

WATERFRONT RESILIENCE PROGRAM UPDATE

Port Commission Agenda Item #10A
November 9, 2021



Waterfront Resilience Program



WATERFRONT RESILIENCE PROGRAM

Today's Update



- Flood and earthquake risks
- Overview of Embarcadero Early Projects
- Ongoing City department collaboration
- Ongoing community engagement

Review Waterfront Risks

Key Findings Overview



RISING TO THE CHALLENGE

Climate change: IPCC report is 'code red for humanity'

By Matt McGrath
Environment correspondent

2 days ago | Comments



UK climate change protests



The New-York Times.

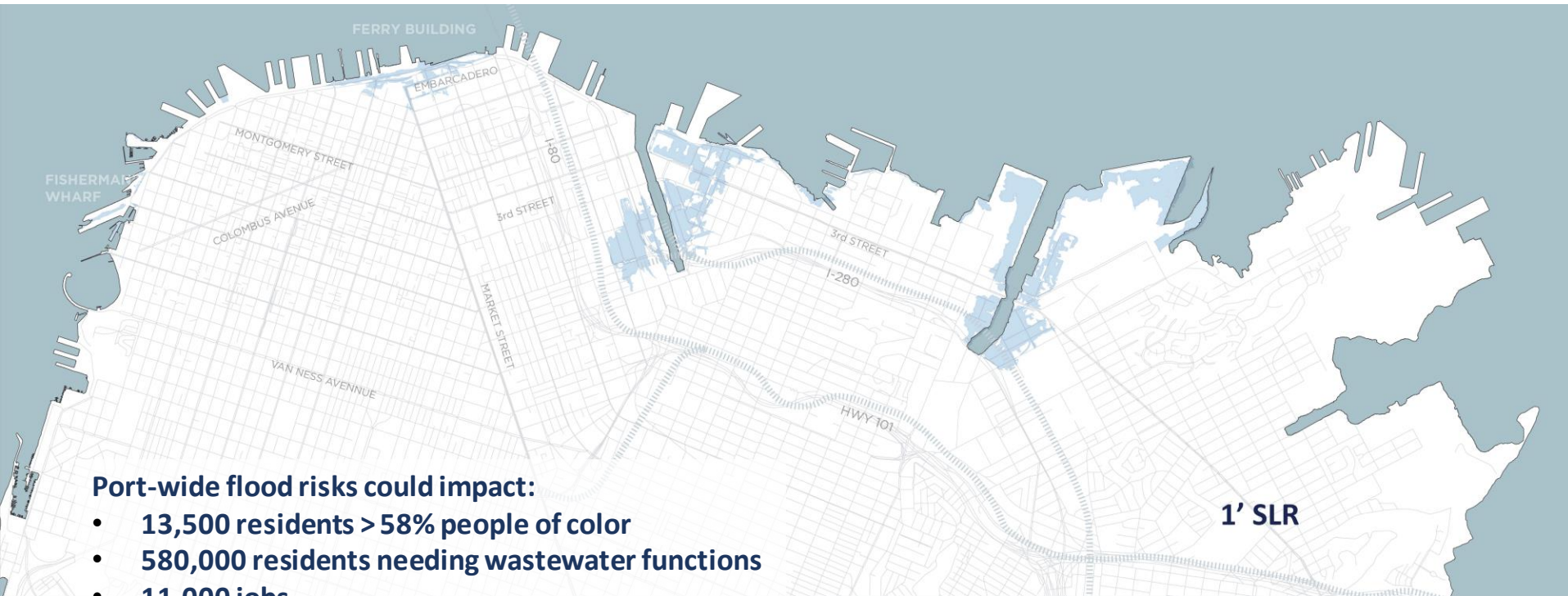


An Earthquake in Japan Speaks to a Sea Wall in San Francisco

The challenges of climate change are everywhere but maybe no more so than in coastal cities that face dual threats of seismic activity and rising seas.

