

An aerial photograph of San Francisco, California, taken during the 'golden hour' of sunset. The sun is low on the horizon, casting a warm, golden glow over the city. The San Francisco skyline is visible in the background, with prominent buildings like the Transamerica Pyramid and the Salesforce Tower. In the foreground, the San Francisco waterfront is shown, featuring several piers, docks, and buildings along the water's edge. The water is calm, reflecting the golden light of the sun.

2018 Embarcadero Seawall Earthquake Safety Bond

Annual Status Report

Presented to the Citizens' General Obligation Bond
Oversight Committee
Annual Report for 2021



Waterfront Resilience Program

AGENDA

Presentation Overview



- Update on 2018 Proposition A Seawall Bond
- Waterfront Resilience Program Overview
- Embarcadero Seawall Program
- Embarcadero Early Projects
- USACE Flood Study
- 2018 Proposition A Annual Report

2018 EMBARCADERO SEAWALL EARTHQUAKE SAFETY BOND

First Bond Sale



- First Bond sale was approved by the Board of Supervisors and Mayor's Office in July 2019
- Bond sale was delayed due to legal challenge (Denny v. Arntz et al. Case: A158029, 1st District, Division 2). Complainant Denny asserted several causes of action (ballot simplification statement was not impartial, ballot question was too long, etc.) and sought to nullify the approval of Proposition A (November 2018). City Attorney Dennis Herrera successfully defended the City's actions at trial and the California Court of Appeals upheld the lower court decision. The California Supreme Court denied a petition for review.
- **First Bond sale finalized on June 2, 2020 for \$49,675,000.**
- Port has been using City, Port, and state grant funds to advance the Embarcadero Seawall Program since voters approved Proposition A in 2018. Eligible expenditures will be repaid by proceeds of bond sales.

WATERFRONT RESILIENCE PROGRAM EFFORTS

Program and City Resilience Projects and Efforts



Embarcadero Seawall Program

Update and Key Findings from the Multi-Hazard Risk Assessment (MHRA)

EMBARCADERO SEAWALL PROGRAM

Program Overview



- **Project Area:** Fisherman's Wharf to Mission Creek
- **Timing:** 2017 to 2021 project planning followed by implementation / construction
- **Focus:** Seismic and flood risk associated with the Embarcadero Seawall
- **Funding:** \$425 million General Obligation Bond passed in November 2018
- **Embarcadero Historic District:** The Embarcadero Seawall, bulkhead wharves and piers are contributing resources

EARTHQUAKE RISKS FACING THE EMBARCADERO

Embarcadero Multi-Hazard Risk Analysis (MHRA) Findings

Up to \$30 billion cost of damages and disruption from **combined seismic and flood risk by 2100**



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

FLOOD HAZARDS FACING THE EMBARCADERO

Embarcadero Multi-Hazard Risk Analysis (MHRA) Findings



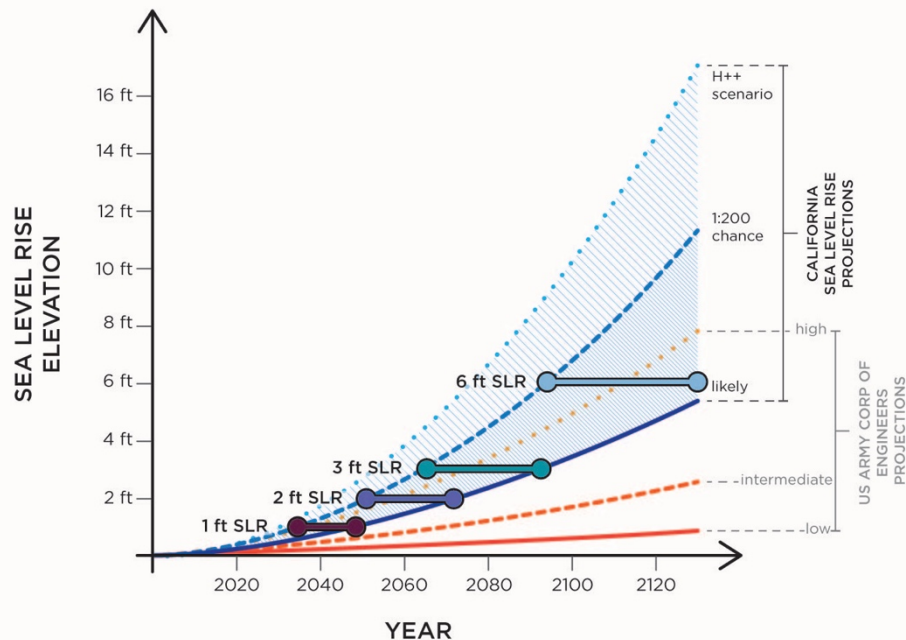
Ferry Building Area:
Significant current flood
risk (500 year storm
threatens MUNI Portal)



