



LIFELINES COUNCIL

Meeting 40: December 13, 2023

Agenda

1. Call to Order	Douglas Legg, <i>Deputy City Administrator, City Administrator's Office</i> Chris Barkley, <i>AECOM</i>	5 minutes
2. Introductions and Agenda Review	Brian Strong, <i>Director, Office of Resilience and Capital Planning</i>	10 minutes
3. Recap of Prior Meeting	Laurel Mathews, <i>Analyst, Office of Resilience and Capital Planning</i>	5 minutes
4. BART	Phoebe Cheng, <i>Engineering Lead, BART</i> Harlow Church, <i>Fire Life Safety Lead, BART</i>	15 minutes
5. Discussion: Regional Transportation		15 minutes
6. San Francisco Hazards and Climate Resilience Plan (HCR)	Melissa Higbee, <i>Resilience Program Manager, Office of Resilience and Capital Planning</i>	10 minutes
6. HCR Exercise		30 minutes

Recap: Regional Transportation Discussion

Laurel Mathews, *Seismic Resilience Analyst,*
Office of Resilience and Capital Planning

B. Lifelines given in A are dependent on these lifelines

A. Lifeline Centers

Phase 3b

2022-2029

- \$879 million
- Devices to absorb quake energy
- Special joints will be added to allow for three-dimensional movement
- Strengthening foundations
- Installation of micropiles and rock bolts
- Construction of reinforced concrete shearwalls
- Replacement of the housing roof/roadway deck with a pre-cast concrete slab-on-steel stringer deck system



M7.0 Hayward Earthquake Scenario

- Timeline of State routes up and running:
 - ✓ Bay Bridge and Benicia Bridge – 72 hours
 - ✓ Other State owned-operated toll bridges – 6 months or less
 - ✓ Overcrossings/interchanges – May require reconstruction
 - ✓ Other roadway damage: Roadway buckling/retaining wall collapse – 6 months

Emergency Water Transportation Operations

The background image shows a large suspension bridge, likely the San Francisco-Oakland Bay Bridge, stretching across a body of water. In the distance, a forested hill is visible, and to the right, there are industrial structures, including a large crane or derrick. The sky is clear and blue.

- Movement of survivors:
 - Leaving homes/workplaces due to evacuation orders
 - Fled area due to an immediate life safety threat
- Movement of first responders and DSWs
- Lifeline transportation services to communities to promote recovery operations

Other takeaways

- ▷ Role of law enforcement and challenge of identifying critical lifeline recovery and repair staff
- ▷ Structural integrity of bridge approaches vs bridge structures
- ▷ Access to Embarcadero Ferry Terminal
- ▷ Role of BART

Lifelines Restoration Performance Report

BART Findings and Recommendations

Report findings:

- ▷ BART will immediately shut down for inspections after a San Andreas or Hayward earthquake scenario. Restoration timeline expectations:
 - **Within 24 hours:** Service between downtown Oakland and Downtown SF operational
 - **1-2 weeks:** Core system operational
 - **6 months:** Full system operational
- ▷ Dependent on water and electricity systems

Report Recommendations:

- ▷ BART should work with PG&E to better understand when power will be restored to components of the transit system.
- ▷ BART should work with SFPUC and EBMUD to better understand when water will be restored to the BART system.

BART

Phoebe Cheng, *Engineering Lead, BART*
Harlow Church, *Fire Life Safety Lead, BART*

SF Hazards and Climate Resilience Plan

Melissa Higbee, *Resilience Program Manager, Office of Resilience and Capital Planning*

Plan Vision

Make San Francisco resilient to 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. Ensure 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.

Coordinate with and support 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.

Overview

- ▷ Provides a roadmap to improve resilience that captures previous and ongoing mitigation and adaptation efforts
- ▷ Identifies projects for strategic funding
- ▷ Makes hazard information more accessible
- ▷ Includes vulnerable communities, equity, and health
- ▷ Developed with extensive department and stakeholder engagement



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

CHANGES IN THE GLOBAL CLIMATE INCREASE THE SEVERITY OF LOCAL HAZARDS

	INCREASING TEMPERATURES	RISING SEA LEVELS	CHANGING PRECIPITATION PATTERNS
Extreme Heat	●		
Drought	●		●
Wildfire & Wildland-Urban-Interface Fire	●		●
Poor Air Quality	●		
Coastal Flooding		●	
Stormwater Flooding		●	●
Soil Liquefaction in an Earthquake		●	

Meets Federal, State, and Local Requirements

▷ **Federal:** Assures eligibility for FEMA grants:

- Hazard Mitigation Grant Program (HMGP)
- Public Assistance Grant Program (PA)
- Building Resilient Infrastructure and Communities (BRIC)
- Pre-Disaster Mitigation Grant Program (PDM)
- Fire Management Assistance Grant Program (FMAG)
- Safeguarding Tomorrow Revolving Loan Fund Program (STORM Act)
- Rehabilitation of High Hazard Potential Dam Grant Program (HHPD)

*Adopted by Mayor
and BOS on June
16, 2020*

*Approved by FEMA
on July 21, 2020*

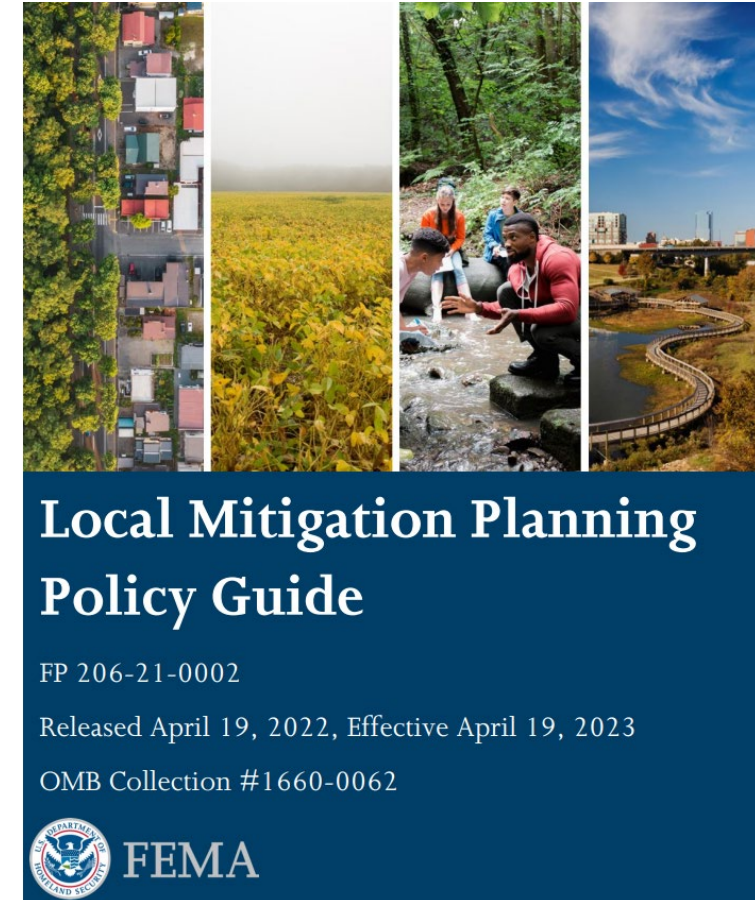
*Needs to be
updated, adopted,
and approved prior
to expiration on July
21, 2025*

▷ **State:** Adheres to climate vulnerability assessment and adaptation planning (SB 379)

▷ **Local:** Climate adaptation component of Climate Action Plan

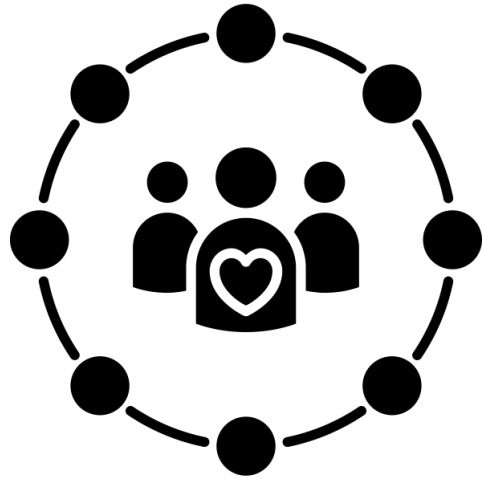
Right-Sizing the Update

- ▷ Changes since the last plan
 - Recent hazard events: Covid-19, winter storms
 - New science: groundwater rise, extreme precipitation
 - New capabilities: Heat and Air Quality Resilience Plan, Environmental Justice Framework
 - ***Updating strategies based on progress, new priorities***
- ▷ Compliance with updated FEMA checklist
- ▷ Address FEMA's feedback from 2020
 - Describe how community feedback influenced the Plan
 - ***Prioritization of strategies***



Draft Goals

Goals are broad, long-term policy and vision statements that explain what is to be achieved by implementing the mitigation strategy