FLOOD HAZARDS FACING THE WATERFRONT

Inundation at 1-7' SLR with 100-year Flood

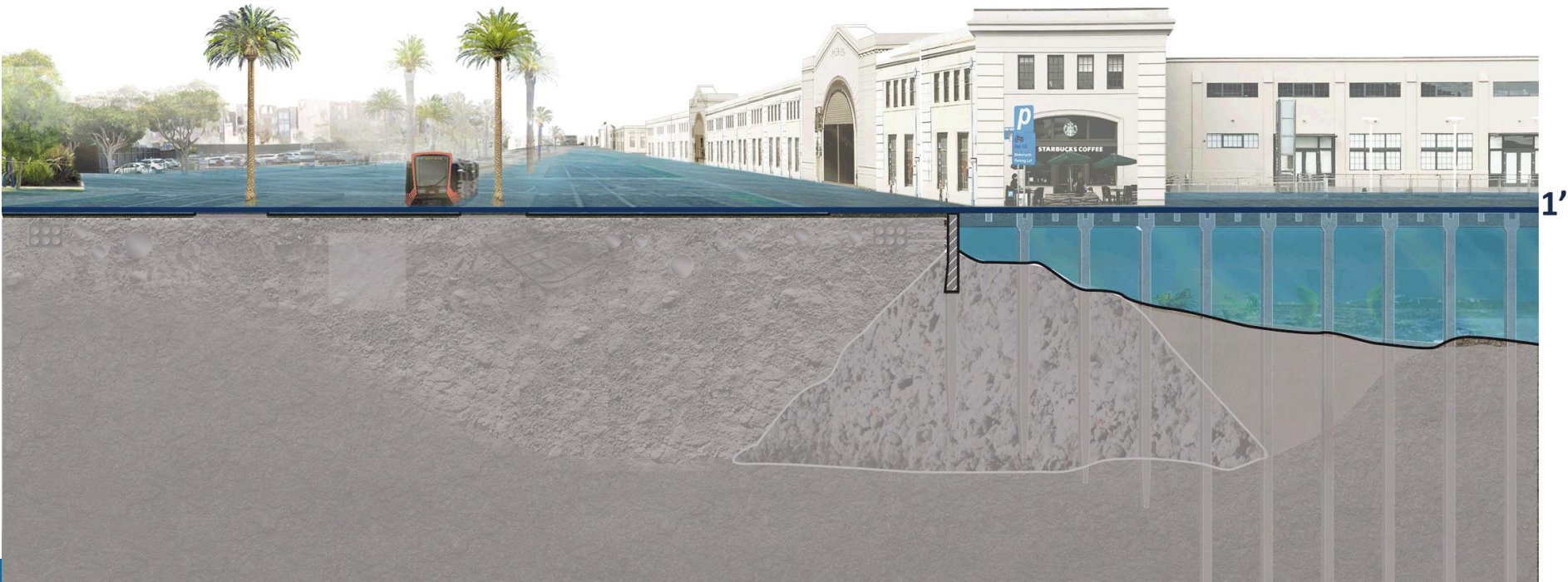


Port-wide flood risks could impact:

- 13,500 residents > 58% people of color
- 580,000 residents needing wastewater functions
- 11,000 jobs
- And more

