



PLAN BAY AREA 2050+

ASSOCIATION OF BAY AREA GOVERNMENTS
METROPOLITAN TRANSPORTATION COMMISSION

Plan Bay Area 2050+: Draft Blueprint Technical Webinar

*Core Planning Assumptions:
Key External Forces, Draft Regional Growth Forecast,
and Draft Needs & Revenue Forecasts*

October 19, 2023

Today's Agenda

Welcome (5 minutes)

Presentation: Overview of Plan Bay Area 2050+ (15 minutes)

Clarifying Questions (5 minutes)

Presentation: Key External Forces and Draft Regional Growth Forecast (25 minutes)

Q&A (20 minutes)

Presentation: Draft Needs and Revenue Forecasts (25 minutes)

Q&A (20 minutes)

Closing & Next Steps (5 minutes)



Logistics for Today's Virtual Webinar

- There will be an opportunity to **ask questions** following each of the presentations by staff.
 - Please enter your questions into the Q&A box.
- We request that your questions be targeted to the material at hand.
- Written comments may be submitted by email to info@planbayarea.org.





PLAN BAY AREA 2050 +



ASSOCIATION OF BAY AREA GOVERNMENTS
METROPOLITAN TRANSPORTATION COMMISSION

Plan Bay Area: Refresher and Overview

Fourth Iteration of an Integrated Regional Plan

MTC/ABAG are embarking on the fourth iteration of the nine-county Bay Area's long-range regional plan since the adoption of SB 375 (Steinberg, Statutes of 2008).



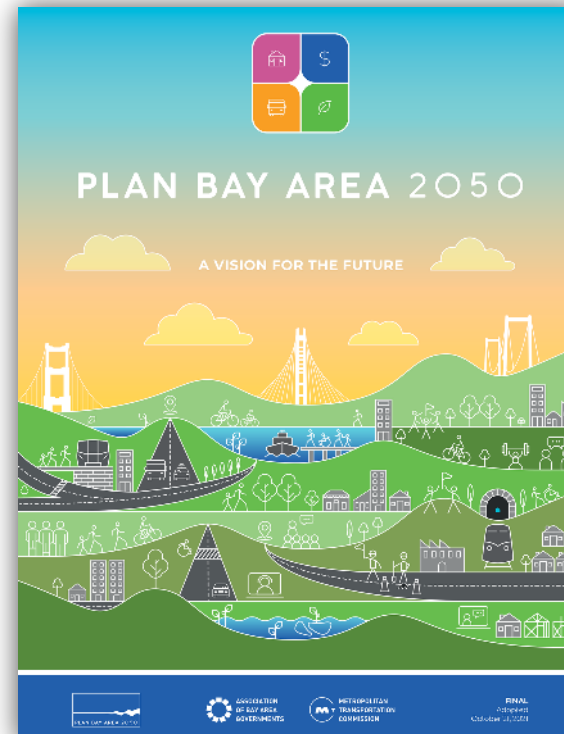
PLAN BAY AREA

Adopted: 2013



PLAN BAY AREA 2040

Adopted: 2017



PLAN BAY AREA 2050

Adopted: 2021



PLAN BAY AREA 2050+

Anticipated Adoption:
2025

Refresher: Federal and State Requirements

Among other federal and state requirements, Plan Bay Area must:

**Be Updated Every
Four Years**

**Coordinate Long-
Range Transportation,
Housing and Land Use
Planning**

**Reduce Per-Capita
Greenhouse Gas
(GHG) Emissions from
Light-Duty Vehicles**

**Include a Robust
Public Process, in
Collaboration with
Key Partners**

**Contain a Fiscally-
Constrained
Transportation
Element**

**Receive Approval
from Federal and
State Regulators,
including CARB**

Plan Bay Area 2050: The First Bay Area Regional Plan to...



Pivot from predicting the future to **exploring strategies in uncertain futures**



Lead with **equity in all strategies** from square one



Pursue **innovative public engagement**, from mobile games to “pop-up” events



Demonstrate what a **unified staff** can deliver for both boards



Lay out a roadmap showing “**what it would take**” to tackle the **intractable housing crisis**



Integrate **bold new strategies** from all-lane road pricing to lower speed limits



Sketch out an **initial vision to mitigate near-term sea level rise impacts** along the entire Bay & Pacific Coast



Identify **specific near-term implementation actions** for all 35 strategies

Plan Bay Area 2050: Community & Partner Engagement

160+

Public meetings featuring discussion of Horizon & Plan Bay Area 2050

150+

Public events including in-person & virtual workshops, pop-up events, focus groups

140+

Stakeholder events including RAWG and REWG meetings, workshops, and webinars

234,000+

Public comments received

23,000+

Participants in planning process

60%+

of events/activities targeted Equity Priority Communities or other underserved groups



Plan Bay Area Vision, Guiding Principles, and Elements

VISION & GUIDING PRINCIPLES

*Ensure by the year 2050 that the Bay Area is **affordable**, **connected**, **diverse**, **healthy** and **vibrant** for all.*

FOUR ELEMENTS OF THE PLAN



- **Transportation** Strategies
- **Housing** Geographies & Strategies
- **Economic** Geographies & Strategies
- **Environmental** Strategies

Plan Bay Area Themes and Strategies



Maintain and Optimize
the Existing System



Create Healthy and Safe
Streets



Build a Next-Generation
Transit Network



Protect and Preserve
Affordable Housing



Spur Housing Production
at All Income Levels



Create Inclusive
Communities

Plan Bay Area 2050

35 Adopted Strategies & 11 Themes



Improve Economic
Mobility



Shift the Location of
Jobs



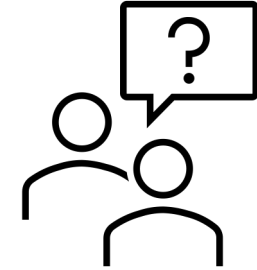
Reduce Risks from
Hazards



Expand Access to Parks
and Open Space



Reduce Climate Emissions



What is a strategy?

A strategy is either a **public policy or set of investments** that can be implemented in the Bay Area over the next 25 years at the local, regional, or state levels; **a strategy is not a near-term action or legislative proposal.**

For more detailed descriptions of Plan Bay Area 2050's adopted strategies, please see [Plan Bay Area 2050 Executive Summary](#).

Long-Range Planning in the COVID-19 Era



As a long-range plan developed during the COVID-19 pandemic, Plan Bay Area 2050 was shaped by and responded to the pandemic's unique challenges in several ways. Grounding the plan more firmly in the post-COVID reality – where feasible and supported by data – is a key focus area for this update.



Integrated near-term slowdowns in revenue generation and population growth to reflect the 2020 economic recession



Refreshed strategies with expanded emphasis on high-speed internet access and sustainable commute targets



Adjusted work-from-home growth projections, with accelerated regional action by major employers to incentivize alternatives to driving



Doubled-down on resilience focus to reduce regional risk in the face of other future disasters, including sea level rise, wildfires & earthquakes

PLAN BAY AREA 2050+



ASSOCIATION OF BAY AREA GOVERNMENTS
METROPOLITAN TRANSPORTATION COMMISSION

Plan Bay Area 2050+: Schedule, Scope and Policy Context

Where We Are...



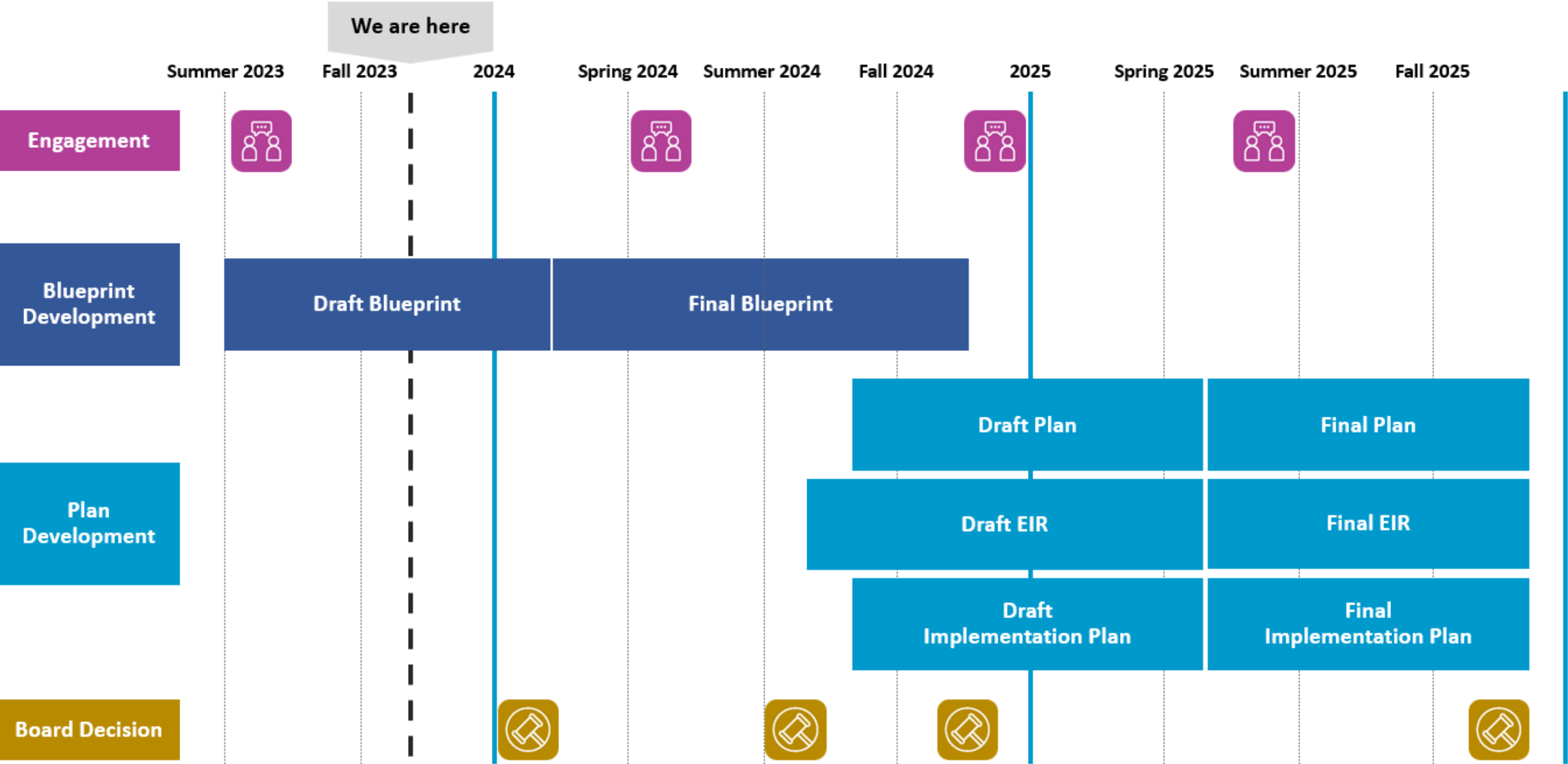
ELEV8
NIGHTCLUB

ELEV8
NIGHTCLUB

BAY
STREET

Bus Stop
68

Plan Bay Area 2050+: Schedule



Plan Bay Area 2050+: Round 1 Engagement

MTC and ABAG have been seeking input on Plan Bay Area 2050+ as part of a first round of engagement over summer and fall 2023.

Key activities included:

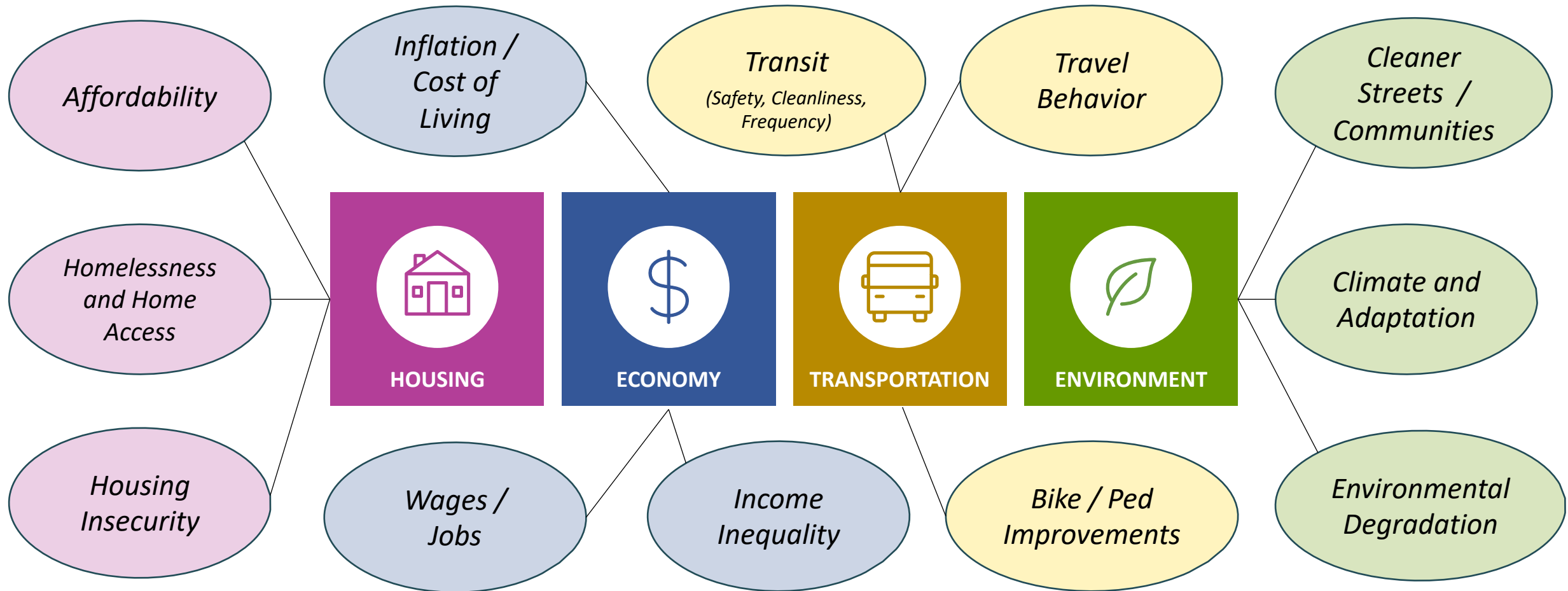
- **15 pop-up public workshops**
- **2 virtual workshops for partners and stakeholders**
- **A survey** available in English, Chinese, Spanish and Vietnamese
- **Community-Based Organization (CBO) engagement**
- **Digital promotion**
- **Tribal outreach**



Photo: FlorHaus

Plan Bay Area 2050+: What We Heard

Round 1 activities generated over 16,000 public comments and engaged hundreds of partner organizations. Key themes included:



Note: more details on the engagement findings will be shared in November with MTC/ABAG committees.

