

Plan Bay Area 2050+ Draft Blueprint: Draft Environment Needs and Revenues Forecast (January 2024)

Summary

Plan Bay Area 2050 was the first time an Environment Element was included in the long-range regional plan. Given it was the first time the element was included, and because many components of the element are not statutorily required, only the needs were estimated for the strategies, with early research on revenues only conducted for resilience components of strategies EN1 and EN2. As part of the Plan Bay Area 2050+ update, more attention has been placed into the forecasted estimate of the needs and revenues of the full suite of environmental strategies.

Some strategies have remained similar in their forecasted needs, while others have grown. The increase in strategy costs is at times driven by an increase in the estimated per-unit cost associated with a strategy (e.g. cost to implement a horizontal levee), and in other cases is due to an increase in the scope of the environmental strategy (e.g. constructing more miles of horizontal levees). The environment element takes an unconstrained approach for strategies EN1 through EN7 and a financially constrained approach for strategies EN8 and EN9. Strategies EN8 and EN9 are constrained by the statutory requirements under Senate Bill 375 (2008), and as such their associated revenues are tracked within the transportation element and its revenue forecast. Strategies EN1 through EN7 are visionary by comparison, unconstrained by forecasted financial revenues. As shown in Figure 1, the forecasted needs for the Environment Element of Plan Bay Area 2050+ has increased to \$224 billion with only \$30 billion in estimated forecasted revenues identified through the year 2050. Both values are in year of expenditure dollars.