Entire Embarcadero:
Significant flood risk
between 1 and 2 feet
of sea level rise

DEFINING THE FLOOD HAZARDS

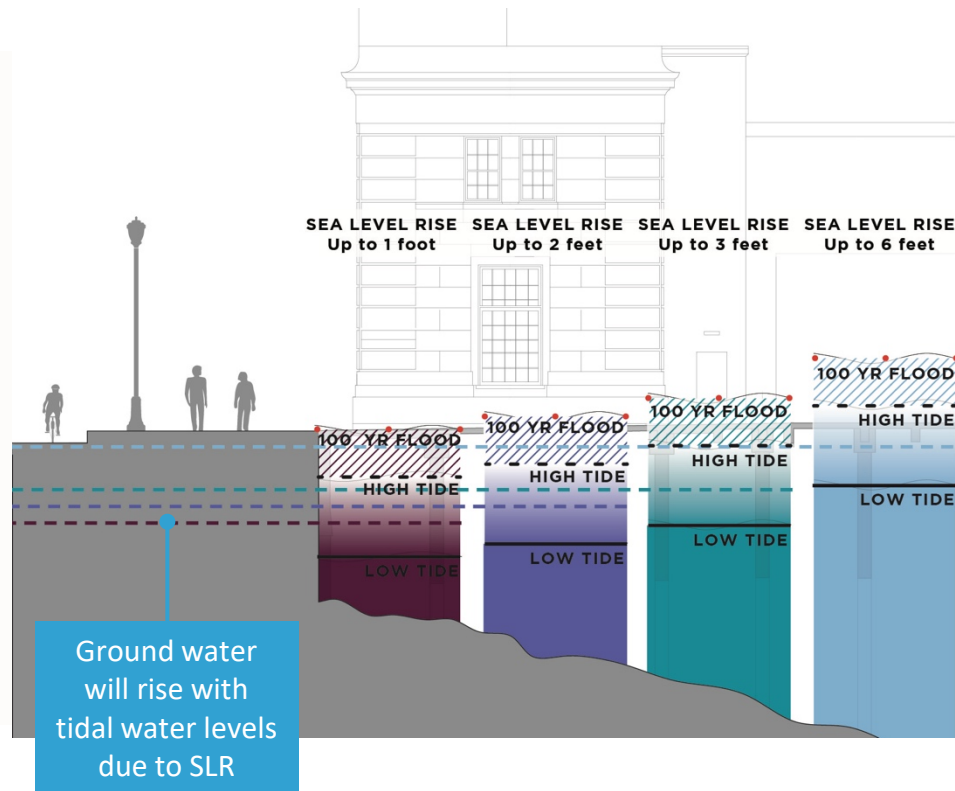
- Flood Mapping includes waves & water depths
- Tidal frequency from daily to 500 yr tide (extreme)
- Current CCSF & USACE Sea Level Rise Scenarios



CA – OPC Updated 2018:

