	STATUS: Sustaining

Sample Strategies

DOMAIN: RESILIENT COMMUNITIES

Primary Hazard Group: All Hazards

C-5.01		Identify and create Clean Air/Cooling Hub (CACH) Public Respite Facilities	
KEY PLANNING ISSUES: Existing Buildings		VULNERABILITY ADDRESSED: Climate change is expected to increase the frequency and severity of extreme heat events. By 2100, the number of extreme heat days is projected to increase by 1.5 orders of magnitude to 90 days per year, up from around six currently	
LEAD: ORCP PARTNERS: SFPL, DEM, REC, ADM, DPW, DPH SFAC		STRATEGY SUMMARY: As part of the Mayoral Directive on Air Quality Emergencies, this strategy relates to performing a feasibility assessment and subsequent implementation plan for improvements to publicly and privately owned buildings in order for their operation as public respite facilities during future poor air quality or extreme heat events. Measures identified in the SF Fellows preliminary report will be the main focus of the feasibility assessment and the implementation plan.	
COST: Medium: \$500K to \$5M		SF GOVERNMENT ACTIVITY: Public Assets Owner	STATUS: Sustaining