
Sea Level Rise Adaptation Funding and Investment Framework

Subject:

Presentation highlighting the regional context and development of a collaborative Sea Level Rise Adaptation Funding and Investment Framework.

Background:

Three major regional planning efforts have recently identified a high priority action to pursue a regional sea level rise adaptation funding plan:

- The Plan Bay Area 2050 Implementation Plan, released in October 2021, includes a number of tasks to support the implementation of Strategy EN1: “Adapt to Sea Level Rise”; this includes a task to develop a sea level rise funding plan in the next 1 to 5 years.
- Bay Adapt released a Joint Platform in October 2021 which aligned regional priorities for sea level rise. Bay Adapt includes regional funding tasks under Action 6: “Figure Out How to Fund Adaptation”.
- The Estuary Blueprint update is still currently in development, but it will include an action to develop a sea level rise funding and investment strategy in the next 1 to 5 years.

As a first step in addressing this need, MTC/ABAG shared the concept of a Sea Level Rise Adaptation Funding and Investment Framework (Framework) with the Joint MTC Planning and ABAG Administrative Committee in July 2021. Since then, MTC/ABAG staff further refined the scope of work in partnership with BCDC and have identified funding for MTC/ABAG and BCDC to co-lead this effort over the course of the next year. Notably, consistent with feedback provided by the joint committee at that time, the refined scope emphasizes deep engagement with local jurisdictions and community-based organizations in crafting the Framework.

The Framework is one example of joint-agency work effort that will be organized through the Bay Area Regional Collaborative (BARC) Shared Work Plan, as called for in a September 2021 resolution. The Framework is an opportunity to advance a shared priority of the agencies and further develop relationships and responsibilities for sea level rise adaptation.

Discussion:

MTC/ABAG and the San Francisco Bay Conservation and Development Commission (BCDC) will begin a joint effort to develop the Sea Level Rise Adaptation Funding and Investment Framework. The Framework will collect and analyze the best available data to improve the regional accounting of sea level rise adaptation costs and potential future revenue sources, resulting in a series of recommendations for addressing regional funding.

This joint effort will build from recent funding analyses by MTC/ABAG and BCDC. As a part of Plan Bay Area 2050, MTC/ABAG created a Needs and Revenue Assessment for regional sea level rise adaptation measures which estimated a \$19 billion need to address two feet of sea level rise adaptation, with only \$3 billion in anticipated revenue from local, state, and federal sources. As part of the Plan Bay Area 2050 Implementation Plan, stakeholders identified the \$16 billion gap as a key challenge to address to move the Adapt to Sea Level Rise strategy forward.

In October 2021, BCDC released a Funding and Financing White Paper. The White Paper looks at regional adaptation costs and existing funds to summarize sea level rise damage estimates and the regional funding gap for sea level rise adaptation. Together these two efforts serve as a starting point for the Framework.

In addition, the 2021 Budget Act approved by the California State Legislature also recently identified \$15 billion in funding for natural resources and resiliency, of which \$3.86 billion is available for climate resiliency across the state. With funding likely to be distributed across the state to mitigate a wide variety of hazards, this near-term funding from the state budget could fund critical near-term sea level rise priorities, but would not be able to close the identified regional funding gap. This underscores the need to conduct further research on additional revenue sources for regional sea level rise adaptation to augment state monies in the years ahead.

The Framework aims to:

- **Update and improve regional accounting of anticipated sea level rise adaptation projects by revisiting Plan Bay Area 2050 and BCDC analysis.** Regional staff will engage with local governments and partners to update prior regional analysis with local projects and strategies from recent planning efforts. MTC/ABAG and BCDC

- will also inventory new state and federal funding programs. In addition to informing the Framework directly, the information is intended to be used in future updates of Plan Bay Area, as tools for local government planning, and for regional advocacy.
- **Study how revenues for sea level rise adaptation needs can be raised most equitably by analyzing a range of potential revenue measures at different scales, as well as different levels of sea level rise, to close the sea level rise funding gap.** MTC/ABAG and BCDC staff will work with stakeholders to visualize equity outcomes for different revenue approaches, developing findings to share with Equity Priority Communities, local staff, regional agency committees and boards, and others.
 - **Explore how existing and future funding mechanisms can support adaptation planning and implementation.** Starting with the review of local existing local and regional funding mechanisms for sea level rise projects, the Framework will identify the gaps and opportunities of each mechanism and will develop regional recommendations which may be used for future advocacy on new revenues.