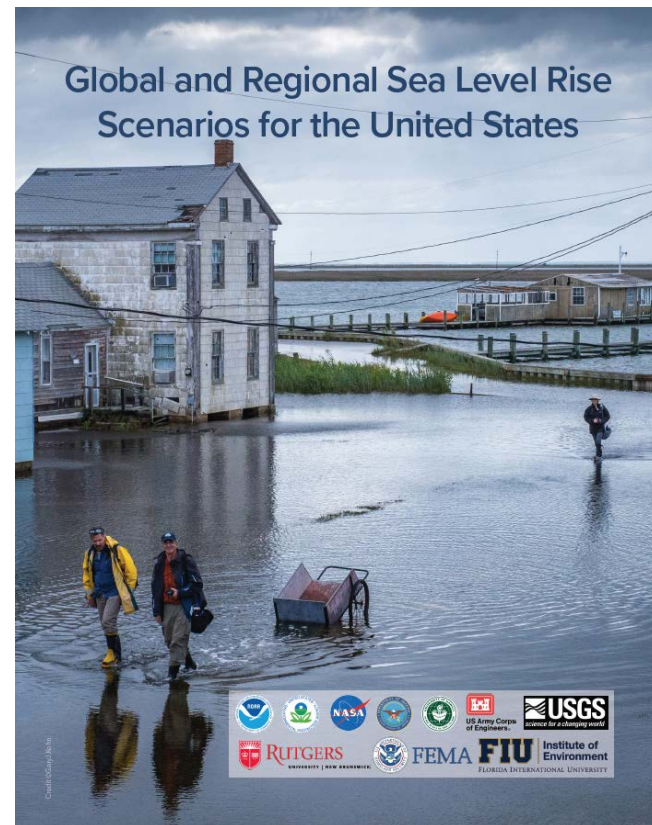
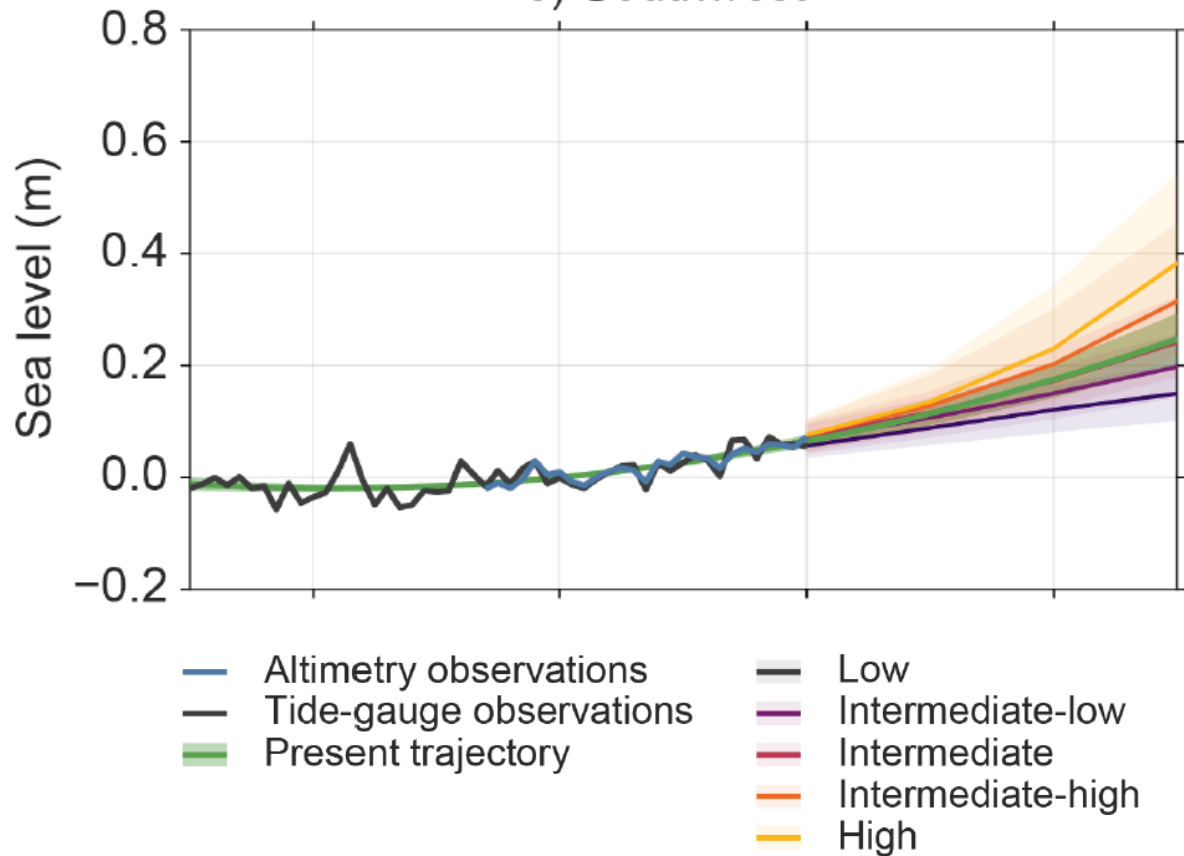


USACE – Updated 2013:



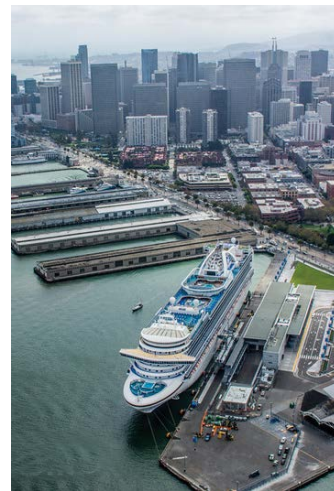
2022 UPDATED FEDERAL SEA LEVEL RISE SCENARIOS

e) Southwest



DISASTER RESPONSE EXERCISE

Summer 2021



Confirmed the importance of Port's berths, piers and wharves for moving people and supplies, the Port's role in waterfront recovery, and the importance of the Embarcadero Roadway