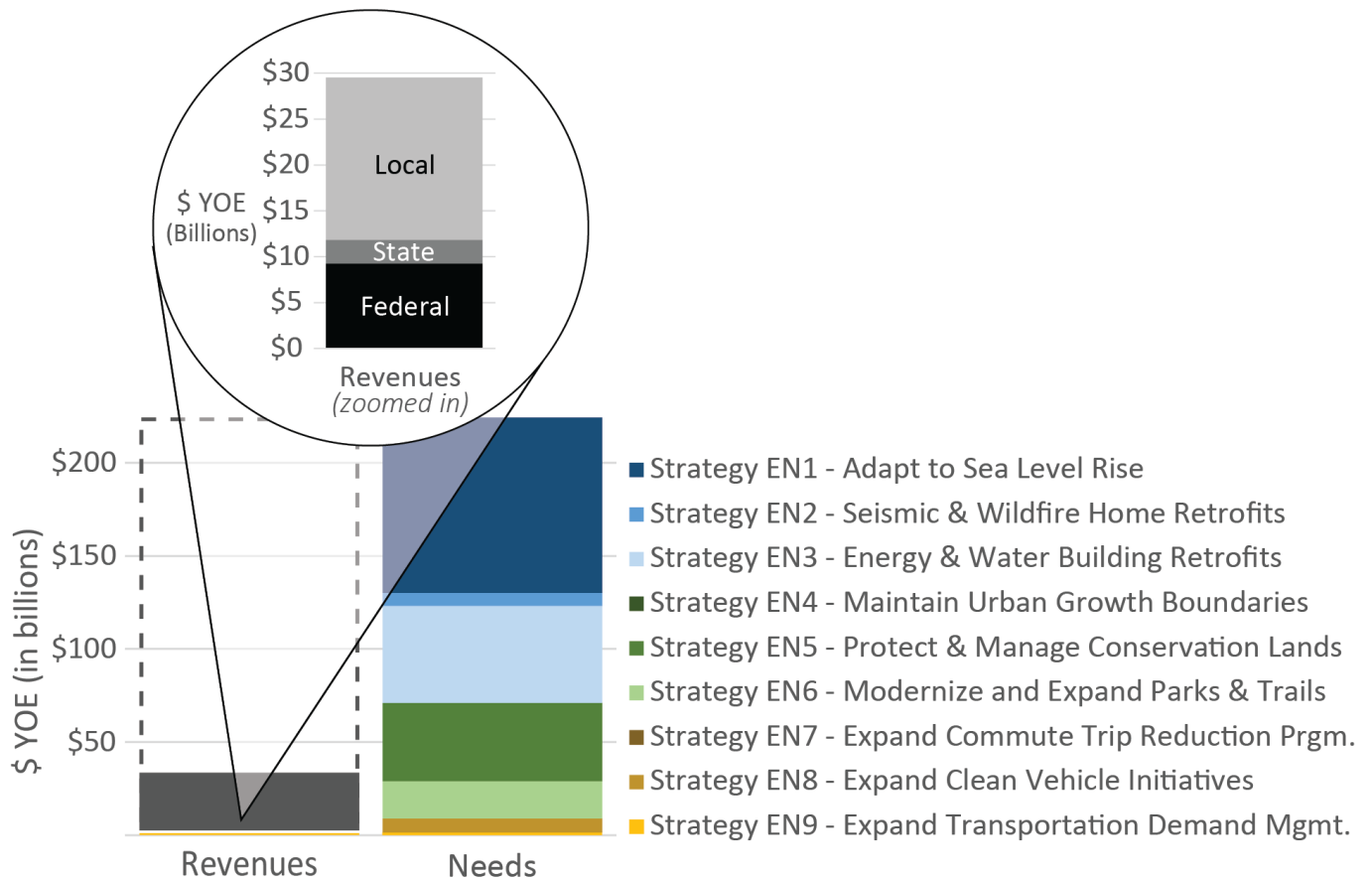


Figure 1: Forecasted Environment Element Revenues and Needs

Draft Environment Needs Assessment

The Environment Element’s forecasted need doubled between Plan Bay Area 2050 and Plan Bay Area 2050+. Accounting for over half of the overall increase is Strategy EN1 *Adapt to Sea Level Rise*. The strategy is directly informed by the Sea Level Rise Funding and Investment Framework effort co-led and completed by MTC/ABAG and BCDC in July 2023, which gathered a full list of locally developed adaptation measures in the region that protect against a 4.9 foot rise in sea levels. The Framework also identified financial needs for areas of shoreline with significant flooding, but no known locally planned project, and estimated project costs to adapt those segments of shoreline as well. That initiative developed a \$110 billion dollar regional need – much larger than Plan Bay Area 2050’s estimated need of \$19 billion. There are two key

distinctions that led to this significant increase; the first was much higher cost estimates for common adaptation archetypes like marsh restoration, traditional levees, ecotone levees, and elevated infrastructure. These increases more than doubled from prior assumptions. The second reason for the increase is the higher planning design assumption for sea level rise. In Plan Bay Area 2050, protections were considered in areas at risk from two-feet of sea level rise, while the Framework and Plan Bay Area 2050+ use 4.9-feet. This increase is due to the prior estimate falling below state guidance that was developed in 2019, and a desire to capture not only areas that are likely to flood during the 2050 planning horizon from sea level rise alone, but also capture areas that are likely to flood regularly with a combination of sea level rise and annual, king tide events and one- and five-year return period storms. The combination of increased per-unit costs and coverage has led to a substantially higher strategy cost.

With a much more significant need, but limited identified revenues to draw from, Plan Bay Area 2050+ through the Draft and Final Blueprint phases is working to categorize sea level rise needs. A first pass of that sorting has shrunk the Framework need from \$110B to \$94B, ensuring protection and nature-based investments adjacent existing neighborhoods, growth geographies, and key transportation corridors. Further engagement on sea level rise categorization is anticipated in winter and spring 2024.

The increase in project costs for strategies EN3 and EN5 also reflect changes between Plan Bay Area 2050 and Plan Bay Area 2050+. The increase in need for Strategy EN3 *Means Based Energy and Water Building Retrofits* is largely due to the strategy expansion to cover upgrades in all buildings. Responding to feedback in Plan Bay Area 2050, as well as more aggressive local and state policy goals for building electrification, the strategy has been sized to estimate “what will it take,” to achieve these significant energy retrofit needs. This strategy is focused on making upgrades to existing buildings and incorporates a range of common building decarbonization and cost-effective energy efficiency measures. The needs reflected in the plan are the assumed public subsidy to support the decarbonized building transition – a higher overall project cost

would include the building owner contribution to the retrofits. This strategy assumes a higher rate of subsidy for lower-income residents.

For Strategy EN5 *Protect and Manage High-Value Conservation Lands*, the increase in the cost is almost solely due to new assumptions on the cost to bring new lands under public ownership. The strategy currently assumes acquisition as the only approach to protect and manage lands. As part of the strategy refinement process in Winter and Spring 2024, more research and engagement with open space authorities and land trusts will explore the role of easements in achieving the conservation targets – hopefully reducing the overall strategy fiscal need.

Needs are also predicted to increase for Strategy EN8 *Expand Clean Vehicle Initiatives* and Strategy EN9 *Expand Transportation Demand Management Initiatives*. The increase in Strategy EN8 stems from bolder targets for charging station buildout and vehicle buyback, as well as an expansion of this strategy to potentially incorporate measures to replace single occupancy auto trips with trips on e-bikes. The inclusion of e-bikes is in an exploratory phase, but may include a subsidy or e-bike share program. The increase in Strategy EN9 is due to larger investment in targeted transportation alternatives to promote mode shift from solo driving to sustainable modes. Between these two strategies, the total increase in needs is \$3 billion more than Plan Bay Area 2050. Work is currently ongoing to gather the latest baseline data available and to reevaluate the best calculation methodologies for these strategies based on feedback received in Plan Bay Area 2050. As noted above, these needs will need to be covered by the Transportation Revenue Forecast to align with State planning requirements, despite their inclusion in the Environment Element.