Plan Bay Area 2050+ and Transit 2050+

- In December 2022, MTC/ABAG staff proposed advancing two long-range planning efforts in parallel:
 - *Plan Bay Area 2050+:* A **limited and focused update** to the solid foundation of Plan Bay Area 2050, with no required Regional Housing Needs Allocation (RHNA) process
 - *Transit 2050+:* A **service-oriented, fiscally-constrained transit network plan** for the nine-county Bay Area
- Plan Bay Area 2050 envisioned a robust, connected transit network, but the rapid change in commute patterns and reduction in anticipated revenue requires a comprehensive update via Transit 2050+

Plan Bay Area 2050+:

Responsible for targeted refinements to the plan's 29 strategies unrelated to transit

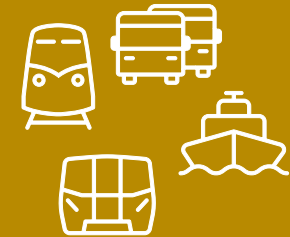
Plan Bay
Area 2050+



Transit 2050+:

Responsible for a comprehensive reimagining of the plan's six transit-oriented strategies

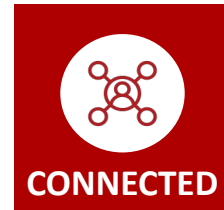
Transit
2050+



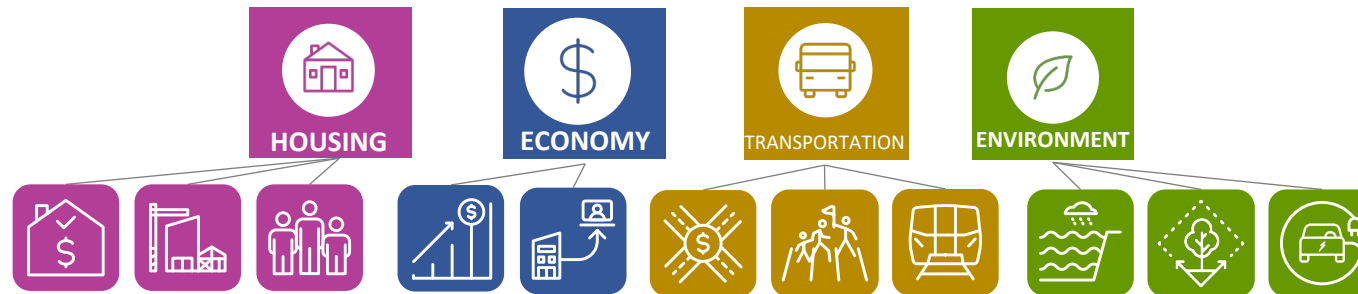
Plan Bay Area 2050+: Scope

In addition to addressing all federal and state planning requirements,
Plan Bay Area 2050+ will:

Leverage the vision and guiding principles established in Plan Bay Area 2050



Maintain the long-range plan's existing strategic framework and organization

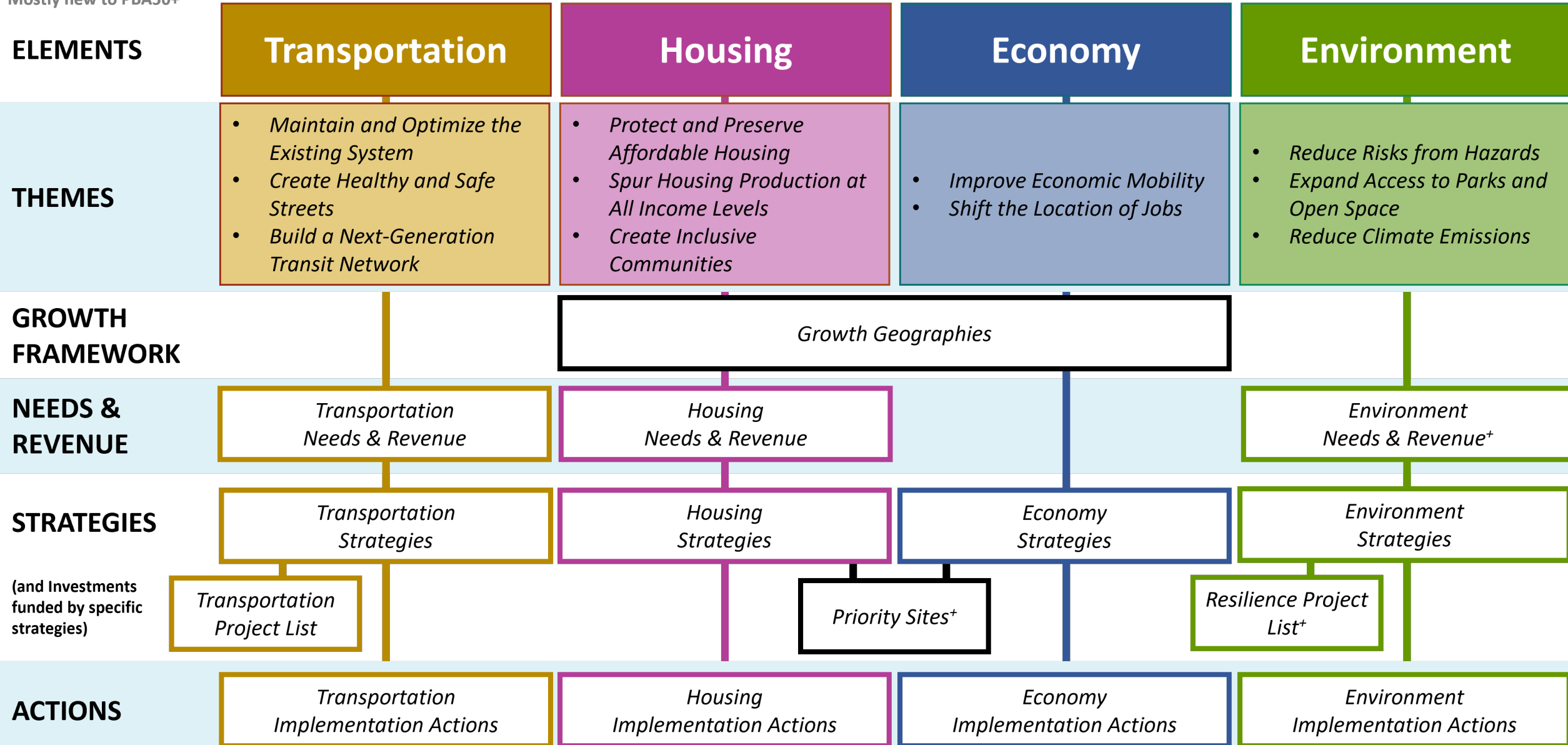


Focus on three core priorities: public information, updated assumptions and implementation

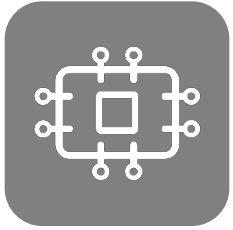


Plan Bay Area 2050+: How Is It Organized?

+ Mostly new to PBA50+



What Will be Updated as Part of Plan Bay Area 2050+?



Baseline Data

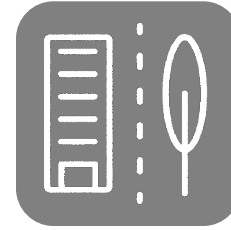
- Equity Priority Communities (EPCs)
- Local zoning updates or new development pipeline
- Existing land use conditions
- Transit service levels



Planning Assumptions

- External forces and the post-pandemic “New Normal”
- Regional Growth Forecast of population, jobs, and housing
- Financial needs and revenues forecasts for Transportation, Housing and Environment Elements

OUR FOCUS TODAY



Strategies and Geographies

- Transportation Strategies (inclusive of transportation projects)
- Housing Geographies & Strategies
- Economic Geographies & Strategies
- Environmental Strategies (inclusive of resilience projects)



Implementation Actions

- Near-term steps necessary to accelerate the plan’s long-term vision
- Concrete actions that MTC and ABAG can advance in partnership over a five-year period for each of the plan's strategies



PLAN BAY AREA 2050 +



ASSOCIATION OF BAY AREA GOVERNMENTS
METROPOLITAN TRANSPORTATION COMMISSION

Clarifying Questions?

*Plan Bay Area Overview and Plan Bay Area 2050+ Schedule,
Scope and Policy Context*



PLAN BAY AREA 2050+



ASSOCIATION OF BAY AREA GOVERNMENTS
METROPOLITAN TRANSPORTATION COMMISSION

Key External Forces

Key Contextual Changes Representing the Post-pandemic “New Normal”

Yuqi Wang, Plan Bay Area 2050+ Deputy Project Manager

The Role of External Forces in the Long-range Plan



Setting the Stage for the Plan

- External Forces reflect assumptions about **future year conditions that are independent from the strategies and beyond the region's control.**
- These conditions influence the impact of strategies adopted as part of the plan.
- External Forces helps accurately **assess the performance of strategies.**



Accounting for Uncertainty

- MTC/ABAG explored a wide range of external forces as part of **three distinctive futures** during the Horizon initiative to stress-test strategies later included in Plan Bay Area 2050.

Note: MTC/ABAG do not have independent authority to set external force levels in the plan. The California Air Resources Board (CARB) reviews and approves these assumptions in a manner prescribed by Senate Bill 375 (Steinberg, Statutes of 2008).



Limited and Focused Update

- Plan Bay Area 2050+ will include targeted updates to select external forces to better reflect the current planning context.
- Key criteria used to determine if revisions were warranted:
 - Has the context changed as part of the post-pandemic “New Normal”?
 - Is the change likely to have major impacts on the performance of plan strategies?
 - Is there sufficient evidence that the new trend will last?