Embarcadero Early Projects

DEFINING EMBARCADERO EARLY PROJECTS

Goals for Embarcadero Early Projects



Identify
Critical Projects for
Early Implementation



Prioritize Life Safety +
Emergency Response



Near-Term
Flood Defenses

EMBARCADERO EARLY PROJECTS LIST



- **11** advancing straight to pre-design (needs assessment) using Proposition A funding
- **5** advancing through a geographic strategy for the stretch between Piers 19 and 41
- **7** advancing through coordination with long-term Port tenants, capital programs, and City agency coordination

- Proposition A Predesign
- Advance through Geographic Strategy
- Coordination with Long-term Tenants, Capital Programs and City Agencies

PROJECT LIST:

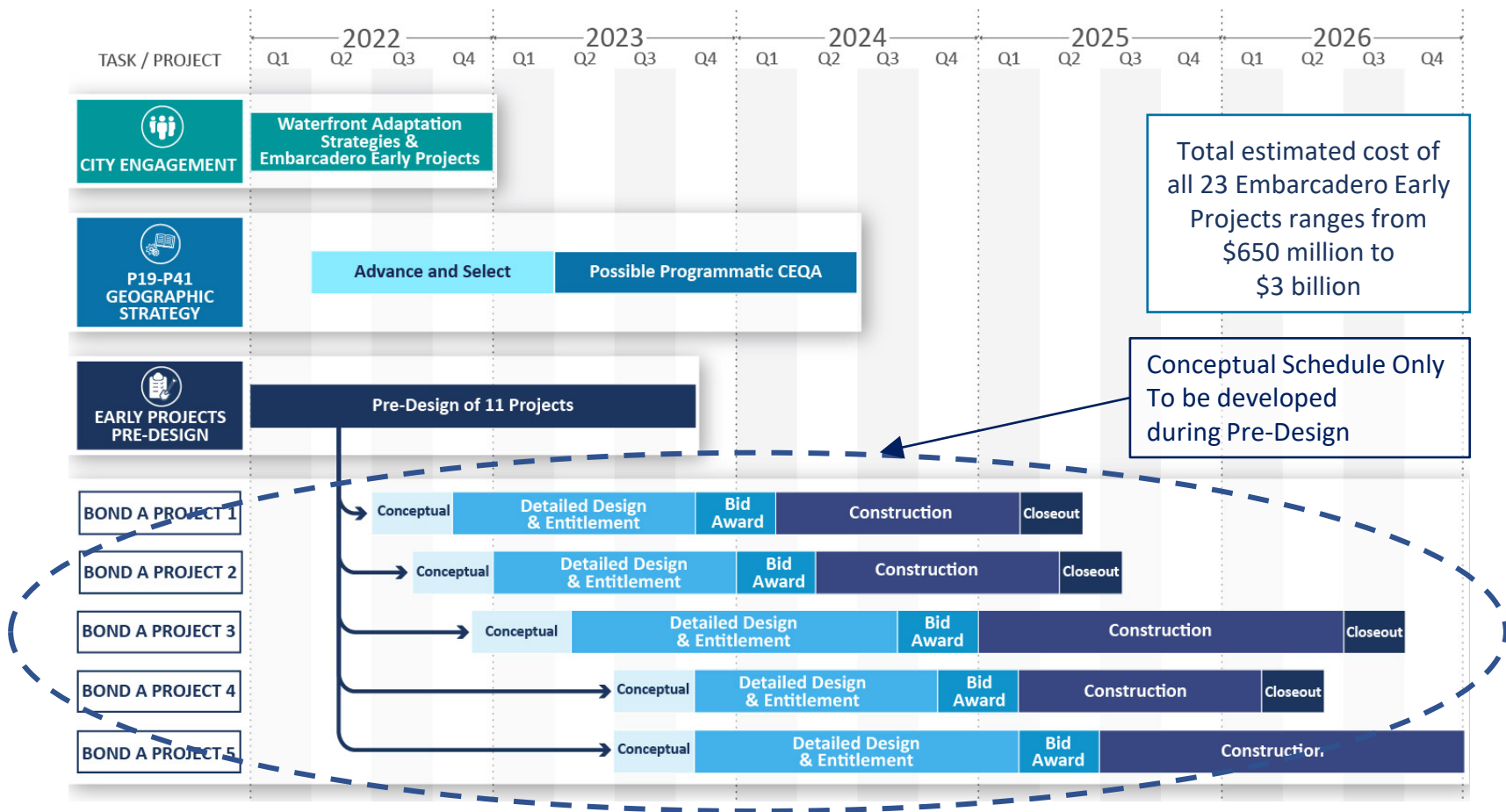
- 1 Joint Operations Security Center and Fuel Dock Reliability Project
- 2 Wharf J9 Replacement and Resilient Shoreline Project
- 3 Taylor Street Seawall Earthquake Stabilization Project
- 4 Pier 45 Apron Earthquake Safety Retrofit and Flood Risk Reduction
- 5 Pier 43-1/2 Seawall and Wharf Earthquake Safety Project
- 6 Pier 41 Seawall Earthquake Stabilization and Wharf Retrofit