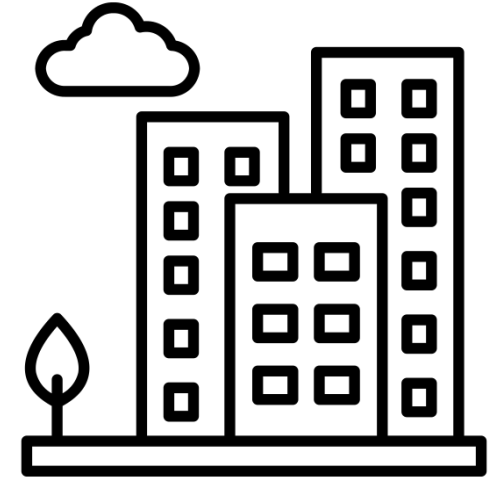
Communities

San Francisco's communities have the resources they need to plan, prepare, and bounce back quickly from hazards and climate change impacts.



Infrastructure




San Francisco's infrastructure is strengthened, adaptable, and sustainable in order to support businesses and households on a daily basis and function during and after a hazard.



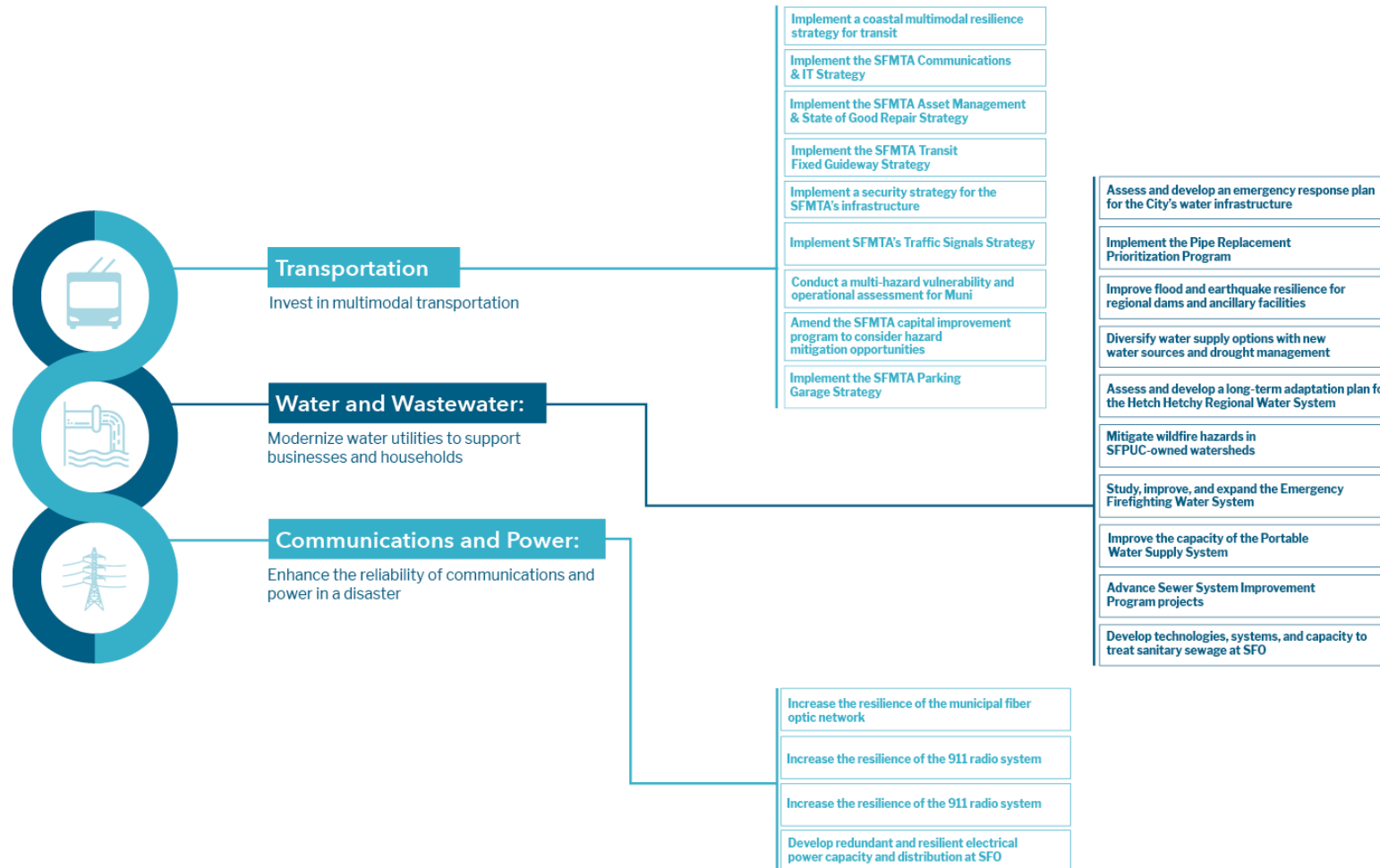
Buildings

San Francisco's buildings are built or retrofit to withstand hazards and support the community in times of stress.