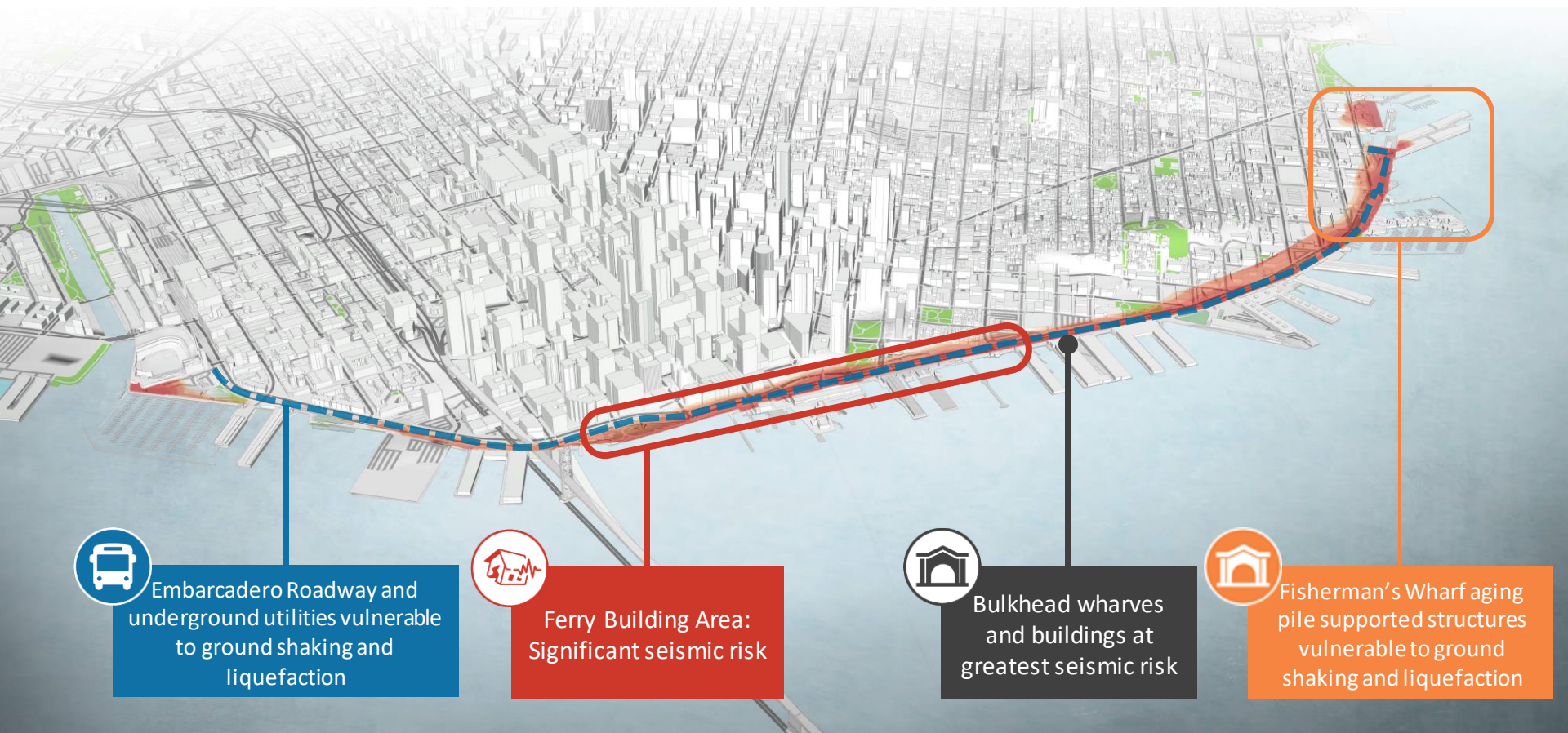
FLOOD HAZARDS FACING THE WATERFRONT

Inundation at 1-7' SLR with 100-year Flood



EARTHQUAKE RISKS FACING THE EMBARCADERO

Embarcadero Multi-Hazard Risk Analysis (MHRA) Findings



Embarcadero Roadway and underground utilities vulnerable to ground shaking and liquefaction



Ferry Building Area: Significant seismic risk



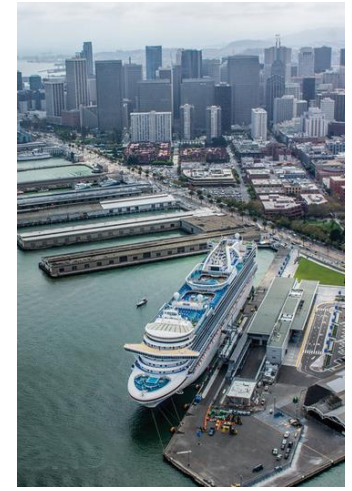
Bulkhead wharves and buildings at greatest seismic risk



Fisherman's Wharf aging pile supported structures vulnerable to ground shaking and liquefaction

DISASTER RESPONSE EXERCISE

Summer 2021



Confirmed the importance of Port's berths, piers and wharves, connections between the Northern and Southern Waterfront, and the criticality of the Embarcadero Roadway

CHALLENGES AND CONSTRAINTS

Waterfront-wide Resilience Improvements

Port's "Resilience Roadmap"
requires action now



Embarcadero Early Projects

Overview



DEFINING EMBARCADERO EARLY PROJECTS

Goals for Embarcadero Early Projects



Identify Near-Term Projects for Next Ten Years



Prioritize Life Safety + Emergency Response



Address Urgent Risk Findings

DEFINING EMBARCADERO EARLY PROJECTS

Examples of Project Types



Bulkhead
Wharf Retrofits



Seawall and
Shoreline
Strengthening



Disaster
Response
Improvements

DEFINING EMBARCADERO EARLY PROJECTS

WRP Context for Embarcadero Early Projects



Evaluation
Criteria



Funding



Transparency +
Accountability



Take the Long
View

FURTHER EARLY PROJECTS DEVELOPMENT

Southern and Central Waterfront



- Similar process for Islais Creek / Bayview and Mission Bay / Mission Creek
- Part of developing adaptation strategies for the whole waterfront