The Framework analysis will occur over the next year, at which point staff will engage with communities and decision makers to share research findings and to collect input on possible paths forward to raise new funds to fill the unmet adaptation needs gap.

Next Steps:

MTC/ABAG and BCDC staff will form a technical working group with partners to inform early research and data analysis. The Framework analysis will begin by establishing sea level rise and data assumptions, as well as working with local partners to update the regional understanding of local adaptation projects.

Updates on the Framework will be brought to the Joint MTC Planning and ABAG Administrative Committee, the BCDC Financing the Future Committee, and the BARC Governing Board throughout 2022. Staff will continue to work with BARC to align the project with the full Shared Work Plan as it develops, as well as other relevant Bay Adapt Joint Platform actions.

Issues:

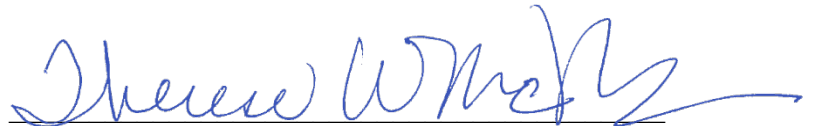
None identified.

Recommendations:

Information.

Attachments:

- Attachment A: Presentation

A handwritten signature in blue ink, reading "Therese W. McMillan", with a long horizontal flourish extending to the right.

Therese W. McMillan

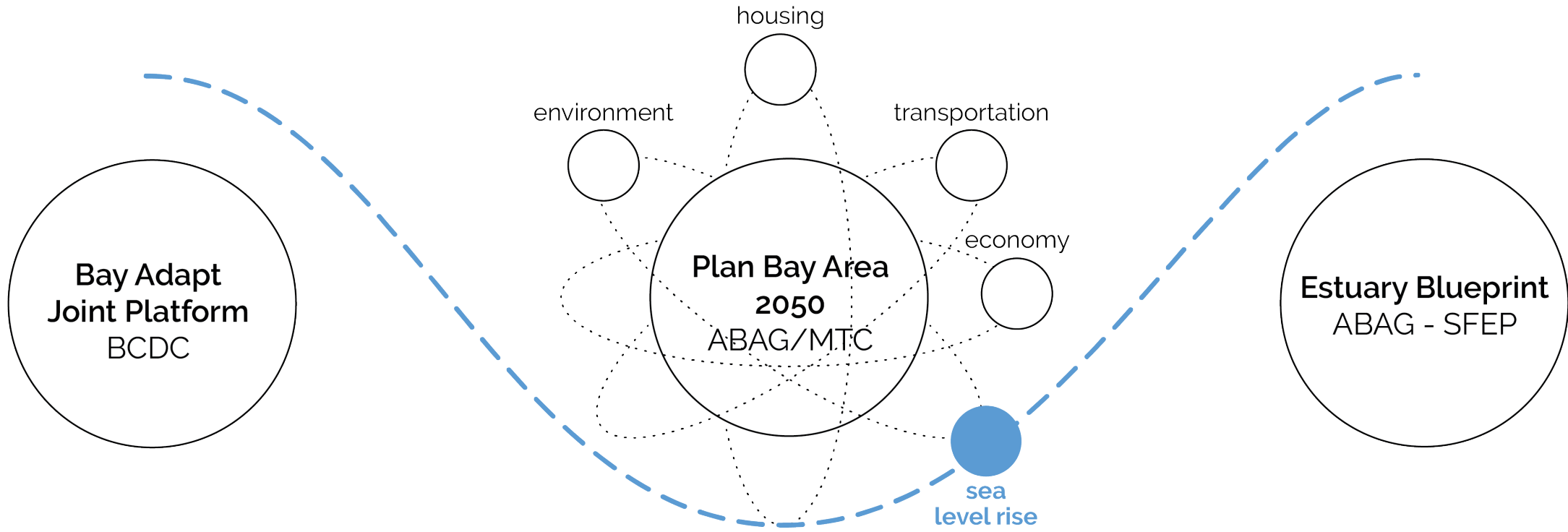
Sea Level Rise Adaptation Funding and Investment Framework



Joint MTC Planning Committee and ABAG Administrative Committee
January 14, 2022

Rachael Hartofelis, MTC/ABAG Resilience Planner, rhartofelis@bayareametro.gov
Nicolas Sander, BCDC Environmental Scientist, nicolas.sander@bcdcc.ca.gov

Regional Sea Level Rise Efforts



BCDC led a two-year regional process to identify actions to advance adaptation efforts. The **Joint Platform**, recently finalized, organizes the 21 necessary actions. The Joint Platform is now identifying steps for implementation.