External Forces Update in Plan Bay Area 2050+

External forces that will be updated in Plan Bay Area 2050+



Baseline share of work-from-home on a typical weekday



Transit travel hesitancy (*new*) ★



Anticipated sea level rise & protection height



Per-mile costs of driving an automobile



Interregional highway traffic volumes



Interregional rail travel volumes

Key external forces that will remain unchanged in Plan Bay Area 2050+



Baseline market share of autonomous vehicles and associated travel behaviors



Created by Md Saiful Alam Saif from the Noun Project

Ride-hailing market share and associated travel behaviors



Baseline market share of electric vehicles (*mandated by CARB*)



Baseline vehicle fleet mix/efficiency (*mandated by CARB*)

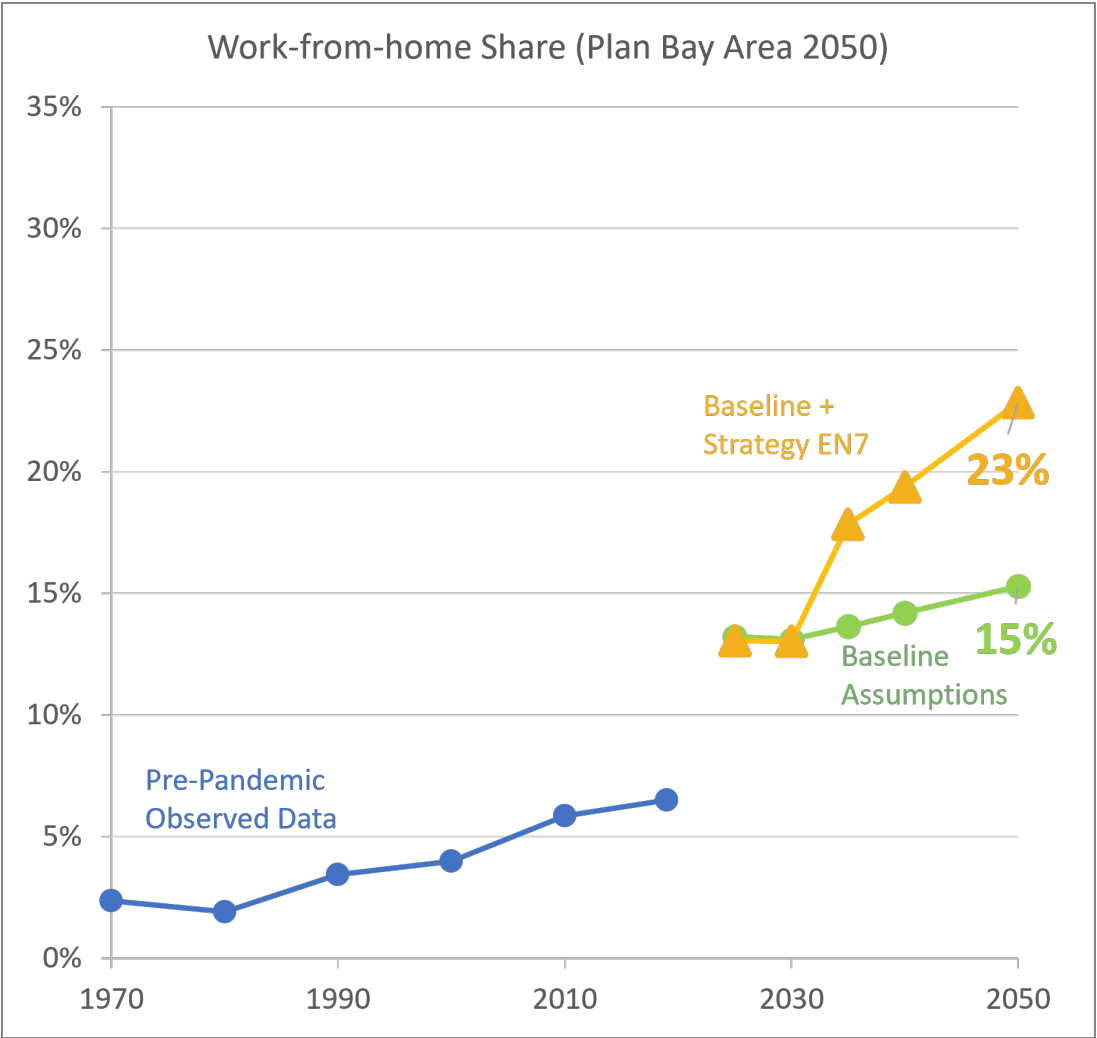


Within-region relative housing construction costs and profit margins for development

Please note: the external forces included in the dashed frame are highlighted in today's presentation.

Work from Home: Post-Pandemic “New Normal”

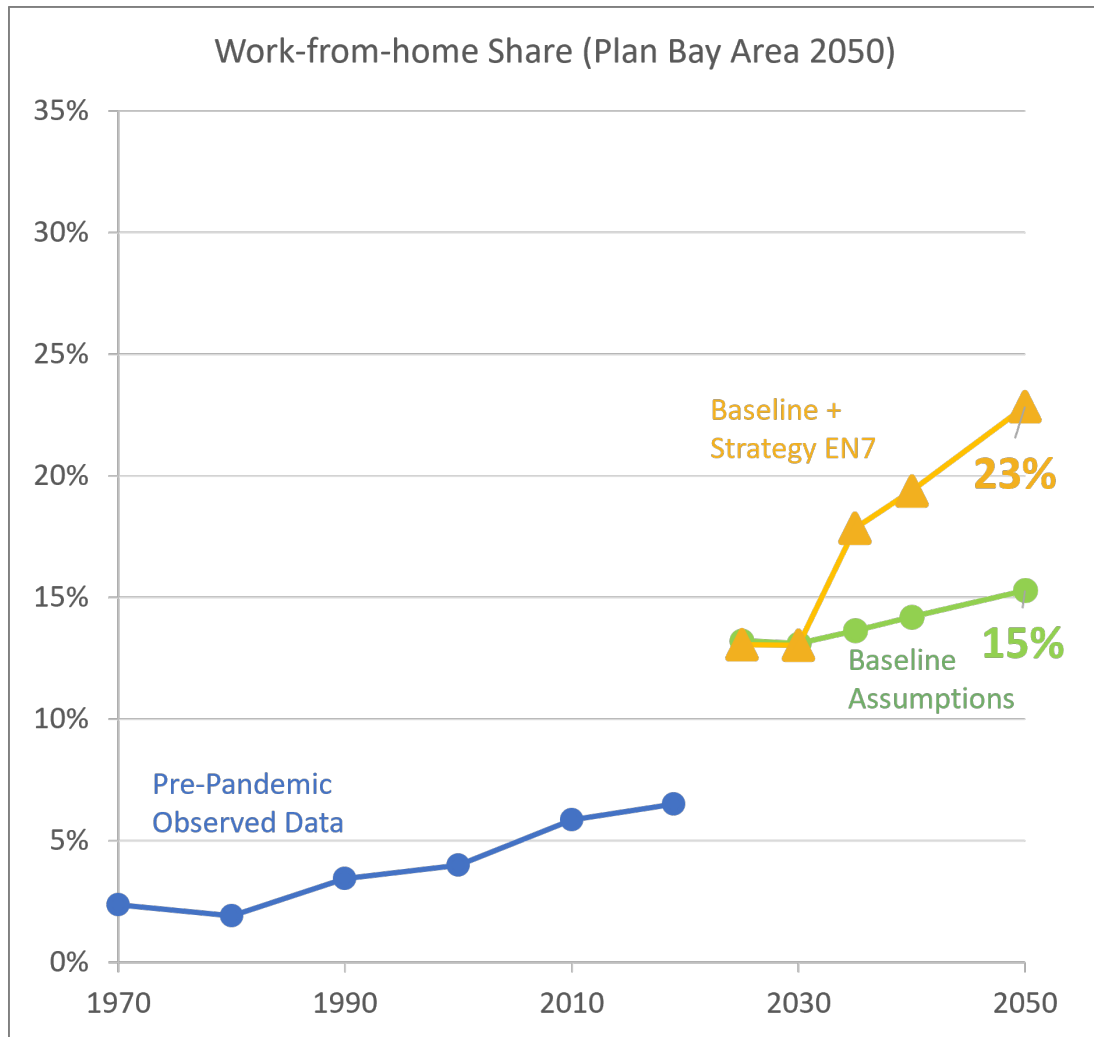
Plan Bay Area 2050 assumed the pandemic would not significantly alter the long-term baseline trajectory for work from home, but integrated Strategy EN7 that effectively increased work-from-home share.



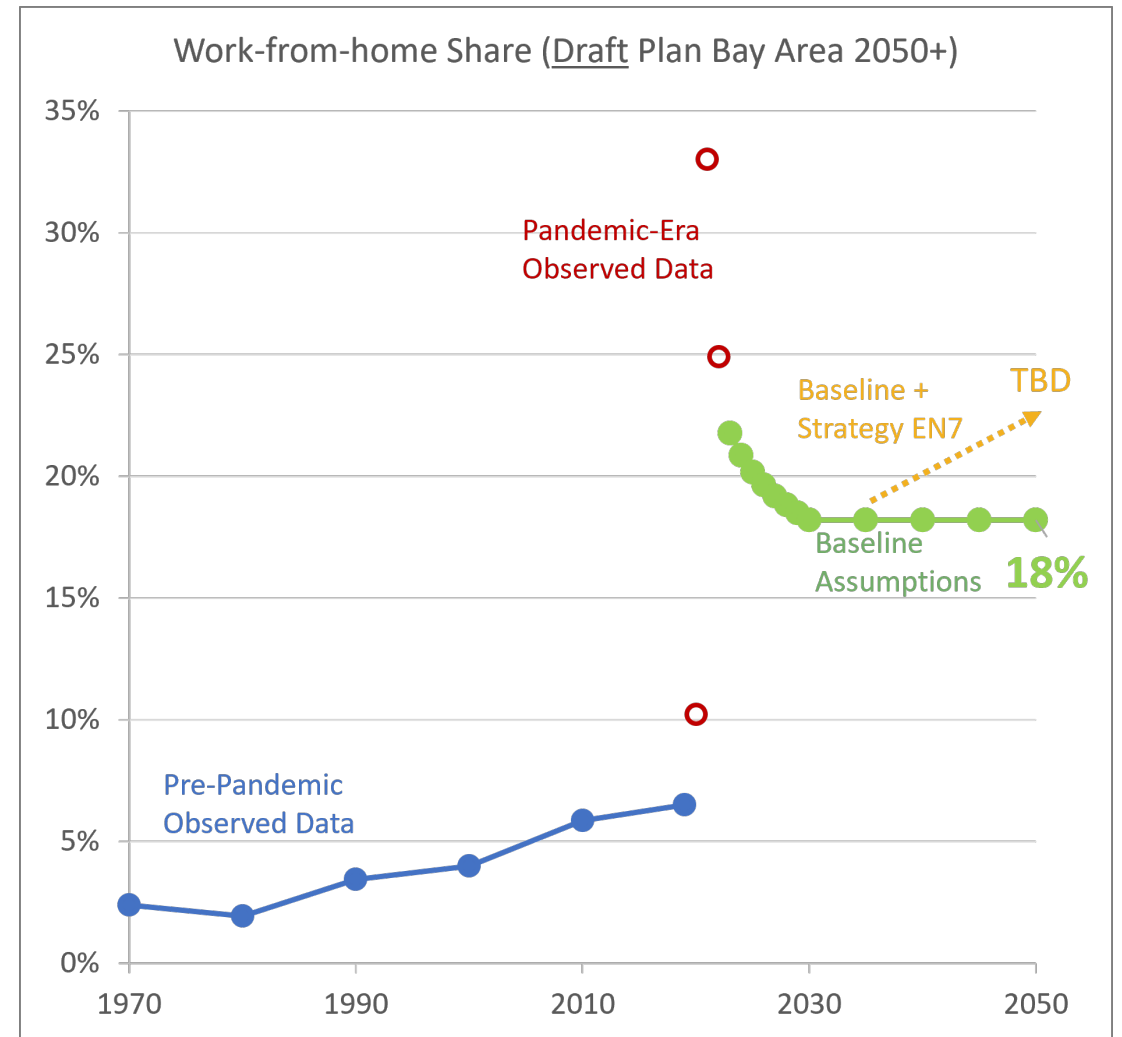
Data Source & Notes: U.S. Census ACS, Bay Area Census, Bay Area Travel Survey (BATS) 2000, MTC/ABAG. 2020 data relies on ACS 2016-2020 5-year estimates and thus not reflect full impact of pandemic. Denominator of work-from-home share is workers at work, excluding those on vacation, etc. Census data reflects majority of the week, whereas Plan Bay Area 2050 assumptions represent a typical weekday.

Work from Home: Post-Pandemic “New Normal”

Plan Bay Area 2050 assumed the pandemic would not significantly alter the long-term baseline trajectory for work from home, but integrated Strategy EN7 that effectively increased work-from-home share.

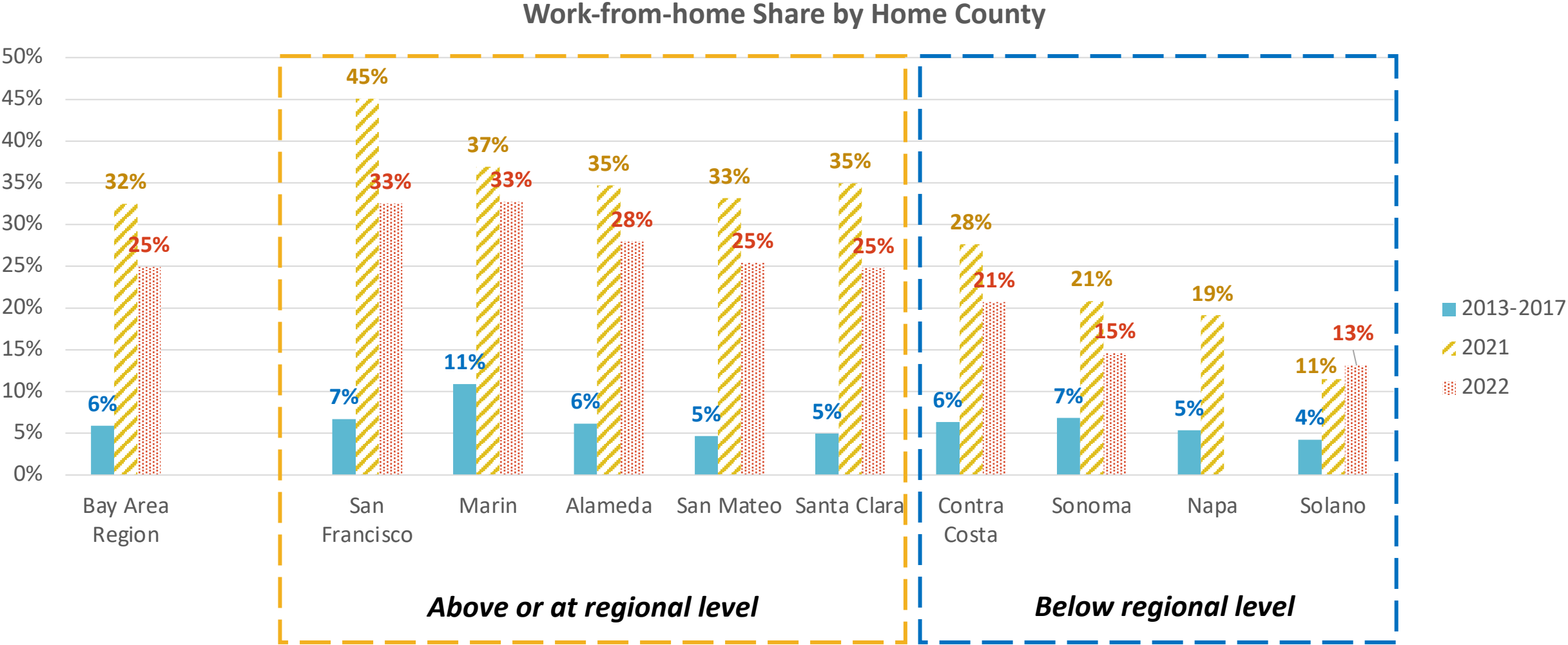


Plan Bay Area 2050+ integrates more recent pandemic-era data that shows a lasting trend, proposing a preliminary assumption that work-from-home gradually declines & stabilizes at 18% by year 2030.