Draft Environment Revenue Forecast

The Environment Element revenue forecast was only partially developed as part of Plan Bay Area 2050, focusing narrowly on Strategy EN1 and EN2 revenue sources. As part of this plan update, more emphasis has been placed on forecasted revenues to support the Environment Element. As of September 2023, staff have identified 48 federal, 48 state, and 35 local fund

sources that can support one or multiple Plan Bay Area 2050+ environment strategies. Together the forecasted funds total nearly \$30 billion. Through fall 2023, staff will continue to identify and forecast funding sources that may support strategies.

Climate has been a big topic in budget and spending deals in the years since Plan Bay Area 2050 adoption. The Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA) at the federal level have created a wave of primarily one-time funding over the early years of the planning period to support many climate initiatives; California state budget surpluses in 2021 and 2022 similarly directed billions toward one-time climate funding.

These actions have bolstered the forecasted revenues for the environment element; however, they are almost entirely one-time funds that are only anticipated in the early years of the plan's 25-year horizon. There are very few dedicated, programmed funding sources to support climate adaptation, building retrofits, and conservation. One bright spot for the Bay Area region has been its strong performance in the Building Infrastructure and Resilience Communities (BRIC) competitive grant program run by the Federal Emergency Management Agency (FEMA). In the first three years of the grant program the Bay Area has received 7.5% of all national awards. For most revenue forecasts, it is assumed that the Bay Area will receive a population-based proportional share. For this grant program we assume the midpoint between that lower value and performance over the first three years of the program. In total, the grant program is forecasted to result in almost \$3 billion for the region through 2050 to support sea level rise adaptation and seismic and wildfire retrofits.

Local revenues for conservation and parks are significant, with development impact fees, even with conservative assumptions below current impact fee levels, accounting for the bulk of local revenues. Many jurisdictions have impact fees, primarily on housing to support new park development as well as enhancements to existing parks. With the new housing forecast over the planning period, the impact fees are the single greatest revenue source in the Environment Element forecast. In addition to the impact fees, a number of local taxes as well as bond

measures adopted by cities, counties, and park districts also contribute significantly. For local and regional taxes including but not limited to parks and conservation, it is assumed that they are reauthorized if they have an expiration date before 2050 – similar to the assumption made for many local transportation tax revenue sources.

Fund sources supporting strategies EN8 and EN9 are captured in the transportation revenue forecast for the Transportation Element rather than the Environment Element, and the assumed linkage of funds (and specific dollar value) between these two elements will be documented as part of the final plan.

The environment strategies have significant unfunded needs. When the implementation phase of the plan occurs, advocacy for new programmatic revenues, as opposed to one-time initiatives, is likely to be discussed, as well as ensuring existing funding is used as strategically as possible to get the most from the resources that do exist.