Plan Bay Area 2050 is a comprehensive regional plan that integrates sea level rise with other planning topics. The Plan was adopted in October and includes specific sea level rise actions for MTC/ABAG to take in the next five years.

SFEP is concluding work on a five-year update to the 2016 **Estuary Blueprint**, a regional plan that identifies actions needed for a healthy and resilient San Francisco Estuary. The Blueprint will align with regional efforts, such as the Bay Adapt Joint Platform and Plan Bay Area 2050.

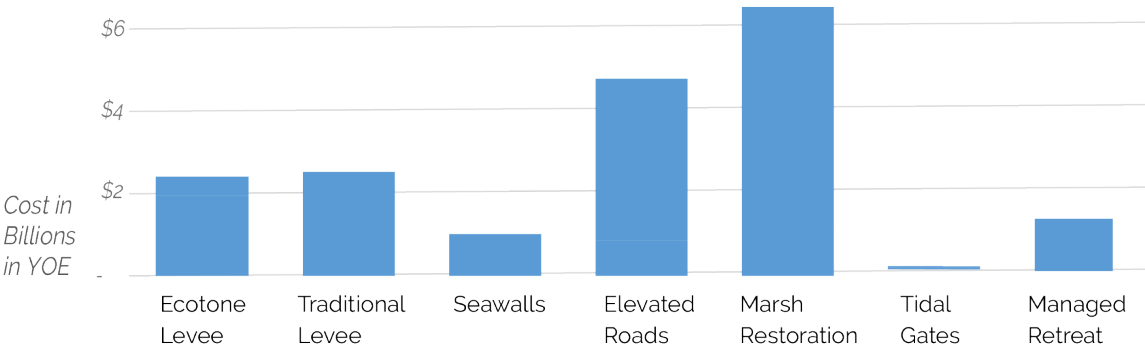
Funding Context

Plan Bay Area 2050

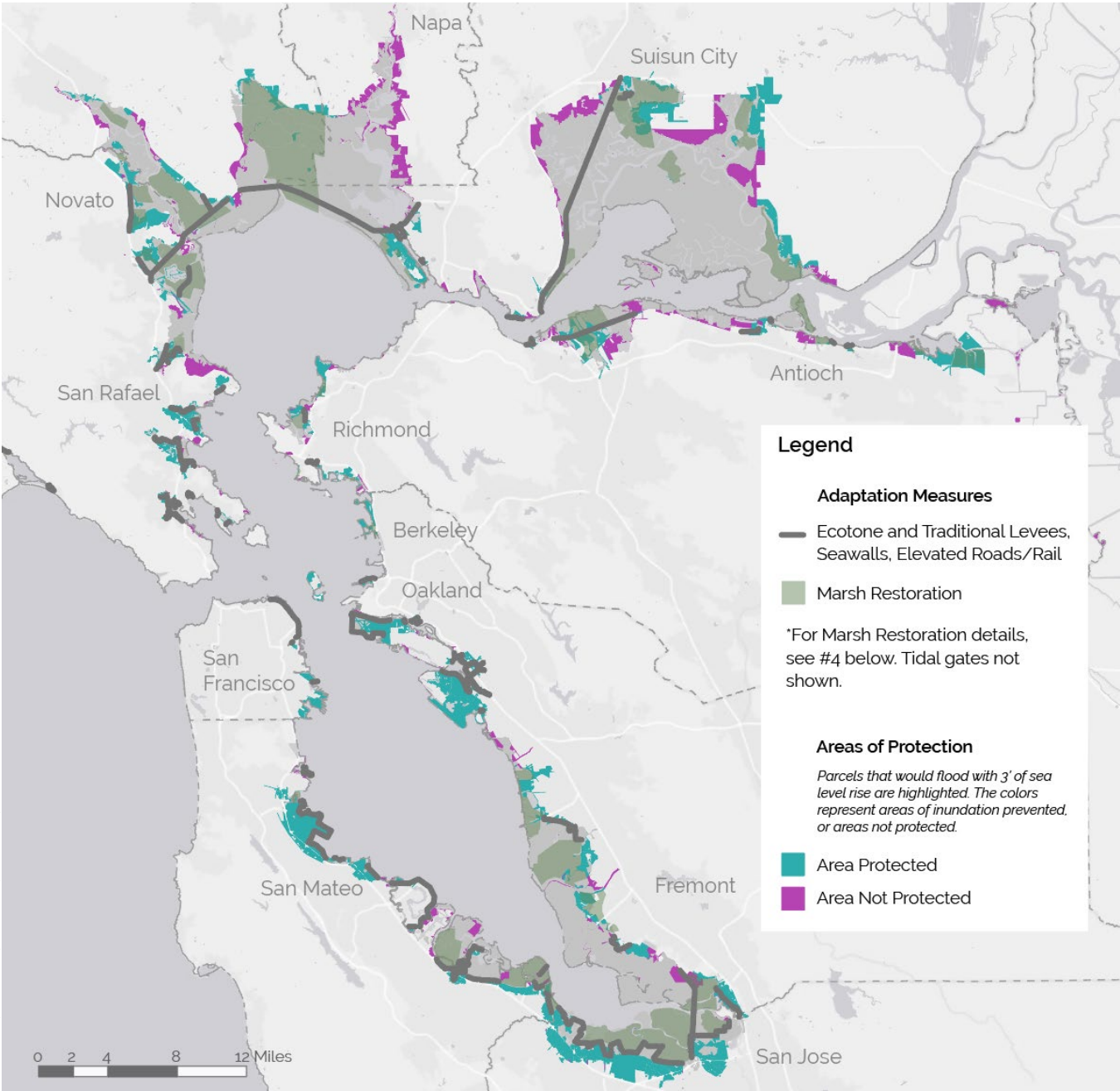
Needs and Revenue

The Adapt to Sea Level Rise strategy estimated a \$19 billion need to protect most communities and