- 7 Pier 39 Seawall Earthquake Stabilization & Wharf Retrofit/Replacement
- 8 Pier 33 to 35 Seawall and Wharf Earthquake Reliability Project
- 9 Pier 31-1/2 Bulkhead Wall and Wharf Earthquake Safety Retrofit
- 10 Pier 27 Seawall and Wharf Earthquake Reliability Project
- 11 Pier 15 Bulkhead Wall and Wharf Earthquake Safety Retrofit
- 12 Pier 9 Bulkhead Wall and Wharf Earthquake Safety Retrofit
- 13 Pier 9 Historic Shed Building Earthquake Safety Retrofit Project
- 14 Pier 1 Bulkhead Wall and Wharf Earthquake Reliability Project
- 15 Ferry Building Seawall & Substructure Earthquake Reliability
- 16 Agriculture Building Bulkhead Wall and Wharf Earthquake Safety
- 17 Pier 5 to Pier 22-1/2 Near-Term Coastal Flood Risk Reduction Project
- 18 Pier 24 to Pier 28-1/2 Bulkhead Wall and Wharf Earthquake Safety
- 19 EFWS, Intake Tunnel #1 Earthquake Reliability Project
- 20 Giants Seals Plaza Seawall Earthquake Stabilization Project
- 21 Pier Fire Suppression & Waterside Evacuation Improvements
- 22 EFWS, Fireboat Manifold Earthquake Reliability Projects
- 23 Pier Utility Connection Earthquake Retrofits at Seawall

