# Agenda

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

Laurel Mathews, Seismic Resilience Analyst, Office of Resilience and Capital Planning
Highways and roads are a key lifeline after a major earthquake.
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

- 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
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
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.
# Changes in the Global Climate Increase the Severity of Local Hazards

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Increasing Temperatures</th>
<th>Rising Sea Levels</th>
<th>Changing Precipitation Patterns</th>
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<tbody>
<tr>
<td>Extreme Heat</td>
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<td>Drought</td>
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<td>Wildfire &amp; Wildland-Urban-Interface Fire</td>
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<td>Poor Air Quality</td>
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<td>Coastal Flooding</td>
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<td>Stormwater Flooding</td>
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<td>Soil Liquefaction in an Earthquake</td>
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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)

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

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

Approved by FEMA on July 21, 2020
Adopted by Mayor and BOS on June 16, 2020
Needs to be updated, adopted, and approved prior to expiration on July 21, 2025
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

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<td>New Housing and Development</td>
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<td>Communications and Power</td>
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<td>Research and Planning</td>
<td>Waterfront</td>
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<td>Open Space and Biodiversity</td>
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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

- Communities
  - Communities at Increased Risk
  - Engagement and Capacity Building
  - Business and Workforce
  - Research and Planning

- Infrastructure
  - Transportation
  - Water and Wastewater
  - Communications and Power
  - Waterfront
  - Open Space and Biodiversity

- Buildings
  - Existing Buildings
  - Housing and Development
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