key transportation infrastructure from projected inundation by 2050. Stakeholders identified the \$16 billion funding gap as a key implementation barrier recognizing the need for new revenues.

Adaptation Measures by Cost



Simplified Archetype



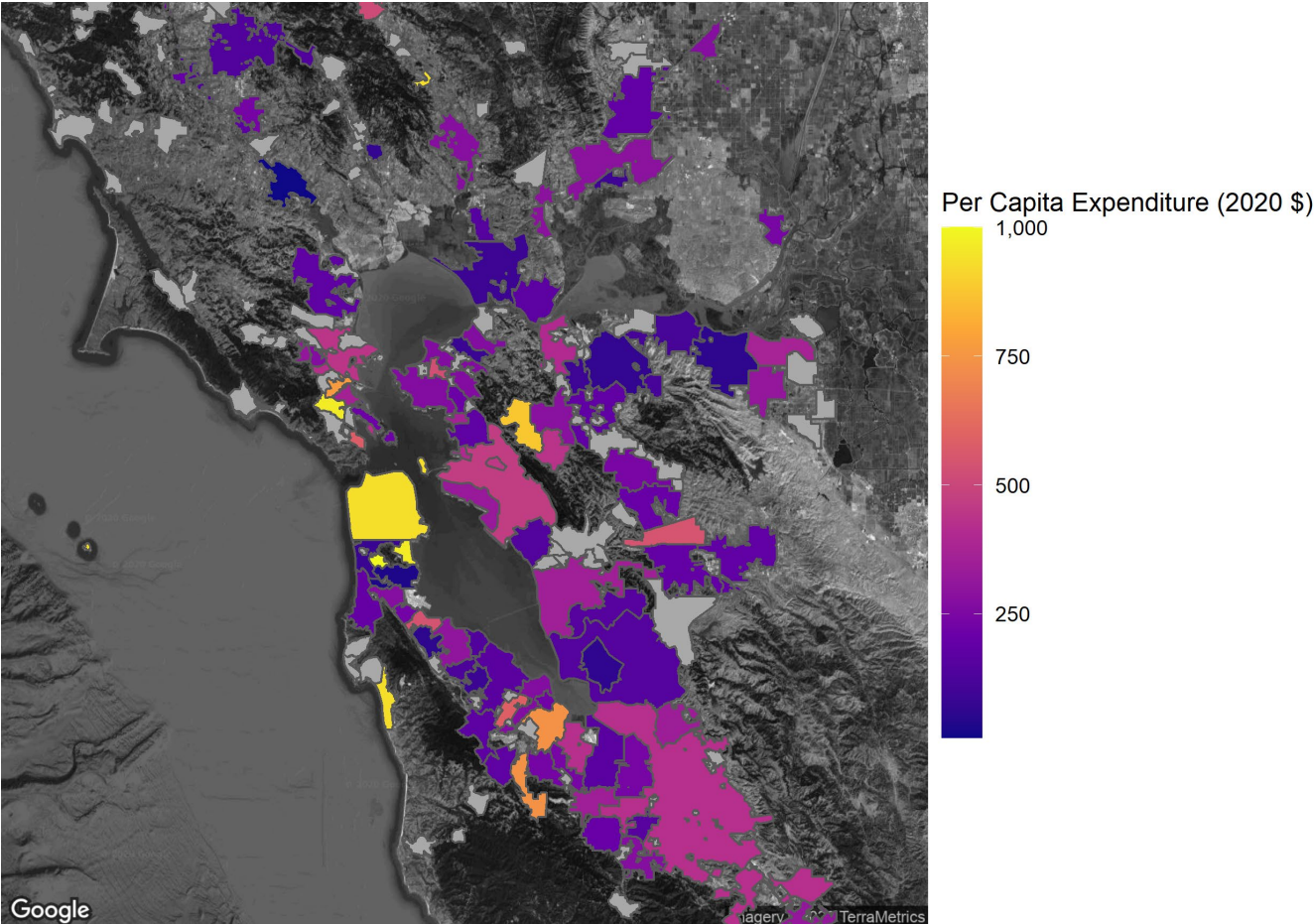
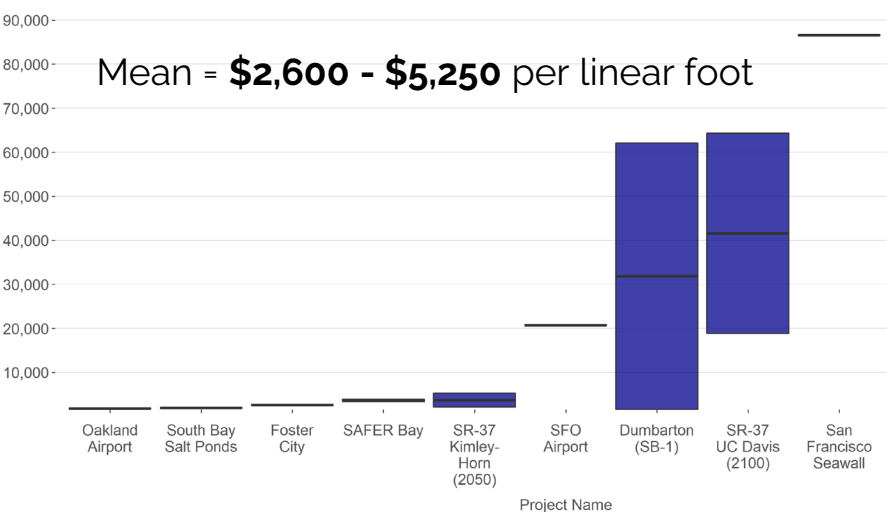
Illustrative Adaptation Measures in Strategy EN1