Data Source & Notes: U.S. Census ACS, Bay Area Census, Bay Area Travel Survey (BATS) 2000, MTC/ABAG. 2020 data relies on ACS 2016-2020 5-year estimates and thus not reflect full impact of pandemic. Denominator of work-from-home share is workers at work, excluding those on vacation, etc. Census data reflects majority of the week, whereas Plan Bay Area 2050 assumptions represent a typical weekday.

Work from Home: Shares Vary by County of Residence



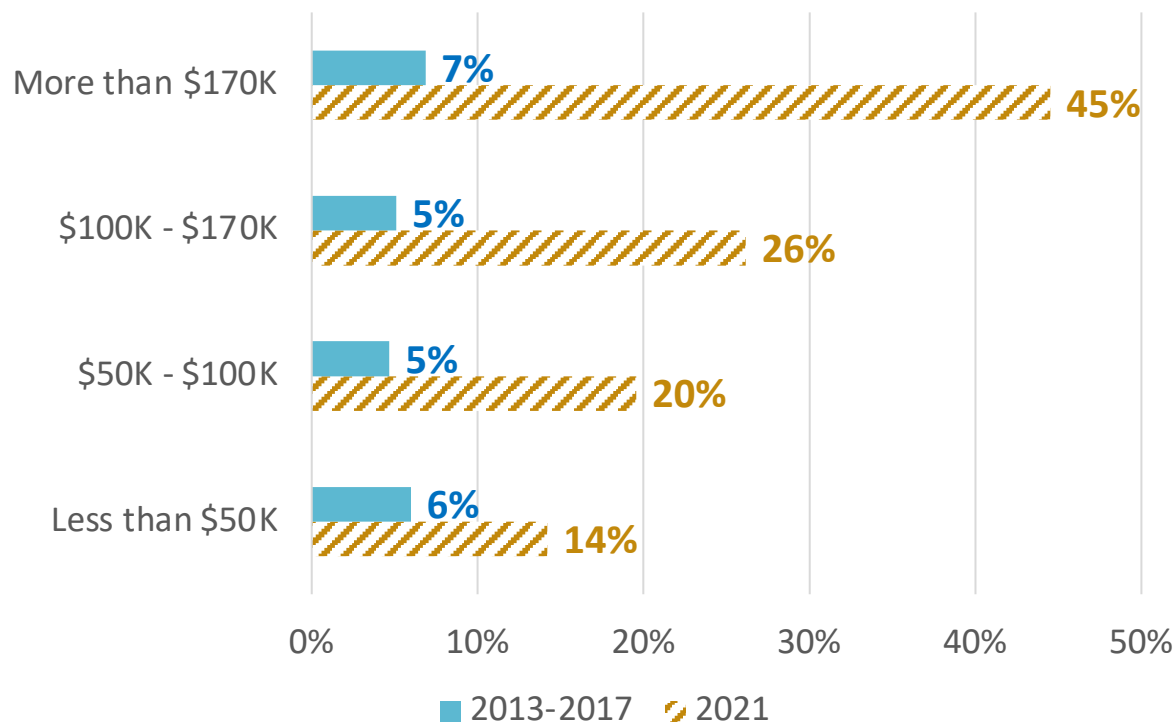
Data source: 2013-2017 data and 2021 data is from U.S. Census ACS-PUMS (Public Use Microdata Sample), 2013-2017 1-Yr Estimate and 2021 1-Yr Estimate. 2022 data is from U.S. Census ACS 2022 1-Yr Estimate.

Note: The percentage represents the share of Bay Area residents (who worked in the reference week) working at home for the majority of a week.

Work from Home: Shares Vary by Income and Industry

Work-from-home is more common in higher-income households

Work-from-home Share by Household Income

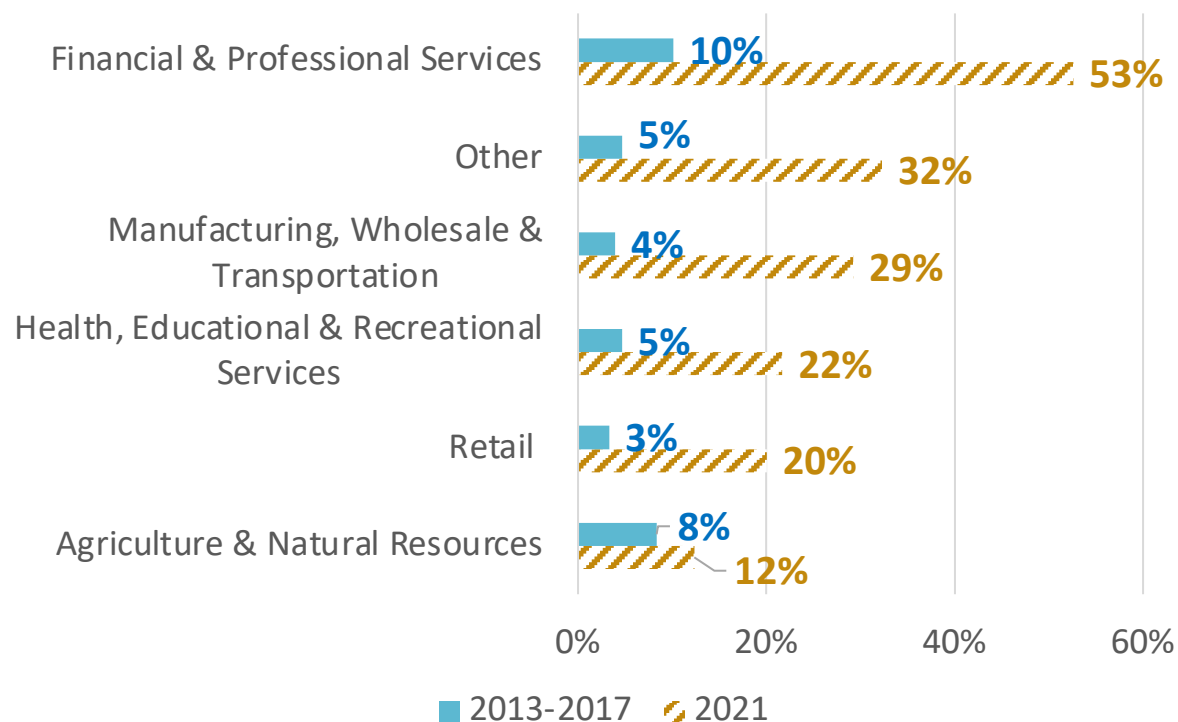


Household income in 2020 Dollars.

Data source: US Census ACS, PUMS (Public Use Microdata Sample), 2013-2015 5-Yr Estimate, 2021 1-Yr Estimate.

Work-from-home is concentrated in a few industries

Work-from-home Share by Industry



NOTE: MTC/ABAG staff will update the comparison to 2022 upon the release of the 2022 PUMS data by the U.S. Census Bureau.

Work from Home: Direct and Indirect Impacts

Major immediate and direct impacts:

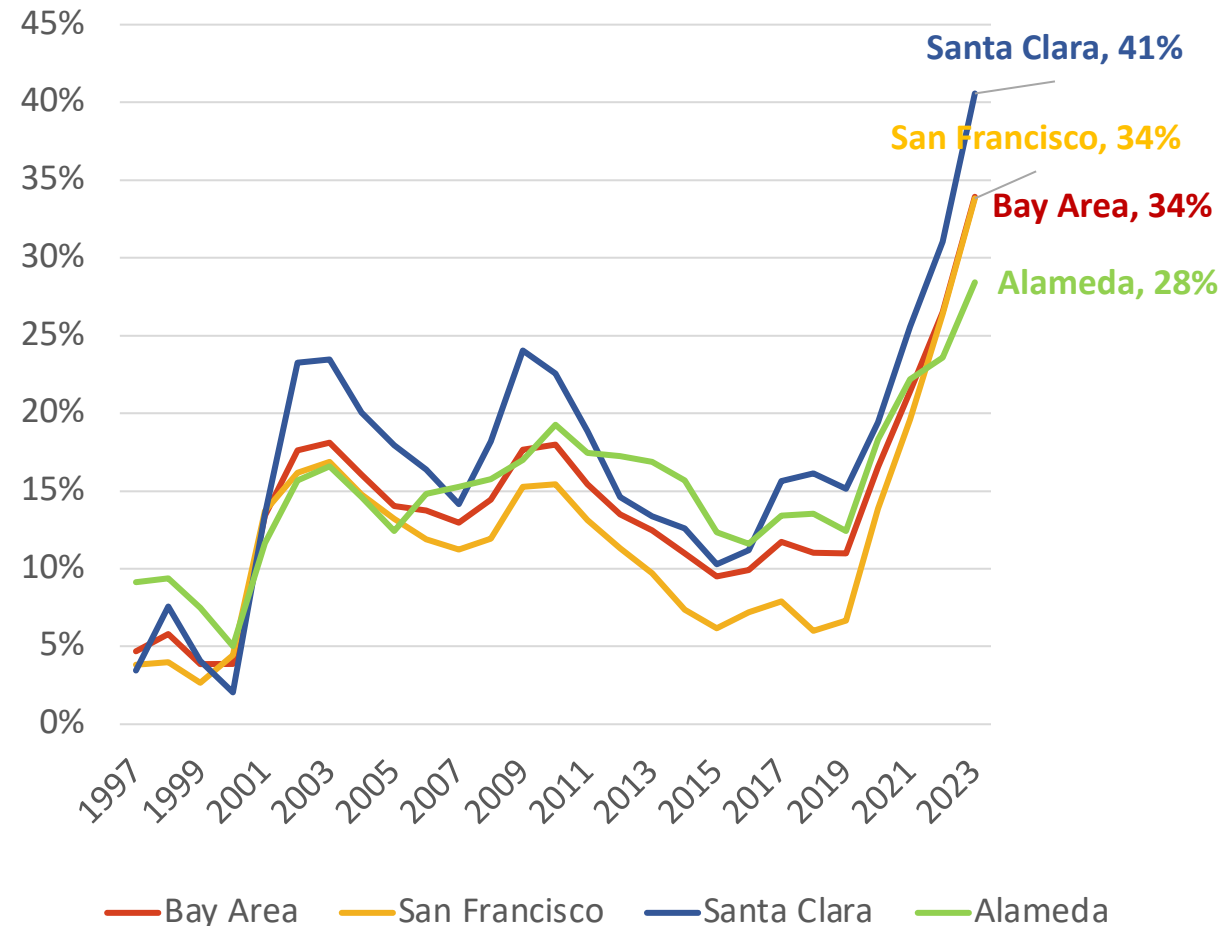
- Some workers will not commute to the workplace on an average day – **the Draft Blueprint will assume variation based on county of residence, industry, and household income**
- Only a portion of office space will be utilized.
- Reduced activity in Central Business Districts (CBDs) affects retail and service businesses

Potential long-term and indirect impacts:

- Firms **improve office space efficiency** or embrace fully remote work, reducing demand for office space, especially in high-rent locations such as CBDs
- Office vacancies reach or exceed historic levels due to firms reducing leased space
- Potentially less financial incentive for new office development; more opportunities for converting office spaces to other uses

MTC/ABAG staff are continuing to evaluate potential long-term impacts and updated modeling assumptions.

Office Vacancies, Bay Area and Select Counties (1997-2023)



Data source: CoStar. Extracted October 2, 2023. 2023 number is year-to-date.