EARLY PROJECTS NEXT STEPS



- Pre-Design of 11 Projects
(ongoing thru 2023)
- Detailed Design / Environmental
(late 2022 thru 2025)
- Construction (2024 thru 2028)
- Projects advancing at different rates
- Seeking additional funding to deliver
more projects (ongoing)

HIGH LEVEL SCHEDULE AND PROPOSED BUDGET



U.S. Army Corps of Engineers San Francisco Waterfront Flood Resiliency Study



SAN FRANCISCO WATERFRONT COASTAL FLOOD STUDY

USACE/Port of SF Partnership

- USACE Flood Study Waiver (approved November 2021)
 - Increase Study time from 36 months to 86 months
 - Increase Study cost from \$6M to \$16M
- Project Management Plan
- Describe Future Without Project (FWOP)
- Alternatives Development
 - National Economic Development (NED) Plan
 - Locally Preferred Plan (LPP)
 - Tentatively Selected Plan (TSP)
- Integrated Feasibility Report/NEPA (2023-2024)
- CEQA (2024-2025)
- Record of Decision, complete Feasibility Phase and NEPA (2026)

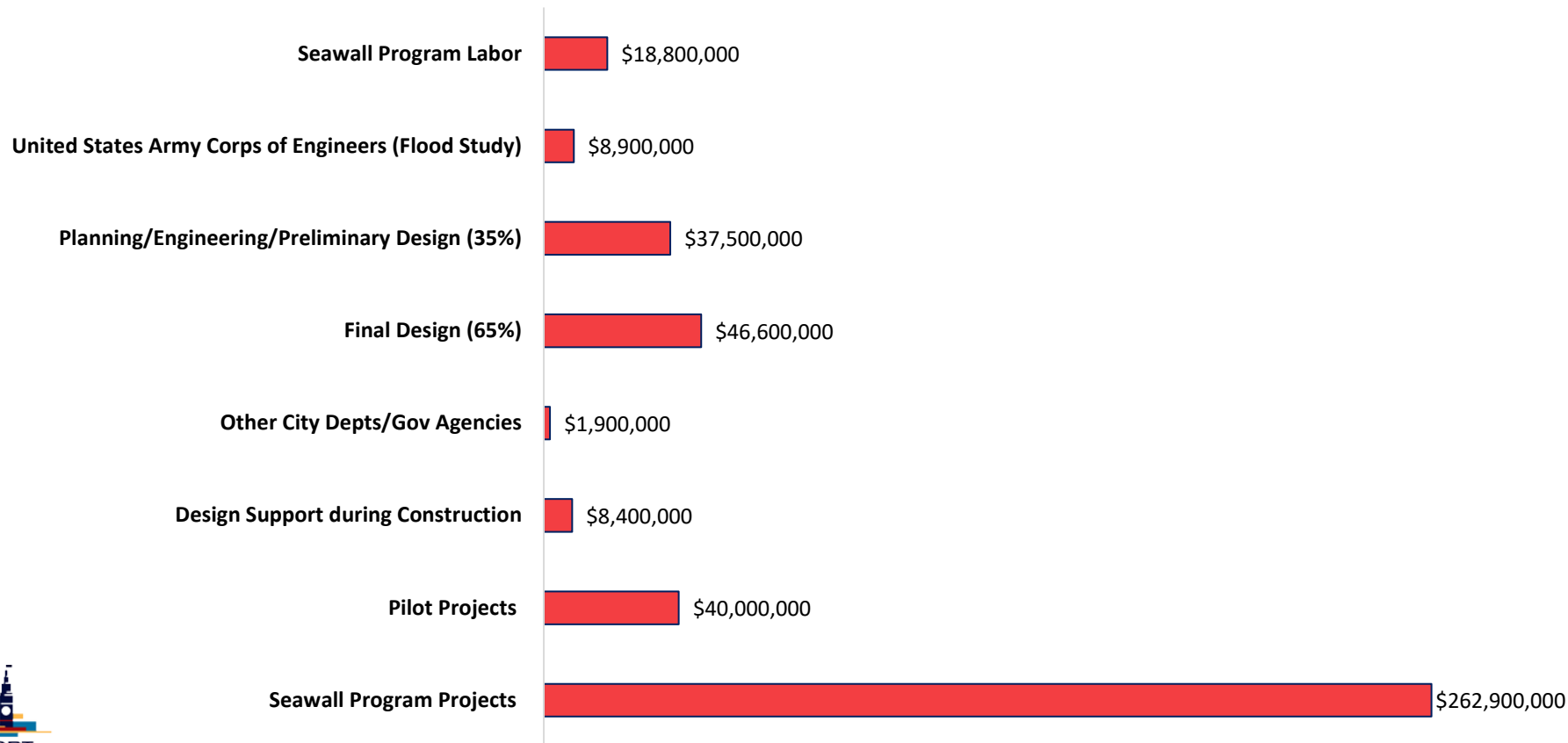




2018 Proposition A Bond Annual Report

2018 EMBARCADERO SEAWALL EARTHQUAKE SAFETY BOND

Overview of Scope and Budget - \$425M



2018 EMBARCADERO SEAWALL EARTHQUAKE SAFETY BOND

I. Highlights and accomplishments

- Seismic Measures Development Report
- Disaster Response Exercise
- Embarcadero Early Projects Selection
- Robust community engagement, including virtual community meetings and tenant outreach

II. Upcoming milestones

- USACE Flood Study 3x3x3 Waiver
- USACE Coastal Flood Risk Assessment Economic Report – Future without Project
- Alternatives development
- Adaptation Design Guidelines
- Embarcadero Early Projects preliminary design
- Adapt Plan

III. Bond sales and appropriations

- City has issued one bond sales for the 2018 Seawall Bond totaling \$49,675,000.
- A second bond sale dollar amount and schedule will be determined in summer 2022.