Funding Context

BCDC Funding & Financing White Paper

The BCDC Funding and Financing White Paper summarizes sea level rises damage estimates and the regional funding gap for sea level rise adaptation, by looking at regional costs for adaptation and comparing it to the existing funding supply.

Bay Area SLR Adaptation Projects Costs Per Linear Foot



Mean Annual Per Capita City Expenditure Between 2017-2019

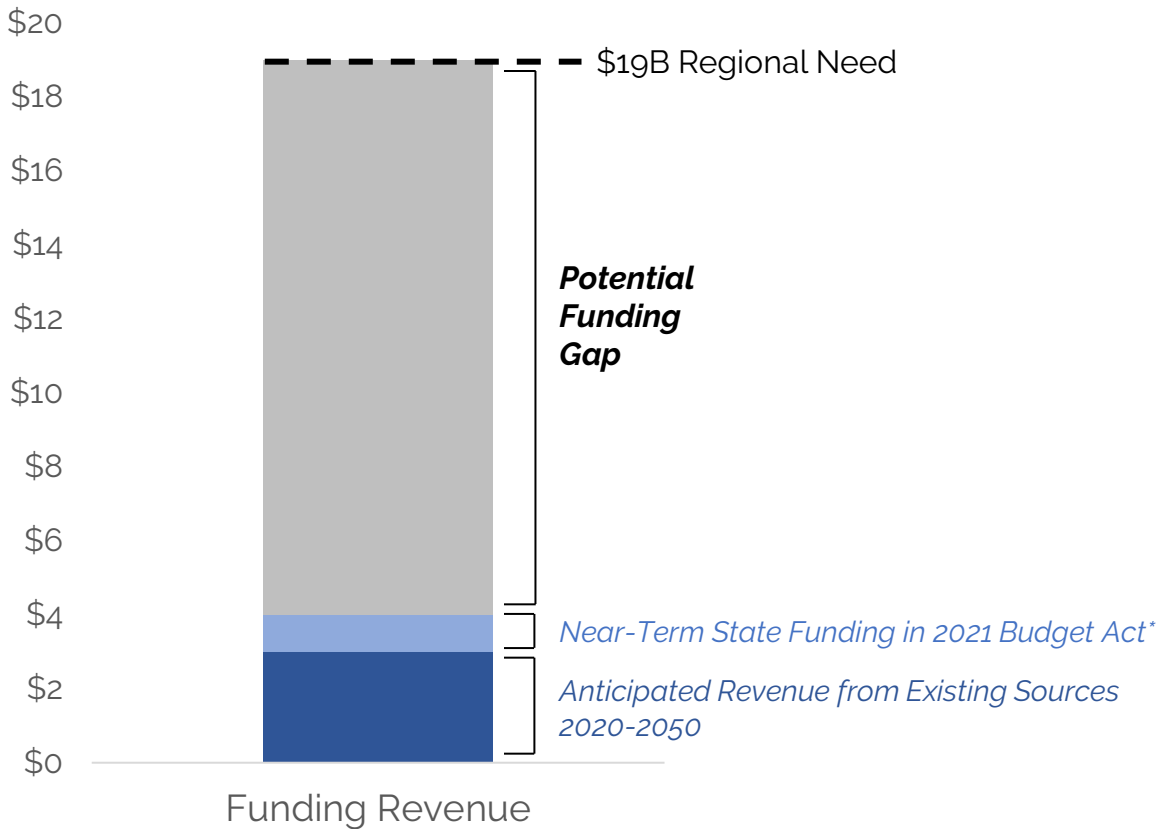
Expenditure data (Capital Outlay + Debt Service) from State Controller's Office & Mean Population Estimates from 2014-2018 ACS

Funding Context

Near Term Funding Opportunities

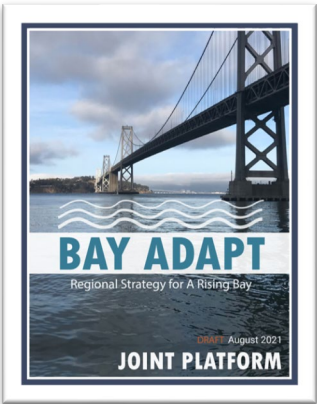
- As a part of the California 2021 Budget Act, \$15 billion has been identified for natural resources through 2024, of which \$3.86 billion has been identified for climate resiliency.
- The region may only receive a portion of this revenue from the state.
- Building upon the analysis from Plan Bay Area 2050 and Strategy EN1, **there remains a substantial funding gap for sea level rise adaptation**, even with near-term funding from the state.

Estimated Sea Level Rise
Funding Needs and
Potential Revenue
Sources (in Billions)



Sea level rise funding estimates from Plan Bay Area 2050 and CA 2021 Budget Act
 * Estimated funding share from new near-term state resilience funding

Regional Adaptation Funding Tasks



Bay Adapt Joint Platform

Task 6.1

Expand understanding of the financial costs and revenue associated with adaptation.

Task 6.2

Establish a framework for funding plans and projects

Many other actions....



Plan Bay Area 2050

Strategy EN1, Action 7

Develop a sea level rise funding plan to support the implementation of projects that reduce sea level rise risks to communities, infrastructure, and ecology, prioritizing green infrastructure wherever possible.

Many other actions....