Transit: Slow Recovery and Continued Rider Hesitancy

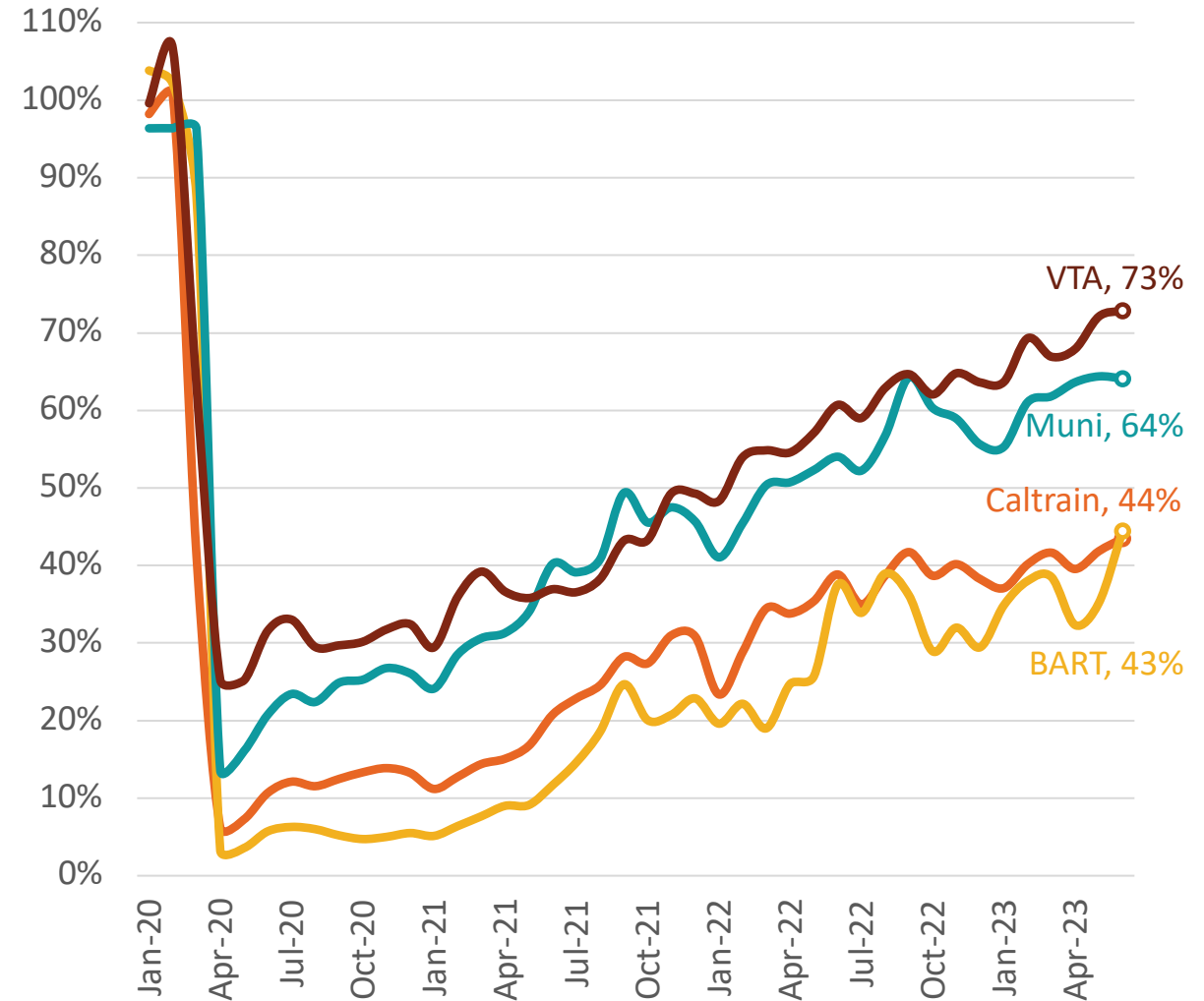


There has been a slow rebound of ridership on transit:

- Transit ridership plummeted in 2020 and recovery has been lagging national levels
- Transit ridership recovery is also slower than roadway traffic rebound, suggesting that the decrease in commuting due to work-from-home isn't the sole reason for the challenge in transit ridership recovery; other behavioral changes are at play
- The public and stakeholders have voiced concerns about riding transit – security, safety, reliability, frequency, etc. – indicating challenges to bringing back or adding new riders

Draft Blueprint preliminary assumption: Bay Area residents will continue to be hesitant about returning to transit, though the level of hesitancy may decrease over time as operators strive to improve service quality to regrow ridership. Additional investments in Transit 2050+ strategies could further reduce hesitancy levels.

Transit Monthly Ridership
Relative to Months in 2019



Data source: National Transit Database (2019-2023) via <https://transitapp.com/apta>

Autonomous Vehicles: Uncertainty in the Long-run



Plan Bay Area 2050 explored a range of possible futures for autonomous vehicles (AVs):

- Horizon analyzed different levels of AV market penetration: 10%, 75%, 95%
- The Plan Bay Area 2050 Final Blueprint assumed a moderately conservative market share: 5% in 2035, 20% in 2050.

Despite recent developments in the AV industry and regulatory realms, the future remains highly uncertain:

- Independent research is scarce
- Public data on operations is limited
- The technological, regulatory, and cultural breakthroughs needed for rapid AV expansion are unpredictable

Draft Blueprint preliminary assumption: maintain market share assumptions from Plan Bay Area 2050.



Photo: Joey Kotfica



Photo: Joey Kotfica



Photo: Carol Kuester



Photo: GoMentum Station



Sea Level Rise Assumption in Plan Bay Area 2050

- Plan Bay Area 2050 assumed that sea level rise will cause inundation in future years (2 feet by 2050) based on the best available information at that time.
- Strategy EN1 aims to protect communities from inundation (up to 3 feet).

Implementation-driven Update



Greater Funding Needs

The **Sea Level Rise Adaptation Funding & Investment Framework** provided a clearer policy direction and improved data standard:

- Assume a higher level of protection (up to 4.9 feet).
- Use better mapping data with greater resolution and broader geographic coverage.
- Align with state guidance.
- Incorporate locally identified adaptation projects.

Draft Blueprint preliminary assumption: plan for a higher level of sea level rise protection in alignment with state guidance.



Photo: Karl Nielsen



Photo: Fagan Marsh State Marine Park



PLAN BAY AREA 2050 +



ASSOCIATION OF BAY AREA GOVERNMENTS
METROPOLITAN TRANSPORTATION COMMISSION

Regional Growth Forecast

The Region's Growth Trajectory in the Post-pandemic Context

Aksel Olsen, Principal Regional Forecast and Land Use Modeler

Regional Growth Forecast in the Long-Range Plan



Photo: Karl Nielsen



Photo: Patrick Perkins via Unsplash



Photo: Joey Kotfica

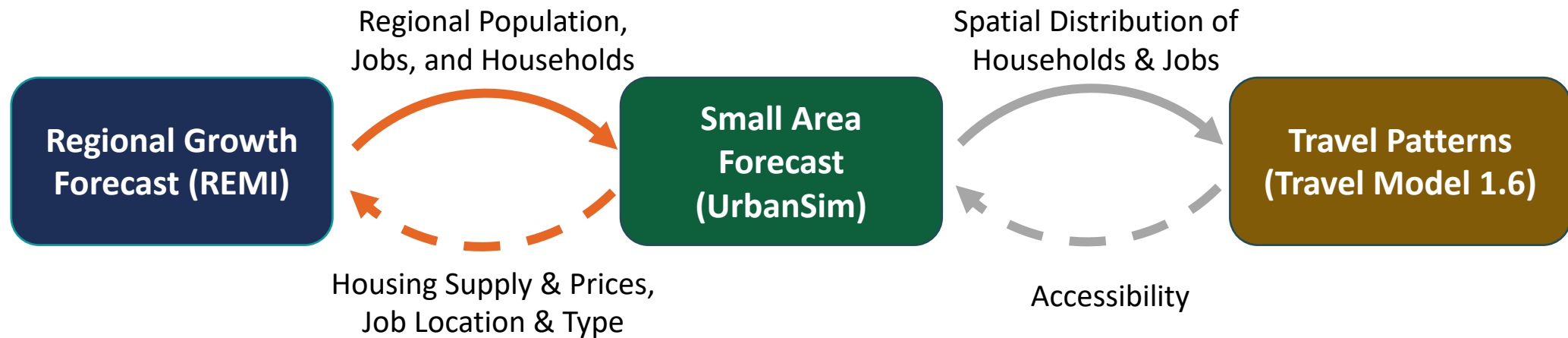
Reflects the region's **anticipated growth trajectory**, supported by strategies and investments, and estimates future nine-county totals for population, employment, households, and housing units.

Leverages the Regional Economic Models, Inc. (REMI) model to assess the region's **national and global economic competitiveness**, instead of focusing solely on demographics, California's economy in isolation, or extrapolating from recent trends alone.

Accounts for the likely impacts of recently enacted pro-housing legislation at the state level, projecting that these policies will slowly filter into local policies and housing market to affect land use patterns over the coming decades.

Scope of Regional Growth Forecast Update

- In Plan Bay Area 2050, MTC/ABAG developed and adopted the forecast methodology through extensive stakeholder engagement and a Technical Advisory Committee.
- Plan Bay Area 2050+ will maintain the forecast methodology, while incorporating more recent data.



*Note: **REMI PI** is a commercial software for economic forecast and policy analysis. **UrbanSim** is a simulation model used to analyze the potential effects of land use policies on the spatial distribution of households and jobs. **Travel Model 1.6** is MTC/ABAG's agent-based travel demand model that simulates the travel-related behavior of the individuals and the households.*

Regional Growth Forecast Update: Main Findings



Population:

Moderately lower population growth, driven by COVID-19 slowdown and declining fertility + U.S. immigration



Jobs:

Mostly unchanged jobs picture, driven by a strong national economy and a continued competitive Bay Area economy



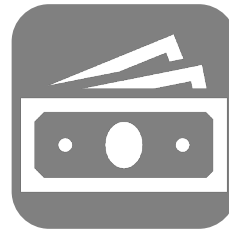
Households and Age:

With an aging population comes declining average household size, as an older population tends to have smaller households



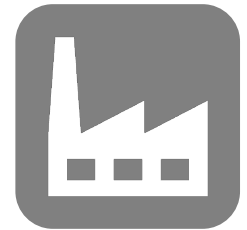
Racial/Ethnic Diversity:

Bay Area population continues to diversify, driven by both migration and fertility dynamics



Income:

A continued shrinkage of the middle class, off-set by increases in both high- and low-income populations

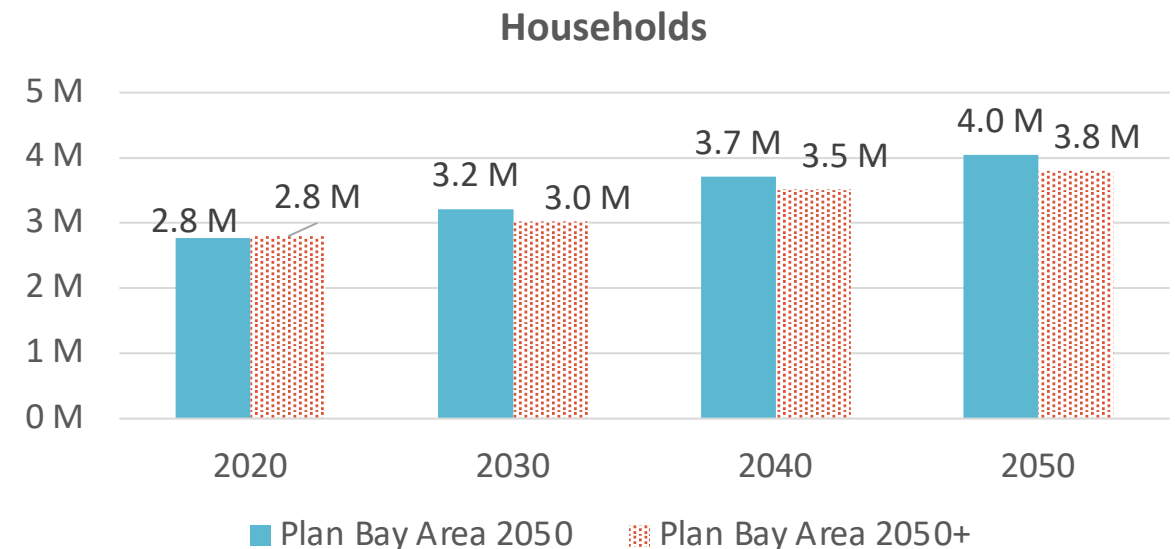
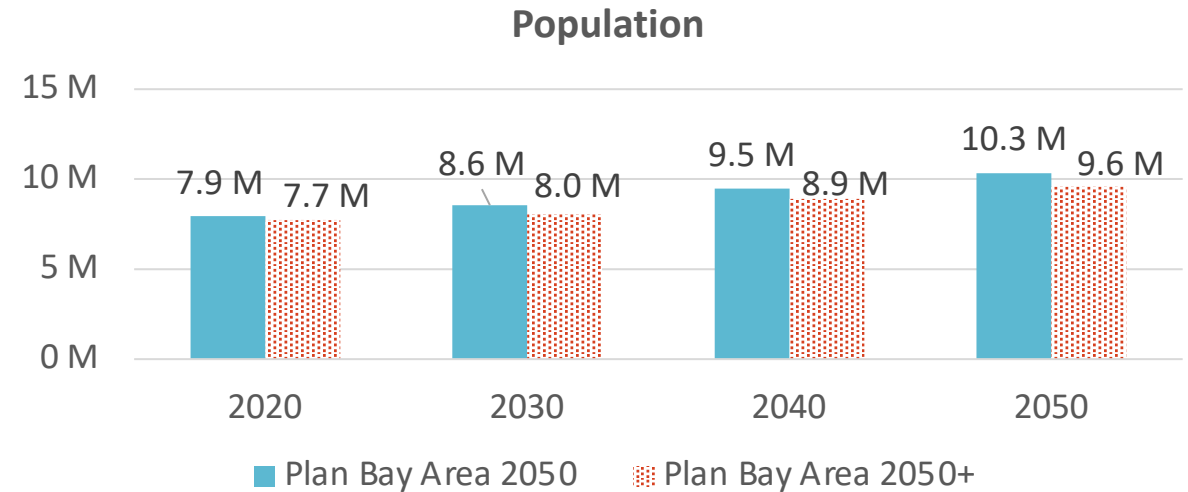