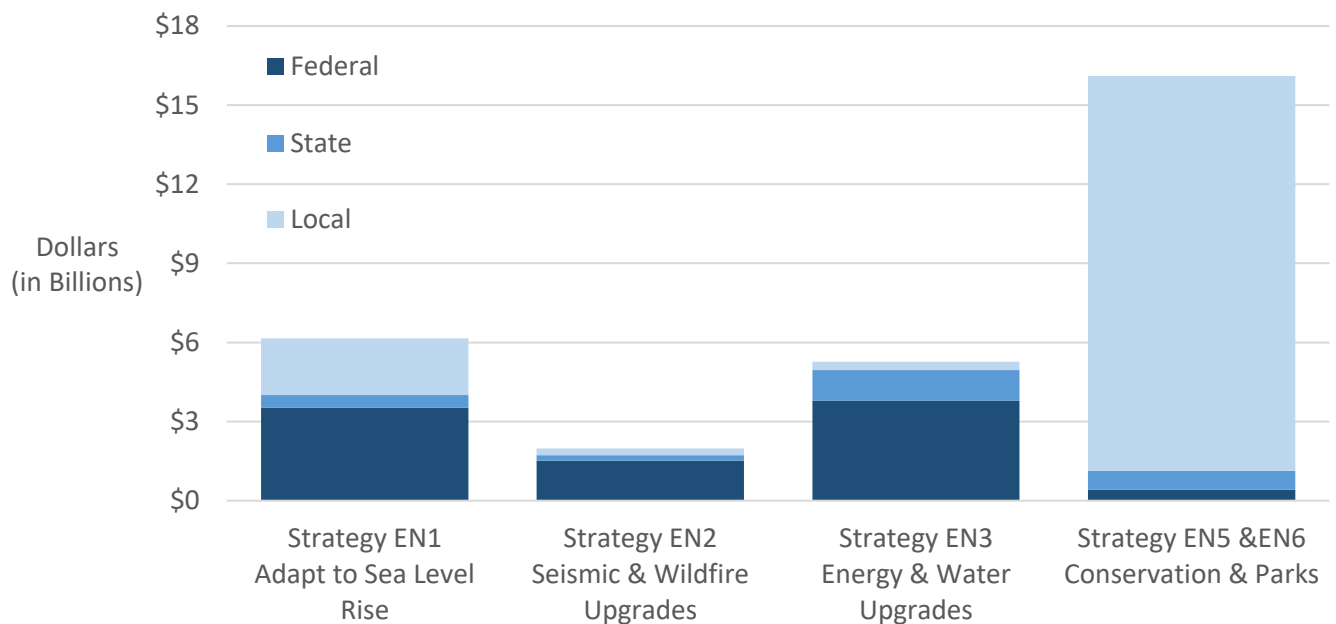


Figure 2: Forecasted Revenues for Environment Element, Strategies EN1, EN2, EN3, EN5 and EN6

Environment Needs and Revenues Reference Tables

- The tables below provide additional information on the draft needs and revenues for the Environment Element. Table 1 provides a high-level accounting for the forecasted needs, while Table 2 provides a list of the top four revenue sources for federal, state, and local sources incorporated at this point in time for the revenue forecast. It is anticipated that the revenue table will continue to expand as MTC/ABAG staff continue to identify funding sources that can support Plan Bay Area 2050+ strategies. Additional information on the technical assumptions used for the element will be further developed as part of the Plan Bay Area 2050+ supplemental reports. Tables 1 and 2 totals do not always add based on the shown values above due to rounding.

Table 1: Estimating Needs for Plan Bay Area 2050+ Environment Element

Environment Strategy	Strategy Component	Amount (in \$Billions, YOE)
Strategy EN1	Adapt to Sea Level Rise Projects	\$94
Strategy EN2	Residential Seismic Retrofits	\$4
Strategy EN2	Residential Wildfire Retrofits	\$3
Strategy EN3	Residential Water Efficiency Retrofits	\$17
Strategy EN3	Residential Energy Decarbonization Retrofits	\$28
Strategy EN3	Commercial Energy Decarbonization Retrofits	\$8
Strategy EN4	Urban Growth Boundaries	< \$1B
Strategy EN5	Acquisition of High Value & Higher-Cost Lands	\$20

Strategy EN5	Acquisition of High Value & Lower-Cost Lands	\$22
Strategy EN6	Urban Park Creation	\$3
Strategy EN6	Urban Tree Canopy Expansion	\$2
Strategy EN6	Trail Network Gap Closures	\$6
Strategy EN6	Green Infrastructure Expansion	\$10
Strategy EN7	Commute Trip Reduction Programs	< \$1B
Strategy EN8	Electric Vehicle Charging	< \$1B
Strategy EN8	Electric Vehicle Subsidies	\$7
Strategy EN9	Transportation Demand Management Initiatives	\$2
Total		\$224

Table 2: Top Funding Sources for Plan Bay Area 2050+ Environment Element Revenue Forecast

Scale	Major Funding Program	Amount (\$Billions, YOE)
Federal	Energy Efficient Home Improvement Credit, IRS/DOE	\$3.3
Federal	Building Resilient Communities and Infrastructure, FEMA	\$2.9
Federal	Various Funding Programs, USACE	\$1.5
Federal	Hazard Mitigation Assistant Grant Programs, FEMA	\$0.3
Federal	OBAG PCA Grant Program, FHWA funding	\$0.2
Federal	Other (43 programs)	\$1.0
Federal	Subtotal	\$9.3
State	BayREN Energy Grants, CPUC funding	\$1.2
State	Sustainable Agricultural Lands Conservation, DOC	\$0.3
State	Wildfire Prevention Grants, CAL FIRE	\$0.2
State	Nature Based Sea Level Rise Solutions Grants, SCC	\$0.1
State	Transportation Infra. Climate Adaptation Project Program, Caltrans	\$0.1
State	Other (44 programs)	\$0.7

State	Subtotal	\$2.6
Local	Housing Impact Fees	\$11.3
Local	Measure F, Sonoma County	\$1.8
Local	Measure AA, Regional	\$0.9
Local	Measure M, Sonoma County	\$0.4
Local	Measure A, San Francisco	\$0.3
Local	Other (29 Measures)	\$3.0
Local	Subtotal	\$17.7
All	Total	\$29.5