Estuary Blueprint

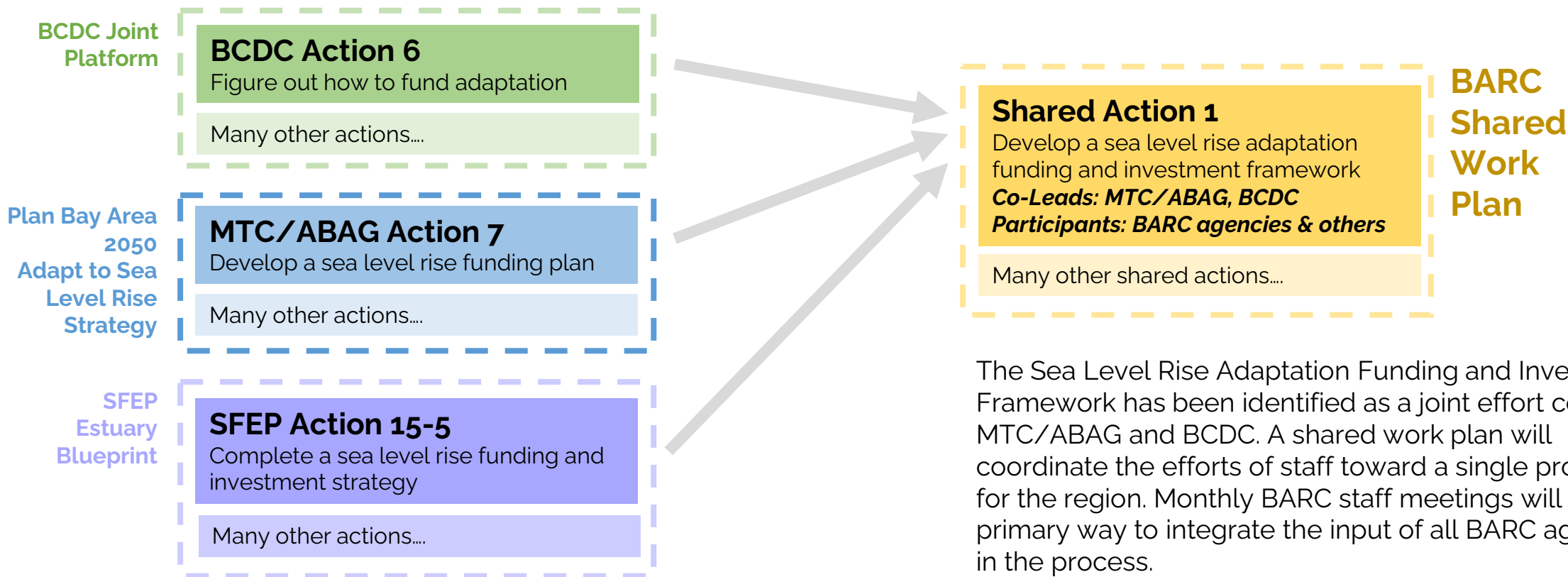
Action 15-5

By 2023 complete a sea level rise funding and investment strategy for the San Francisco Bay Area.

Many other actions....

BARC Shared Work Plan at Work

The Shared Work Plan process starts by identifying high priority actions in key regional agency plans and platforms to advance in the next 1-5 years.



Sea Level Rise Adaptation Funding and Investment Framework

Goal 1

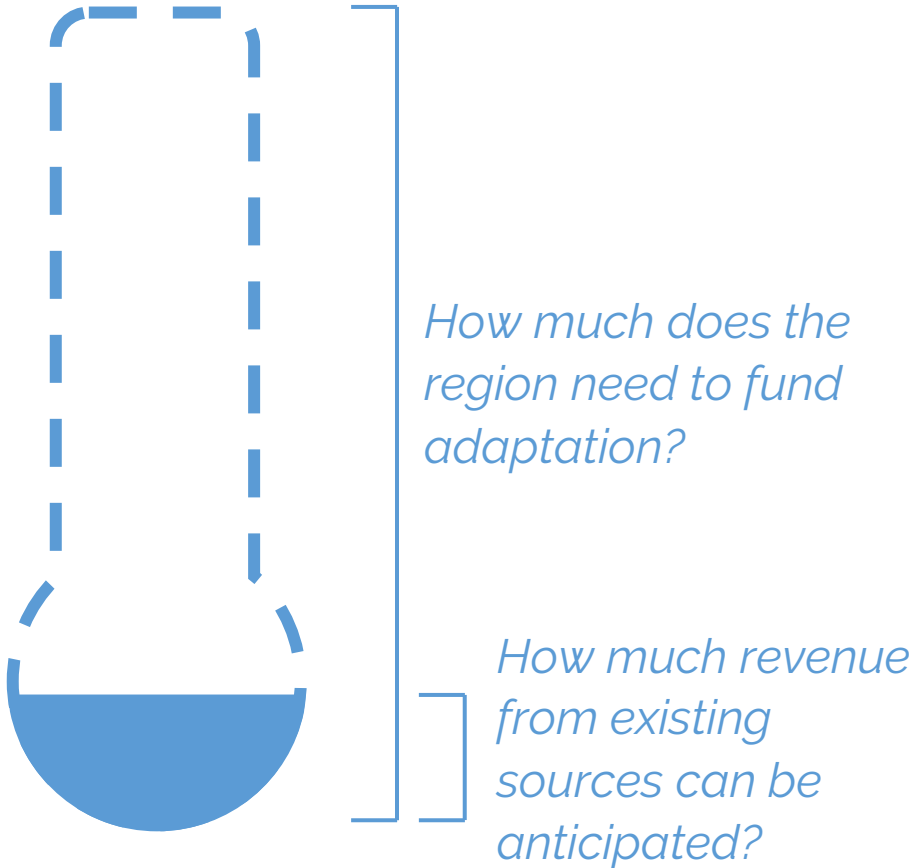
Update and improve regional accounting of anticipated sea level rise adaptation projects.