MEETING THE CHALLENGE

A Port-wide Approach for Addressing Near and Long-term Risk



OPPORTUNITIES

Access to Rare Resilience Funding Requires Action Now



- Proposition A funding will address some urgent earthquake risk along the Embarcadero
- USACE partnership could mean billions in federal funding for earthquake and flood risk protection for the entire waterfront
- Federal infrastructure bill and Sacramento resilience funding
- Partnering with other agencies (e.g., SFPUC, SFMTA, and disaster response grants)

Ongoing City Department Collaboration

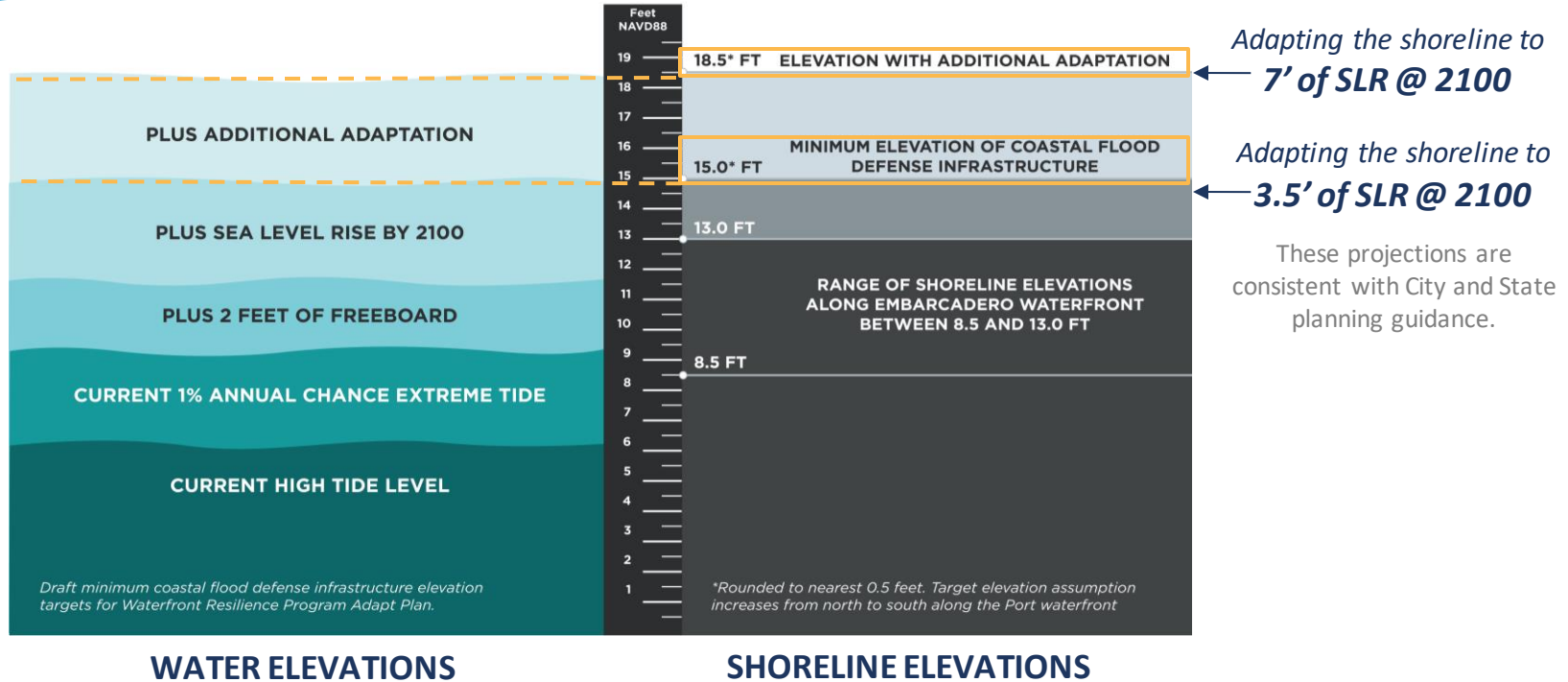


FRAMING THE CONVERSATION

Sample City Engagement Questions



What is the City's performance standard for reducing seismic and flood risk?