Industry Composition:

The region will continue to be a center for innovation, technology, and high-value services and industries

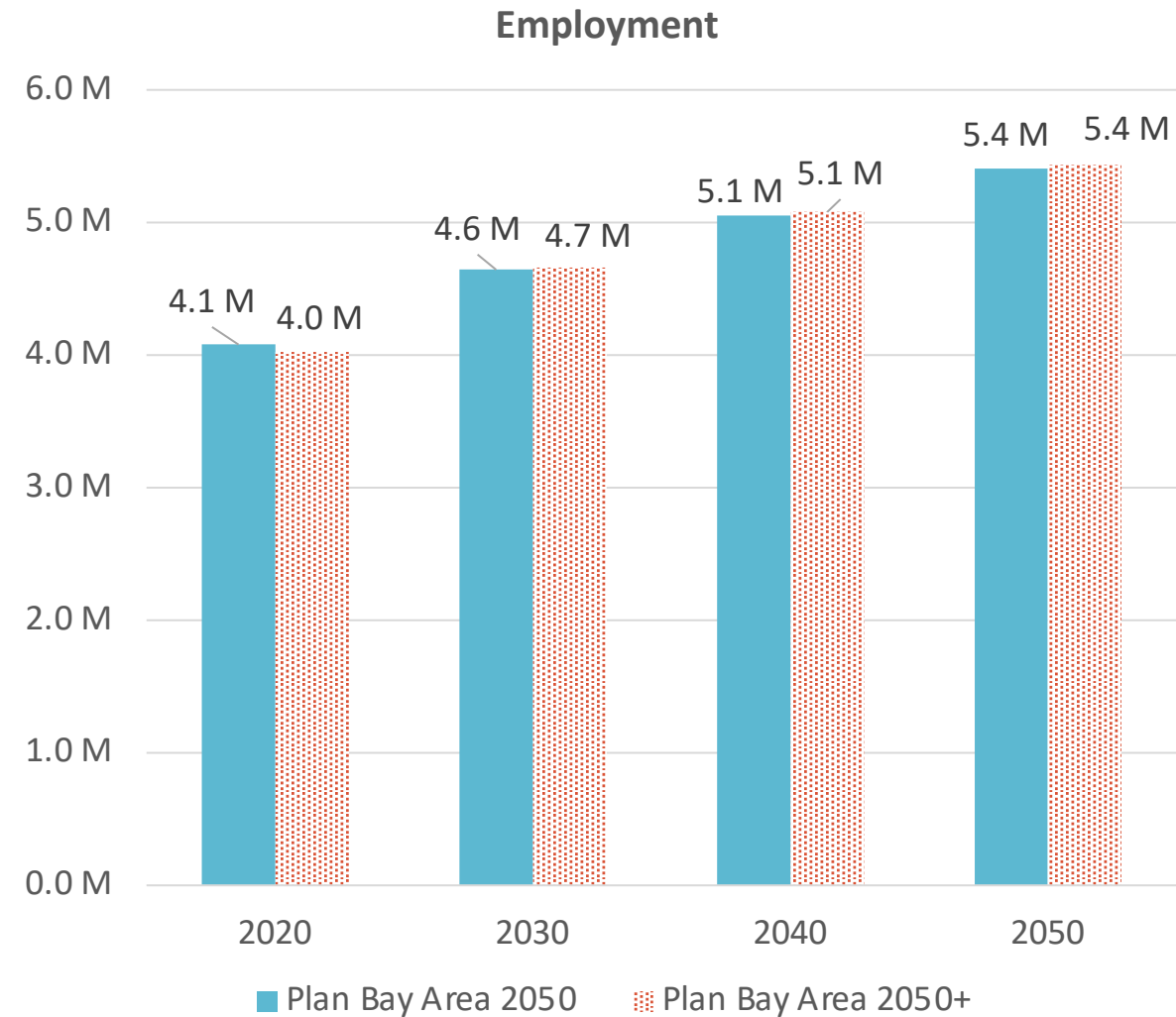
Draft Forecast: Lower Population & Household Growth

- Between 2020 and 2050, the population would grow by 1.8 million and households would grow by 1.0 million; 23% and 22% lower than in Plan Bay Area 2050, respectively.
- Lower growth reflects the short-term impacts of the pandemic: population growth is negative through 2025; household growth is more tempered through 2030.
- In the long run, population growth is expected to resume the previous trajectory though at a lower level, and the combined effects of state, regional, and local housing policies would be seen in earnest.



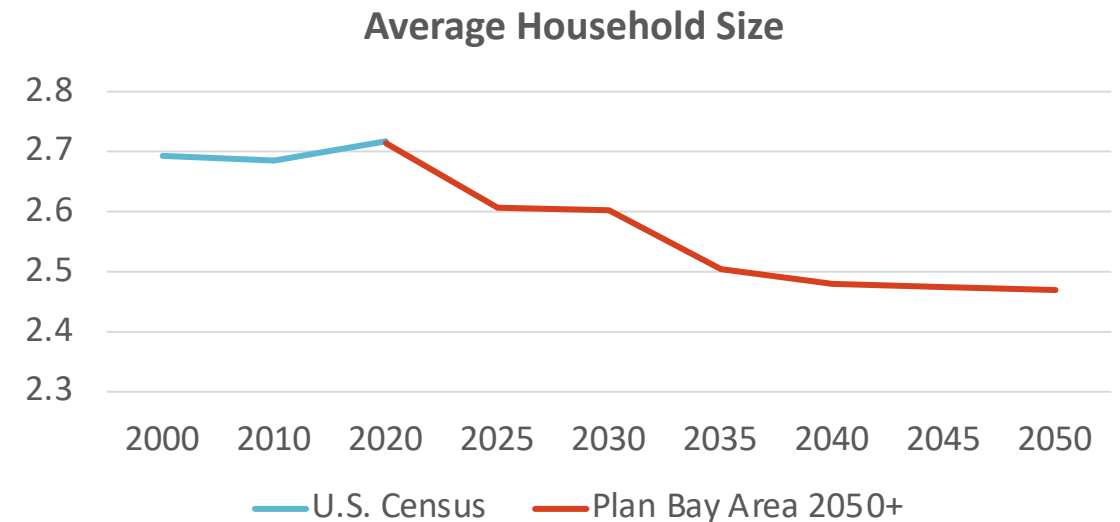
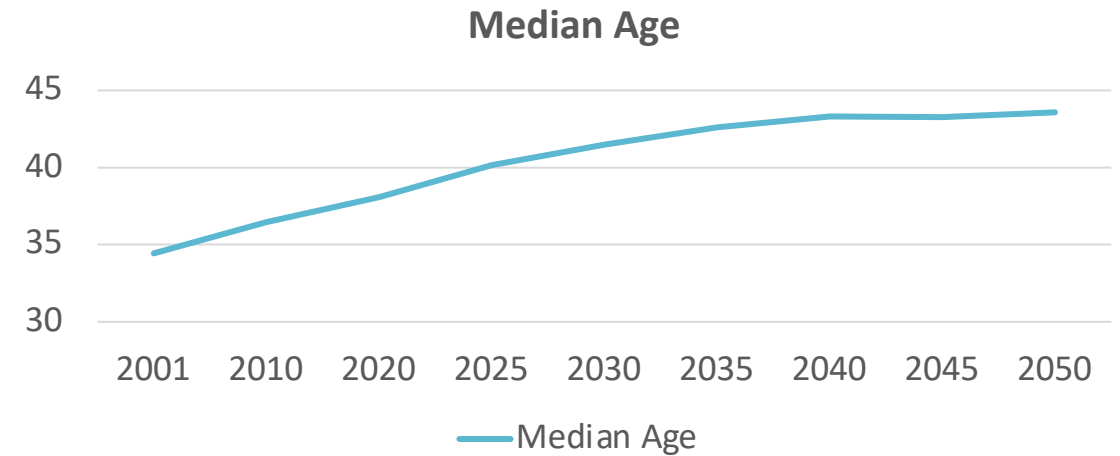
Draft Forecast: Bay Area Competitive Job Outlook Continues

- Despite the lower population and household growth, the jobs growth is similar to the Plan Bay Area 2050 forecast.
- This robust regional job growth is driven by a stronger national outlook, which partly reflects the expanding gig economy, secondary job opportunities, and remote jobs. The region is expected to remain attractive to workers and industries that align with these evolving trends.
- The region will continue to be a center for **innovation, technology, and high-value services and industries:**
 - Three sectors represent half of the region's jobs and drive 71% of job growth from 2020 to 2050: Professional & Managerial Services, Arts & Recreation & Other Services, Health & Educational Services.



Draft Forecast: An Aging Population Drives Housing Demand

- The region's **population continues to age** due to lower fertility rates: the share of senior population (65+) would increase steadily while both the younger half of the working age population (25-44), youth (0-14) and teens / young adults (15-24) would decrease in share; the median age is anticipated to rise to just below 44 by 2050.
- Population growth is expected to be largely driven by in-migration rather than natural increase.
- A relatively older population generally means **smaller households** and tends to require a larger housing stock as well as different local services.
- Consequently, the region is expected to see slightly **more housing unit growth than household growth**: between 2020 and 2050, housing units will grow by 1.1 million, or 123,000 more than household growth.



Data source: MTC/ABAG, U.S. Census Bureau Decennial Censuses, REMI

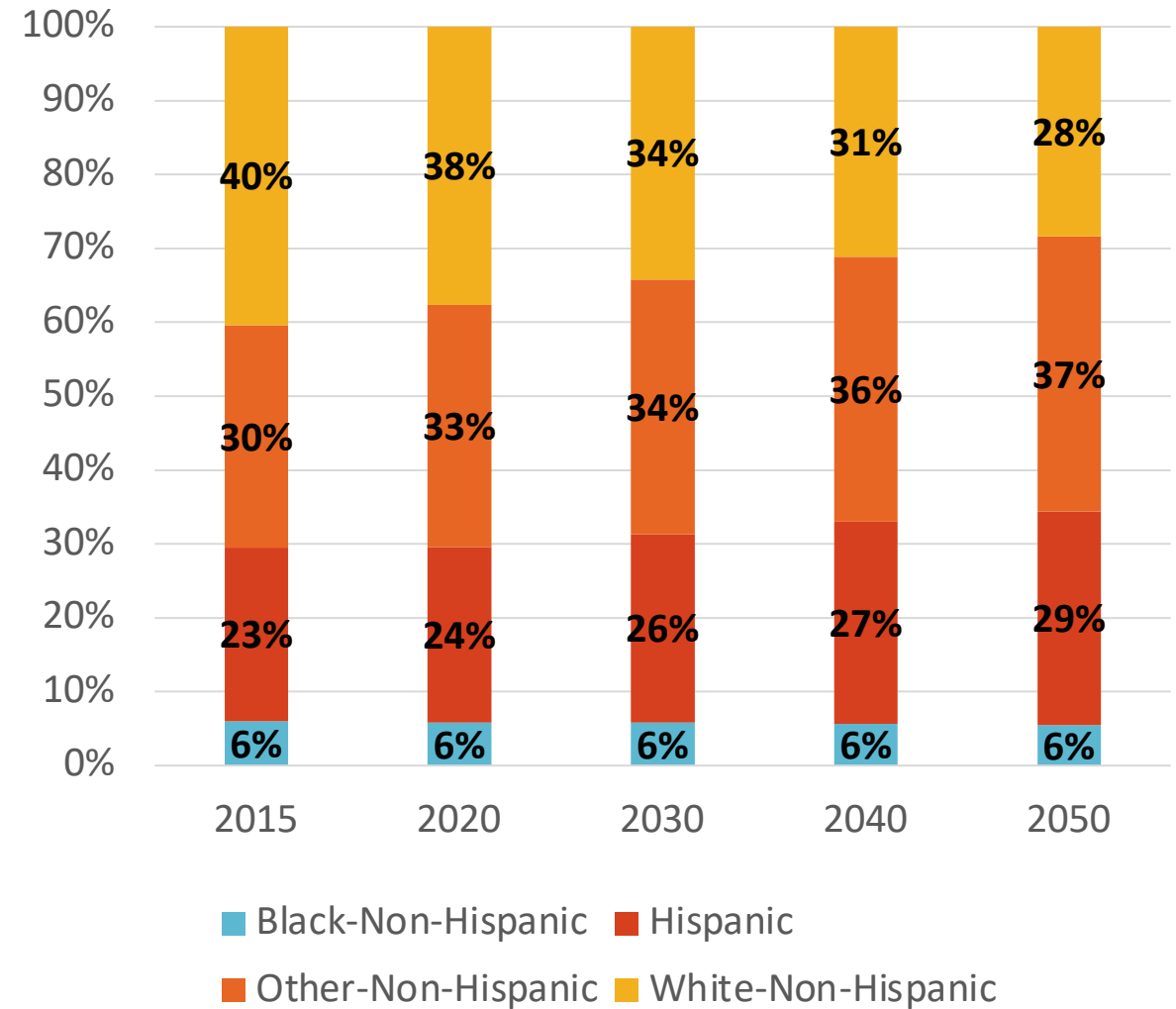
Draft Forecast: Greater Racial and Ethnic Diversity

The Bay Area's population continues to diversify in terms of racial and ethnic composition. Between 2020 and 2050:

- The total population grows by 24%
- The Hispanic population increases by 51%, followed by Other Non-Hispanic population (40%) and Black Non-Hispanic population (16%)
- The White Non-Hispanic population declines slightly by 7%

These changes reflect a combination of national and local dynamics, with different migration rates and fertility rates across ethnic groups.