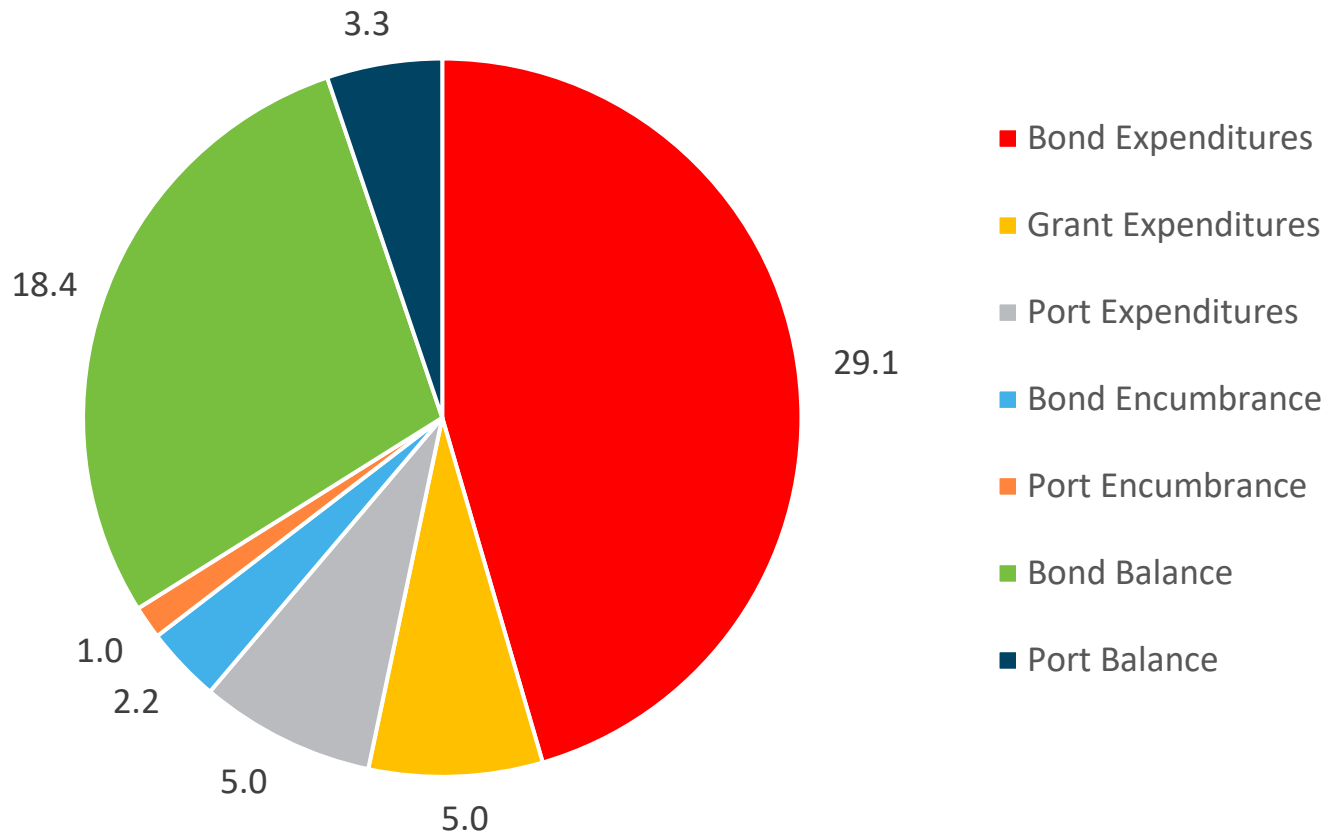
IV. Risks, issues or concerns on budget, scope or schedule

- The dollar value of the second bond sale cannot be determined until Embarcadero Early Projects are developed, which will determine project delivery method and cost.
- Schedule could be impacted if funds are fully expended from the first bond sale before funds from a second bond sale are available.

2018 EMBARCADERO SEAWALL EARTHQUAKE SAFETY BOND

Overall Program Expenditures, Encumbrances, and Balances (\$M) through December 2021