Draft Key Issues

Communities 	Infrastructure 	Buildings 
Communities at Increased Risk	Transportation	Existing Buildings
Engagement and Capacity Building	Water and Wastewater	New Housing and Development
Business and Workforce	Communications and Power	
Research and Planning	Waterfront	
	Open Space and Biodiversity	

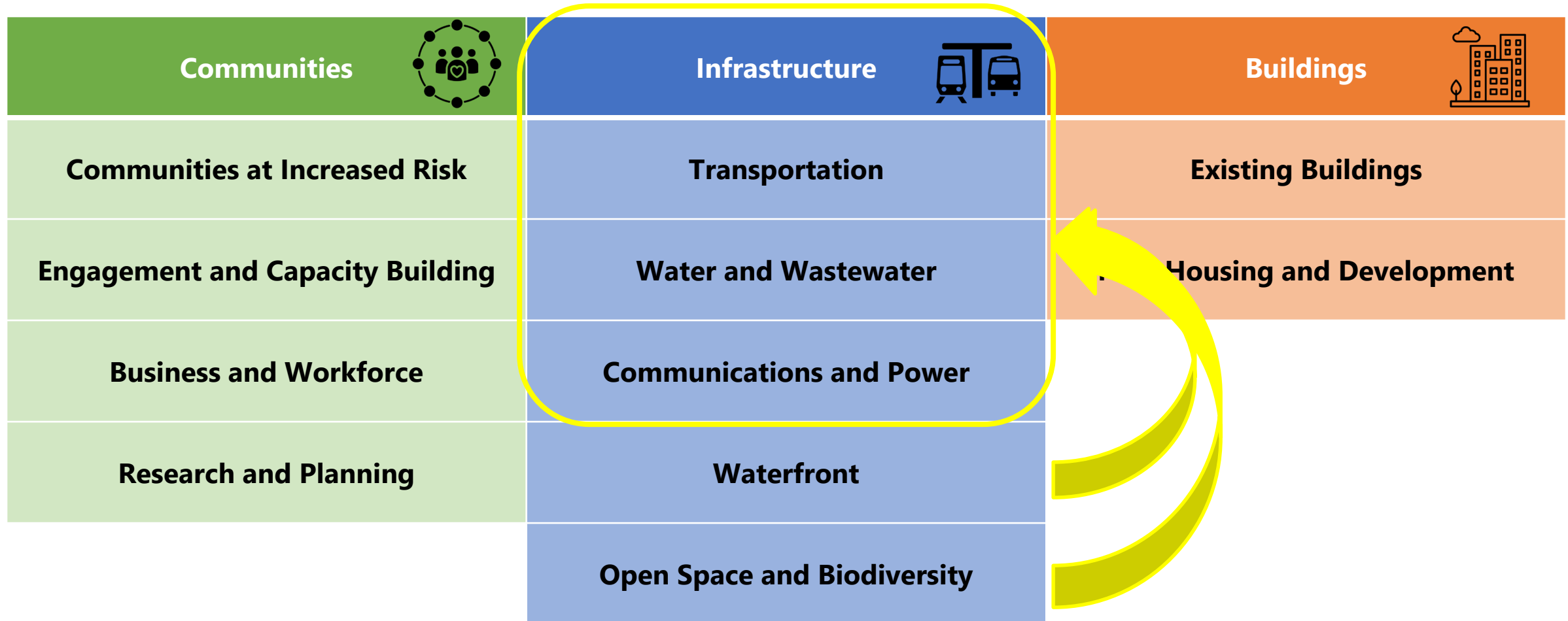
Infrastructure Resilience Actions



Resilience actions are specific projects and activities that help achieve the goals. They are measures, projects, plans or activities proposed to reduce the current and future vulnerabilities described in the risk assessment.

**2020 actions to be updated*

Key Issues and Actions for Today



What we are looking for from you

Input on goals and actions in the infrastructure domain:

1. What projects should be prioritized for strategic funding 2025-2030?
2. What priority actions are we missing?
3. What are the sticking points and opportunities for collaboration on these projects?

Break-out discussion

- Transportation
- Water and Wastewater
- Communications and Power

Stay tuned!

2024 Lifelines Council
meetings are being scheduled
and will be announced in early
January

Adjourn