Race/Ethnicity Distribution



Data source: REMI, MTC/ABAG

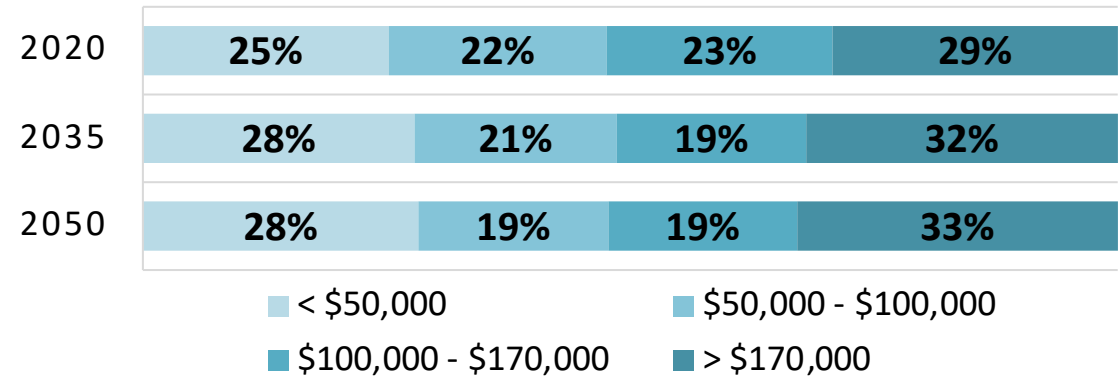
Other Non-Hispanic includes: individuals that are Asian-American, Native American, or Pacific Islander, as well as those of two or more races.

Draft Forecast: Moderate Increases in Income Inequality

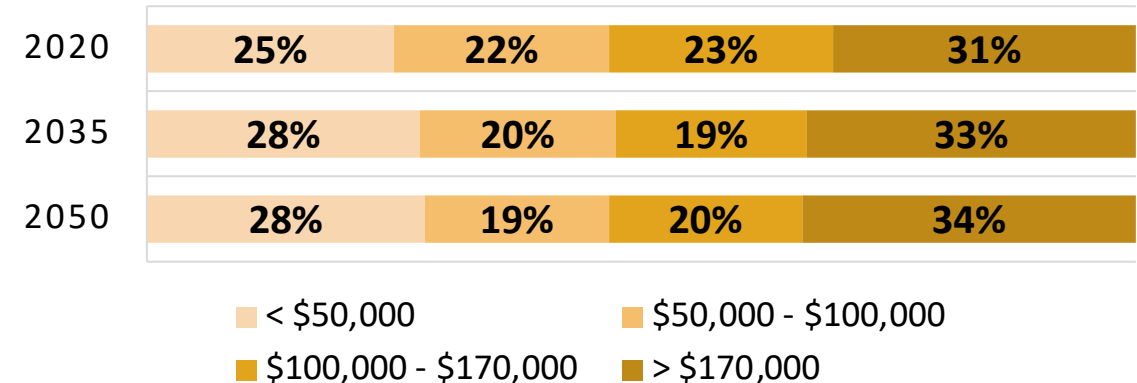
- As with the Plan Bay Area 2050 forecast, we see a shrinkage of the two middle-income groups:
 - Between 2020 and 2050, the shares of medium-low income and medium-high income households will each decrease by 3 percentage points.
- A corresponding change is seen in the high-income group: an increase of 3 percentage points between 2020 and 2050, similar to the Plan Bay Area 2050 trend.
- The increase in the lower-income group is driven in part by a modest increase in the share of seniors. As housing becomes more available, more lower income households are expected to be able to stay in the region.

Households Income Group Distribution

PLAN BAY AREA 2050



PLAN BAY AREA 2050+



Data source: REMI, MTC/ABAG. Numbers don't add to 100 due to rounding.

Note: **Figures do not include adjustment for the Universal Basic Income (Strategy EC1).** Income groups are denoted in 2020 dollars.

Q & A *(20 minutes)*

Key External Forces and Draft Regional Growth Forecast

PLAN BAY AREA 2050 +



ASSOCIATION OF BAY AREA GOVERNMENTS
METROPOLITAN TRANSPORTATION COMMISSION

equitable for future generations by addressing today's challenges like housing affordability, economic uncertainty, mobility and connectivity, and climate change. The plan was shaped by and responds to the challenges introduced by the COVID-19 pandemic and a growing sense of urgency to address climate change impacts and overcome generations of racial inequities. These challenges continue to affect the Bay Area as we look to the future. We are only just beginning to understand the potential long-term impacts of the last three years.

THE "NEW NORMAL" MEAN TO YOU?

How is your life in terms of housing, the economy, transportation and the environment changing? How do you see the future as they relate to housing, the economy, transportation and the environment?

Transportation Environment

Facebook.com/MTCBATA @mtcbata

open house and think!
tra reunion
os su opinion!

活動：並告知我們有



PLAN BAY AREA 2050+



ASSOCIATION OF BAY AREA GOVERNMENTS
METROPOLITAN TRANSPORTATION COMMISSION

Draft Needs and Revenues Forecasts

Transportation Element: Raleigh McCoy, MTC/ABAG

Housing Element: Mark Shorett, MTC/ABAG

Environment Element: Michael Germeraad, MTC/ABAG

October 19, 2023

Transportation: Needs and Revenues Overview



For Transportation, “Needs” are:

The estimated costs to operate, maintain, and optimize the transportation system.

For Transportation, “Revenues” are:

The estimated revenues from federal, state, regional, local, and new sources reasonably expected to be available over the planning period.

What’s different about Transportation?

Statute requires the Transportation Element to be fiscally constrained, meaning that investments to maintain and enhance the system must not exceed projected revenues. Major projects must be included in the project list to advance to construction.



Source: California High-Speed Rail Authority



Photo Credit: SFMTA



Photo Credit: Santa Rosa Press Democrat

Forecasting Transportation Strategy Needs

- Road and bridge needs are assessed using data from StreetSaver®, the California LSR Needs Assessment, BATA's maintenance and replacement schedules, and Caltrans' plans.
- Transit operating needs are projected from a 2023 baseline, adjusted for inflation and labor cost increases.
- Transit capital needs use the Regional Transit Capital Inventory and TermLite software to predict replacement costs based on asset lifespans. The incremental cost of transitioning bus and ferry fleets to zero-emission technologies are informed by MTC's 2023 Regional Zero-Emission Transit Transition Plan.

Forecasting Transportation Strategy Revenues

- Revenues are based on federal, state, regional, and local sources, as well as new and strategy-based revenues and comprise all revenues that are "reasonably expected to be available" within the plan period.
- Revenues are forecasted annually from a 2023 baseline. Some revenues rely on annual growth rates, while others are forecasted to reflect changing trends, such as fuel consumption or transit ridership, or through partner agency feedback.

Transportation: Forecasted Draft Blueprint Needs



While Plan Bay Area 2050+ total transportation needs (\$381 billion) are roughly on-par with those of Plan Bay Area 2050, annualized costs have increased 15%.

- **Increased Costs.** Supply chain blockages, recent inflation spikes, and a competitive labor market have all increased the costs to operate and maintain existing assets.
- **Methodological Changes.** Baseline transit operating needs are lower for Plan Bay Area 2050+ due to a methodological shift that assumes baseline service levels remain constant throughout. Conversely, local streets and roads needs have increased due to better data on the cost of maintaining non-pavement assets like curb ramps and stormwater drainage.
- **Zero-Emission Fleet Incremental Cost.** The MTC Regional Zero-Emission Transit Transition Plan informs updated vehicle and facility costs to account for clean fleets.

Asset Categories (\$ in billions)	Plan Bay Area 2050	Plan Bay Area 2050+	Change
Local Streets, Roads, and Bike/Ped Assets	\$62	\$72	\$11
Local Bridges	\$3	\$3	\$0
Regional Bridges	\$22	\$20	(\$2)
State Highways	\$24	\$29	\$4
Transit Operations	\$211	\$183	(\$28)
Transit Capital Assets	\$60	\$66	\$7
Transit Capital Assets: Zero-Emission Fleet Incremental Cost	\$0	\$8	\$8
Total	\$381	\$381	\$0

Note: Numbers may not total due to rounding

Transportation: Forecasted Draft Blueprint Revenues



At \$493 billion, forecasted revenues for Plan Bay Area 2050+ are less than the previous plan. Notable changes include:

- **Fare Revenues** – Ridership recovery continues to be a challenge and overall fare revenues are not anticipated to return to levels assumed in Plan Bay Area 2050.
- **New Revenues** – The near-term transit operating fiscal cliff has accelerated the timeline for a new regional measure. This forecast assumes roughly \$1 billion in annual revenue beginning in 2026, adjusted from the roughly \$2 billion in revenue starting in 2032 assumed in Plan Bay Area 2050.
- **Gas Tax Assumptions** – As a result of anticipated significant declines in fuel consumption due to EV conversion, this forecast assumes the state will implement a revenue neutral mileage-based user fee to replace the gas tax.

Transportation System Needs Categories (\$ in billions)	Plan Bay Area 2050	Plan Bay Area 2050+	Change
Local Streets, Roads, and Bike/Ped Assets	\$62	\$72	\$11
Local Bridges	\$3	\$3	\$0
Regional Bridges	\$22	\$20	(\$2)
State Highways	\$24	\$29	\$4
Transit Operations	\$211	\$183	(\$28)
Transit Capital Assets	\$60	\$66	\$7
Transit Capital Assets: Zero-Emission Fleet Incremental Cost	\$0	\$8	\$8
Total Transportation Needs	\$381	\$381	\$0
Total Transportation Revenue <u>Without</u> Anticipated, New, and Optional Revenues	\$477	\$406	(\$71)
Total Transportation Revenue <u>With</u> Anticipated, New, and Optional Revenues	\$591	\$493	(\$98)

Note: Numbers may not total due to rounding

Transportation: Implications for Projects



Plan Bay Area 2050+ forecasts higher costs and lower revenues versus Plan Bay Area 2050, teeing up challenging tradeoff discussions ahead:

- **At \$381 billion, costs to operate, maintain and optimize** the transportation network over the plan horizon are roughly equivalent to Plan Bay Area 2050, despite a shorter plan period
- **Capital costs** for major projects are rising faster than inflation, on the order of 20% to 40% greater than Plan Bay Area 2050
- The **draft revenue forecast including anticipated, new and optional revenues** is nearly \$100 billion less than the prior plan
- Without anticipated, new or optional revenues, **funding for expansion and/or enhancement projects would be extremely limited** after addressing operating and maintenance needs

Bottom line: Projects may need to be delayed or removed to meet fiscal constraint requirements.



Source: Alex Eisenhart

Housing Needs & Revenues Overview



For Housing, “Needs” are:

The estimated public subsidy needed to ensure Bay Area residents have access to affordable housing regardless of income level, including currently unhoused residents.

For Housing, “Revenues” are:

The estimated revenues from local, regional, state and federal sources available over the planning period

What’s different about Housing?

Unlike Transportation, needs and revenues for Housing are not fiscally constrained. Implementing Housing Strategies may require a significant increase in future revenue.



Source: MTC Photo Library

Housing: Draft Needs and Revenues Methodology



MTC Photo Library

Housing needs consider:

- **Current shortfall:** number of rent burdened low-income households, including unhoused residents¹ (502,000)
- **Future need:** forecasted increase in low-income households over plan period², minus share met by new inclusionary units (455,000)
- **Required subsidy:** Estimated subsidy required to meet this need. This involves making current homes permanently affordable and building new affordable homes. While traditional bank loans cover some of this cost, for affordable homes subsidies are also required.



MTC Photo Library

Housing revenues consider:

- **Federal and state sources:** funding allocated to the Bay Area in typical year from federal and state affordable housing programs (e.g. HCD programs such as Affordable Housing & Sustainable Communities)
- **Local and regional subsidies:** funding generated from bond measures and fees dedicated to affordable housing subsidies by Bay Area jurisdictions in a typical year.

1. Defined as the sum of the 2022 Point in Time (PIT) counts for the nine Bay Area Counties and the number of Bay Area households with incomes between 0-80% Area Median for whom monthly housing costs exceed 30% of gross monthly income. Sources: California Housing Partnership, 2023; HUD, 2023.