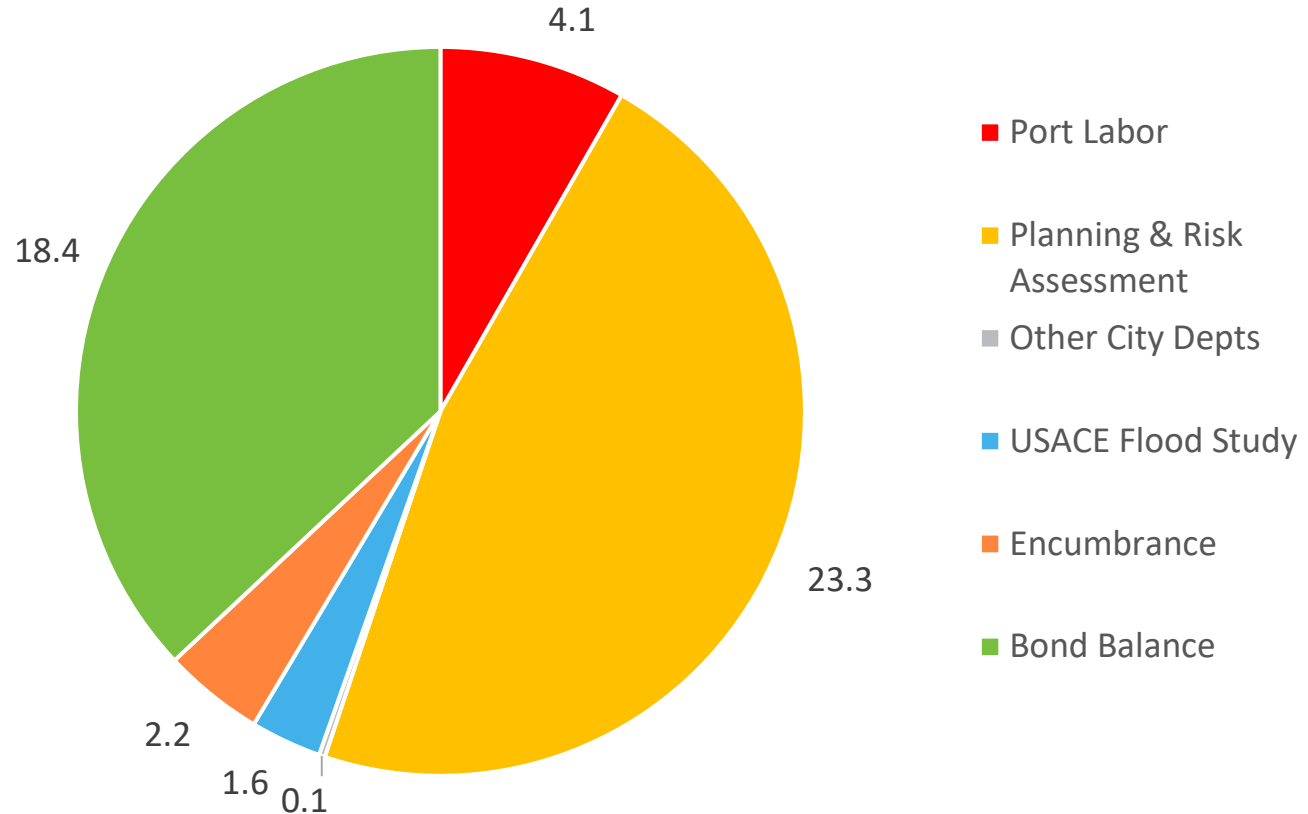
Total: \$64.0M



2018 Embarcadero Seawall Earthquake Safety Bond

Bond Expenditures, Encumbrances, and Balances (\$M) through December 2021

Total: \$49.7M



2018 EMBARCADERO SEAWALL EARTHQUAKE SAFETY BOND

Seawall Program Appropriations, Expenditures, Encumbrances, and Balance

Components	Original Budget*	General Obligation Bond**				Encumbrance + Expenditures / Budget	Encumbrance + Expenditures / Appropriation
		Appropriations	Expenditures	Encumbrances	Balance		
Seawall Program Labor	18,800,00	5,395,482	4,237,096	-	1,158,386	22.5%	78.5%
United States Army Corps of Engineers (Flood Study)	8,900,00	7,010,000	1,798,204	-	5,211,796	20.2%	25.7%
Planning/Engineering/Preliminary Design (35%)	37,500,000	30,707,914	21,508,313	2,871,527	6,328,074	65.0%	79.4%
Risk Assessment	-	3,279,168	3,237,567	41,601	-	-	100.0%
Final Design (65%)	46,600,000	-	-	-	-	0.0%	0.0%
Other City Depts/Gov Agencies	1,900,000	384,357	132,703	-	251,654	7.0%	34.5%
Design Support during Construction	8,400,000	-	-	-	-	0.0%	0.0%
Pilot Projects	40,000,000	-	-	-	-	0.0%	0.0%
Seawall Program Projects	262,900,000	-	-	-	-	0.0%	0.0%
Oversight, Accountability & Cost of Issuance	-	875,000	1,129	-	873,871	-	0.1%
Unappropriated Bond Sale Funds	-	2,023,080	-	-	2,023,080	0.0%	0.0%
TOTAL	425,000,000	49,675,000	30,915,013	2,913,127	15,846,860	8.0%	68.1%

Thank You!

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Program Management

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Port of San Francisco



Waterfront Resilience Program