Background

Plan Bay Area 2050 estimated \$19 billion in estimated need to protect most communities from projected inundation by 2050, but only \$3 billion in anticipated revenues from existing local, state, and federal funding sources. The prior analysis only considered need up to two feet of sea level rise.

Funding and Investment Framework Outcomes

Work with local governments and partners to update prior regional analysis with local projects and strategies from recent planning efforts. Inventory new state and federal funding programs. Information will be used for Framework directly, local government planning, and regional advocacy.



Sea Level Rise Adaptation Funding and Investment Framework

Goal 2

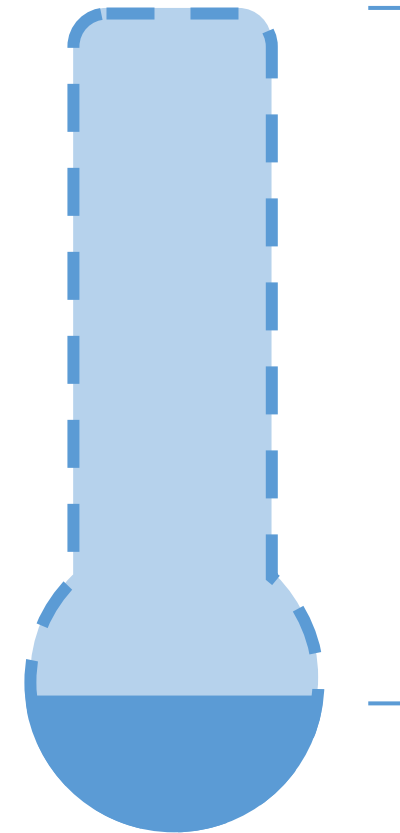
Study how revenues for sea level rise adaptation needs can be raised most equitably.

Background

Many recent regional efforts have catalogued possible funding and financing tools for adaptation, including the Resilient by Design Finance Guide, the Resource Legacy Fund's Proposed Funding Pathways for Adaptation to Climate Change in California, and BCDC's Adapting to Rising Tides. However, there is no applied Bay Area analysis of the funding sources.

Funding and Investment Framework Outcomes

Analyze a range of potential revenue measures at different scales, as well as for different levels of sea level rise, to close the sea level rise funding gap. Staff will work with stakeholders to visualize equity outcomes for different revenue approaches, sharing with Equity Priority Communities, local staff, regional agency committees and boards, and others.



How can revenue be raised equitably to fund the gap?

Sea Level Rise Adaptation Funding and Investment Framework

Goal 3

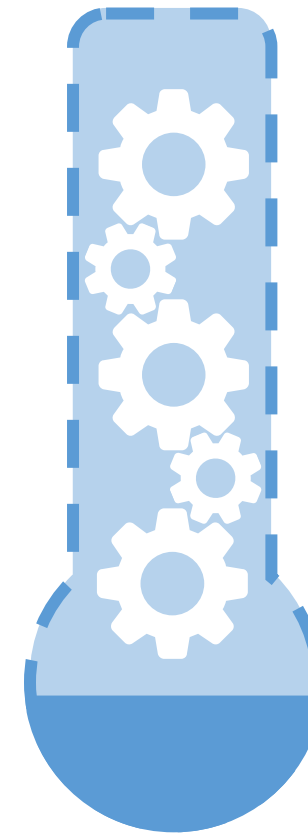
Explore how existing and future funding mechanisms can advance adaptation planning and implementation.

Background

The Bay Adapt Joint Platform identified a need to determine a funding framework to support adaptation plans and projects, including potentially using evaluation or prioritization.

Funding and Investment Framework Outcomes

Starting with the review of local and regional funding mechanisms for sea level rise projects, identify the gaps and opportunities of each mechanism to develop regional recommendations, which may be used to inform future advocacy on new revenues.



What are possible mechanics to disburse funds for adaptation?

Sea Level Rise Adaptation Funding and Investment Framework

Next Steps:

- Form a technical working group with partners and pursue consulting assistance
- Set sea level rise and data assumptions
- Work with local partners to update understanding of adaptation projects

Questions?

Rachael Hartofelis, MTC/ABAG Staff, rhartofelis@bayareametro.gov

Nicolas Sander, BCDC Staff, nicolas.sander@bccdc.ca.gov