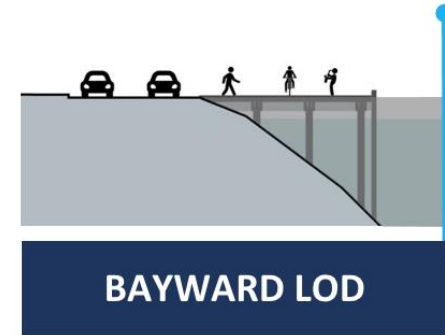
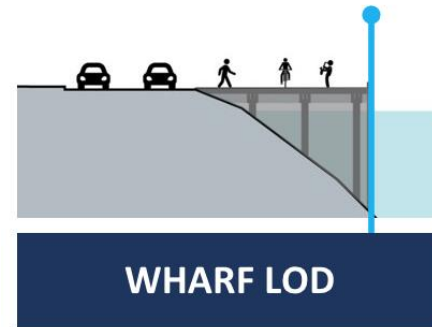
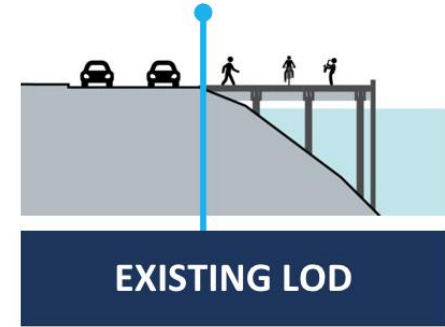
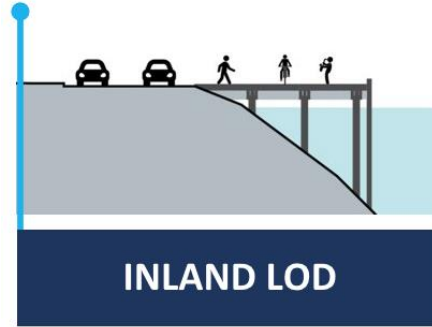


FRAMING THE CONVERSATION

City Engagement Questions



Where should the City plan to build coastal flood defenses – often called the "**line of defense**"?





Ongoing Community Engagement

Meeting People Where They Are

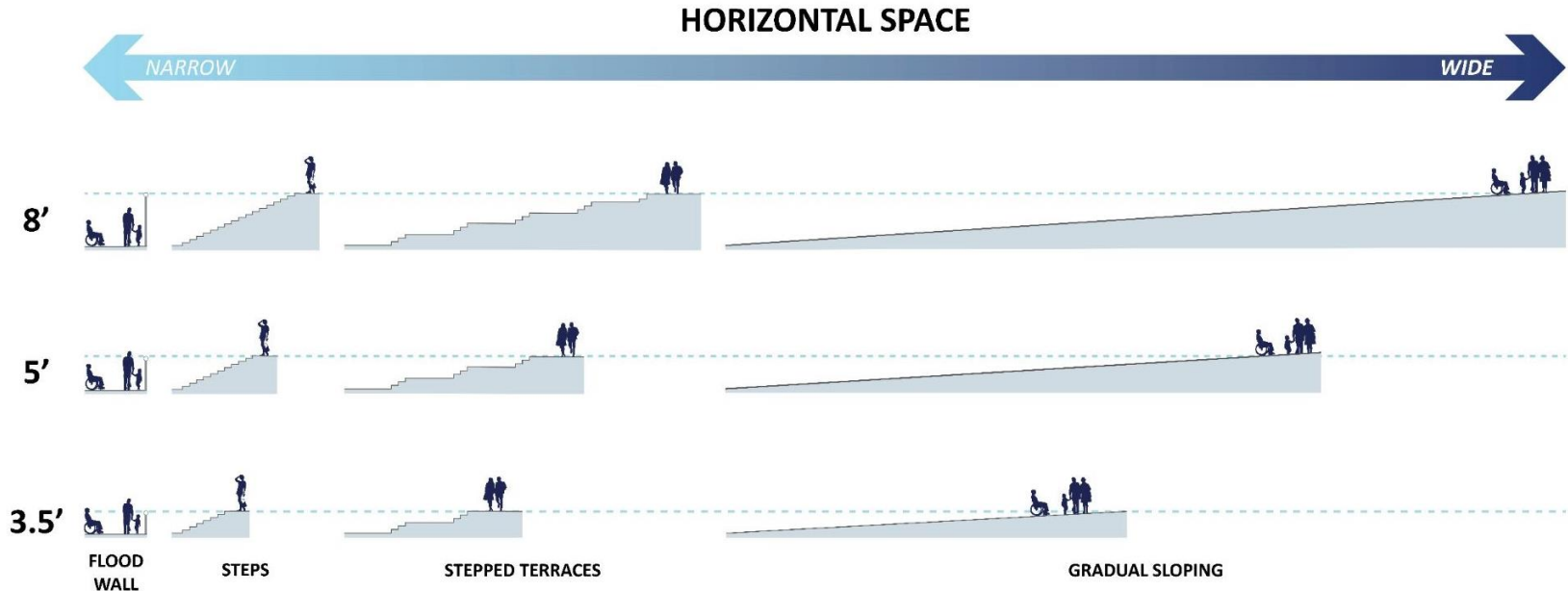


FRAMING THE CONVERSATION

City Engagement Questions

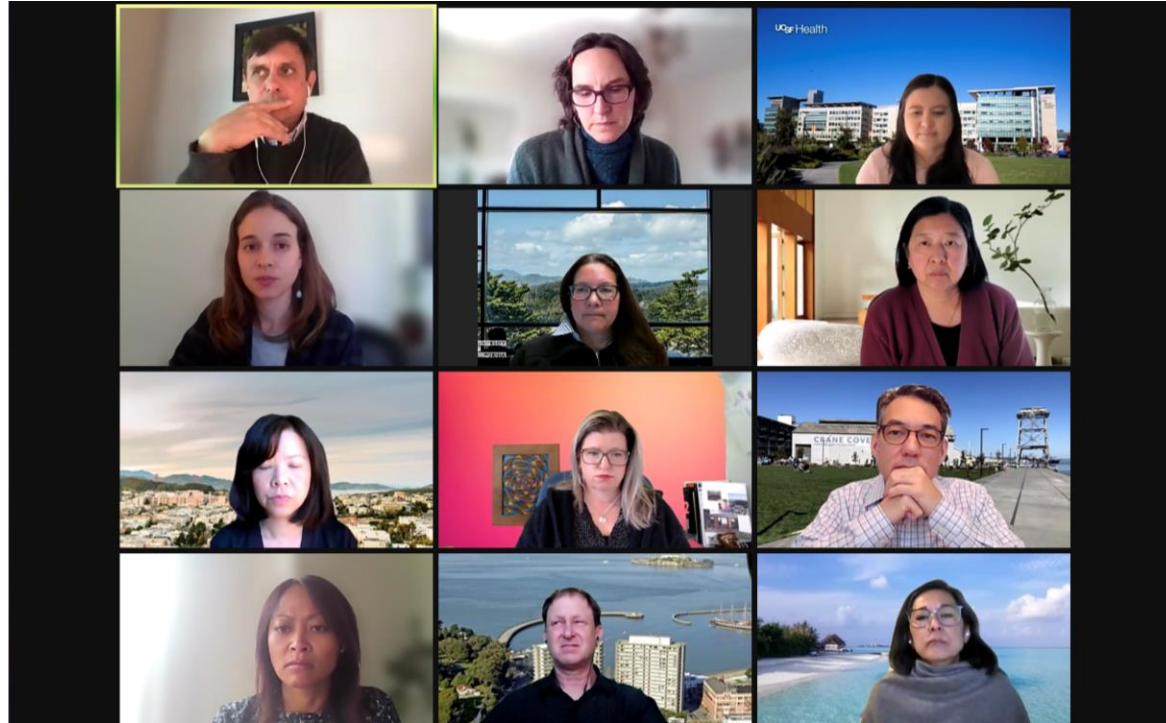


How much space should be identified as the "**adaptation zone**" to build coastal flood defenses?



A COMMUNITY-DRIVEN PROGRAM

Ongoing Community Engagement Effort



- Continued digital engagement in support of public health and safety
- **30** community-based organizations since May
- Reached more than **700** community members, including youth and in-language communities

ONGOING COMMUNITY ENGAGEMENT

What We Heard

FLOOD MEASURES
Draft flood improvements under consideration by the Port

Category	Measure
Physical	Levees
	Seawalls
	Raised Marine Structures
	Tide Gates
	Floodwalls
	Breakwaters
	Building Adaptations
	Deployables
Ecological	Ecological Marine Structures
	Ecological Features
	Aquatic Habitat
	Ecological Shorelines

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- Equity including access to jobs and contracts
- Ensuring citywide & regional coordination
- How can we help?
- Health impacts to ecosystems and communities

A photograph of two children riding bicycles on a dirt path. The child in the foreground is wearing a red jersey and a yellow helmet. The child in the background is wearing a dark jersey with the number 30 and a dark helmet. They are riding away from the camera towards the ocean under a clear blue sky. A large, dark blue semi-transparent box is overlaid on the left side of the image, containing text.

Thank You!

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