2. Defined as first quartile of households in Draft Plan Bay Area 2050+ Regional Growth Forecast, consistent with Plan Bay Area 2050 methodology. Source: MTC, 2023

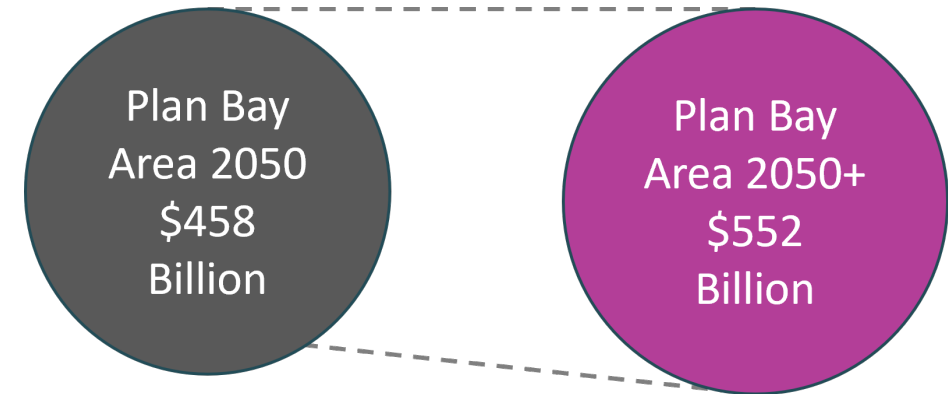
Housing: Forecasted Draft Blueprint Needs



The estimated baseline housing subsidy need for Plan Bay Area 2050+ is greater than the previous plan. Some of the reasons for this are:

- **Rising development costs.** Increased construction costs and interest rates have driven up the per unit cost to build housing.
- **Increasing income inequality.** Compared to Plan Bay Area 2050, low-income households are forecasted to account for a larger share of overall population growth in Plan Bay Area 2050+.
- **More nuanced methodology.** To better capture overall housing need, Plan Bay Area 2050+ accounts for all of today's cost-burdened households as well as variations in cost linked to factors such as household size, resulting in a more comprehensive regional picture.

Estimated Funding Need: Plan Bay Area 2050 and 2050+ Housing Strategies



Housing Element Themes (\$ in billions)	Plan Bay Area 2050	Plan Bay Area 2050+	Change
Protection & Preservation	\$239	\$252	+\$13
Production	\$219	\$302	+\$83
Inclusive Communities	\$10	\$11	+\$1
Total	\$458	\$552	\$97

Note: Estimates shown in Year of Expenditure dollars over full plan period, accounting for anticipated future inflation; reflects total subsidy from federal, state, and leveraged regional/local sources.

Housing: Forecasted Draft Blueprint Revenues

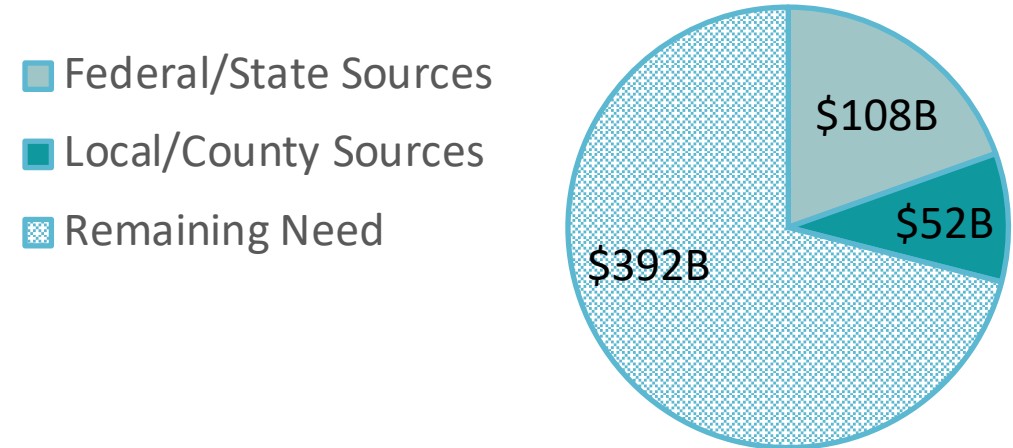


While the region has seen an uptick in housing subsidies since the adoption of Plan Bay Area 2050, extending this increase into the future falls far short of meeting current and future need. Key updates include:

- **State allocation of funding to augment federal sources.** To help address the oversubscription of the state’s allocation of Low-Income Housing Tax Credits (LIHTC), the state has added tax credits to the overall resource pool, coupled with programs to meet specific needs.
- **New local funding sources.** Adding to existing bond measures in many Bay Area counties, numerous cities established commercial linkage fees, inclusionary programs, and other sources of subsidy for affordable housing reliant on development activity.

A generational investment in housing remains necessary.

Plan Bay Area 2050+ Housing Needs & Revenues (Billions in year of expenditure dollars)



Note: Estimates shown in Year of Expenditure dollars over full plan period, accounting for anticipated future inflation. Reflects total subsidy from federal, state, and leveraged regional/local sources. May be revised in Final Blueprint pending potential 2024 regional housing measure.

Refinements to the Plan’s Housing strategies will aim to meet the remaining need by reducing production costs and through a mix of regional, state, and federal sources.



For the Environment, “Needs” are:

The estimated financial need to support the nine environment strategies.

For the Environment, “Revenues” are:

The estimated revenues from local, regional, state and federal sources available over the planning period. This is the first time Plan Bay Area has included a revenue forecast for the environment element.

What’s different about the Environment?

Strategy EN1 through EN7 needs are not fiscally constrained.

Strategy EN8 and EN9 needs are fiscally constrained with supporting revenue accounted for in the Transportation Element.





Photo Credit: Flickr user, City of Marietta



Photo Credit: Wikipedia Commons

Forecasting Environment Strategy Needs

For most environment strategies, a per-unit cost is developed using as many sources of data as available (e.g. average cost of adding a street tree). Then for each strategy the per-unit costs are multiplied based on the strategy scope (e.g. number of street trees added). For most strategies, it is assumed that an equal portion of the strategy is implemented in each year, 2025 through 2050, with costs escalating to account for inflation each year.

Strategy EN1 – Adapt to Sea Level Rise also includes locally developed, project-specific costs. Strategy EN8 and EN9 assume a different rate of investment across future years.

Forecasting Environment Strategy Revenues

Individual revenue sources are identified from Federal, State, and Local budget documents. For established funding programs, historic revenue rates are forecasted into the future, adjusting for inflation; for new funding programs, like those identified in the Bipartisan Infrastructure Law, Inflation Reduction Act, and recent State Budgets, a proportional population share is assumed. For local revenues, the California Elections Data Archive is used to identify past funding measures with a nexus with Environmental Strategies.

Environment: Forecasted Draft Blueprint Needs



Environment element needs are twice as high in Plan Bay Area 2050+ compared with the prior plan.

- **Strategy EN1.** The \$66 billion increase is due to increasing adaptation coverage from 3.0 to 4.9 feet as well as updated cost estimates.
- **Strategies EN2 & EN3 and Strategies EN5 & EN6.** Reshuffling between the paired strategies results in a decrease in one and an increase in the other. Strategy EN3 also increased due to expanding building decarbonization to cover all buildings.
- **Strategy EN8.** This increase stems from bolder Plan Bay Area 2050+ clean vehicle targets, including the potential expansion of this strategy to incorporate an e-bike subsidy or shared e-bike program.

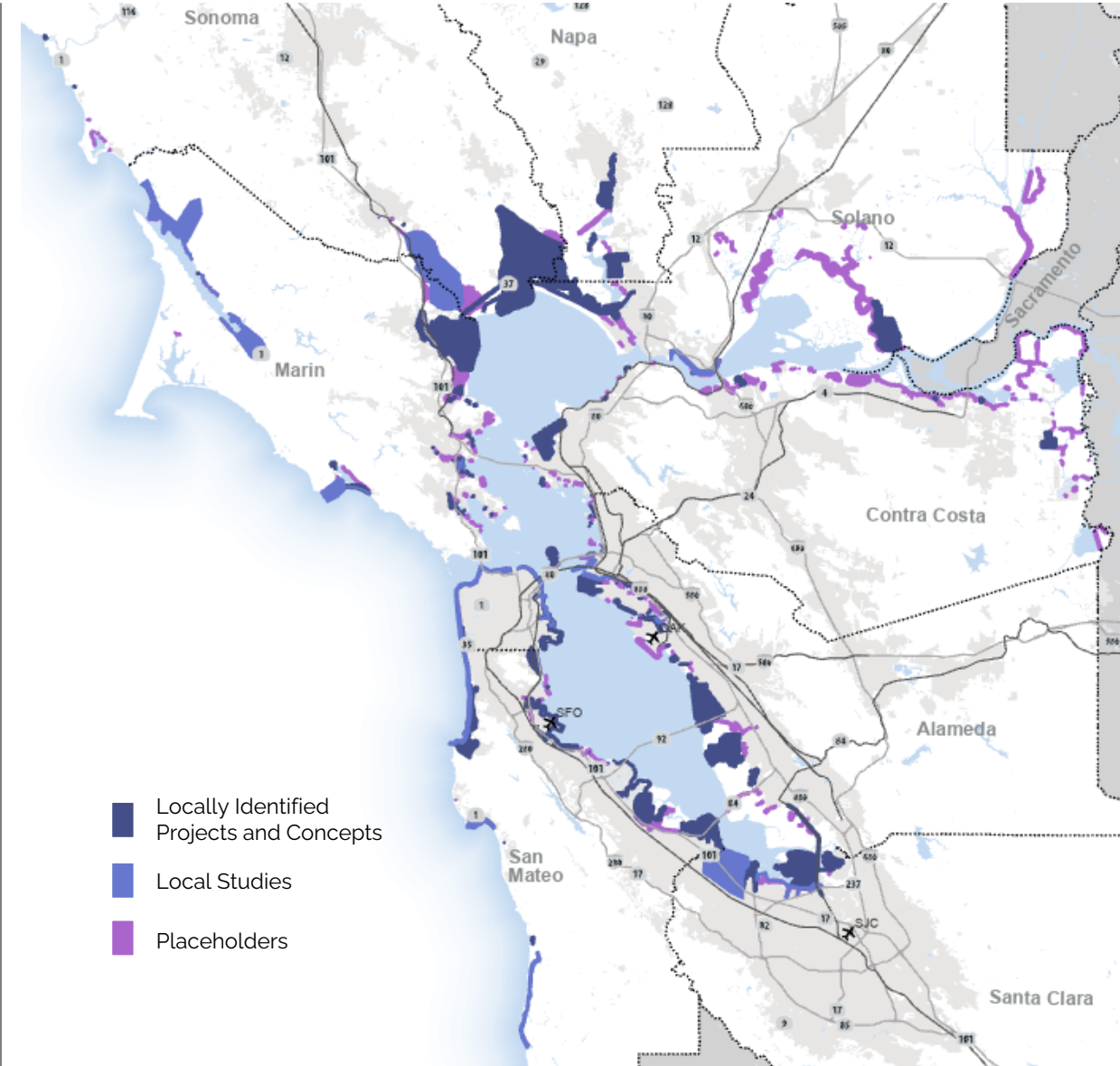
Environment Element Strategies (\$ in billions)	Plan Bay Area 2050	Plan Bay Area 2050+	Change
Strategy EN1: Adapt to Sea Level Rise	\$19	\$85	\$66
Strategy EN2: Seismic & Wildfire Home Retrofits	\$15	\$7	-\$8
Strategy EN3: Energy & Water Building Retrofits	\$18	\$52	\$34
Strategy EN4: Maintain Urban Growth Boundaries	<\$1B	<\$1B	-
Strategy EN5: Protect & Manage Conservation Lands	\$15	\$42	\$27
Strategy EN6: Modernize and Expand Parks & Trails	\$30	\$20	-\$10
Strategy EN7: Expand Commute Trip Reduction Prgm.	<\$1B	<\$1B	-
Strategy EN8: Expand Clean Vehicle Initiatives	\$5	\$8	\$3
Strategy EN9: Expand Transportation Demand Mgmt.	\$1	\$2	\$2
Total	\$103	\$215	\$112

Environment: Sea Level Rise Adaptation & Needs



In 2022-2023, MTC/ABAG and BCDC developed the *Sea Level Rise Adaptation Funding and Investment Framework*, which inventoried planned and conceptual sea level rise projects. The Framework estimated a regional need of \$110 billion by 2050. Plan Bay Area 2050+ will integrate the Framework inventory into Strategy EN1 but will further prioritize projects. An initial mapping analysis to sort adaptation projects that support frontline communities, growth geographies, and key infrastructure systems, reduces the total cost of the strategy to \$85B.

- **50% of the cost estimate are “placeholders,”** where there is an identified need but no local adaptation plan. Nature-based approaches are assumed when suitable.
- **Fully nature-based or “green” projects made up 35% of known projects and 11% of known project costs.** Most other projects were "hybrid" with some nature benefits.



Map: the Framework Inventory has been integrated into Plan Bay Area 2050+.

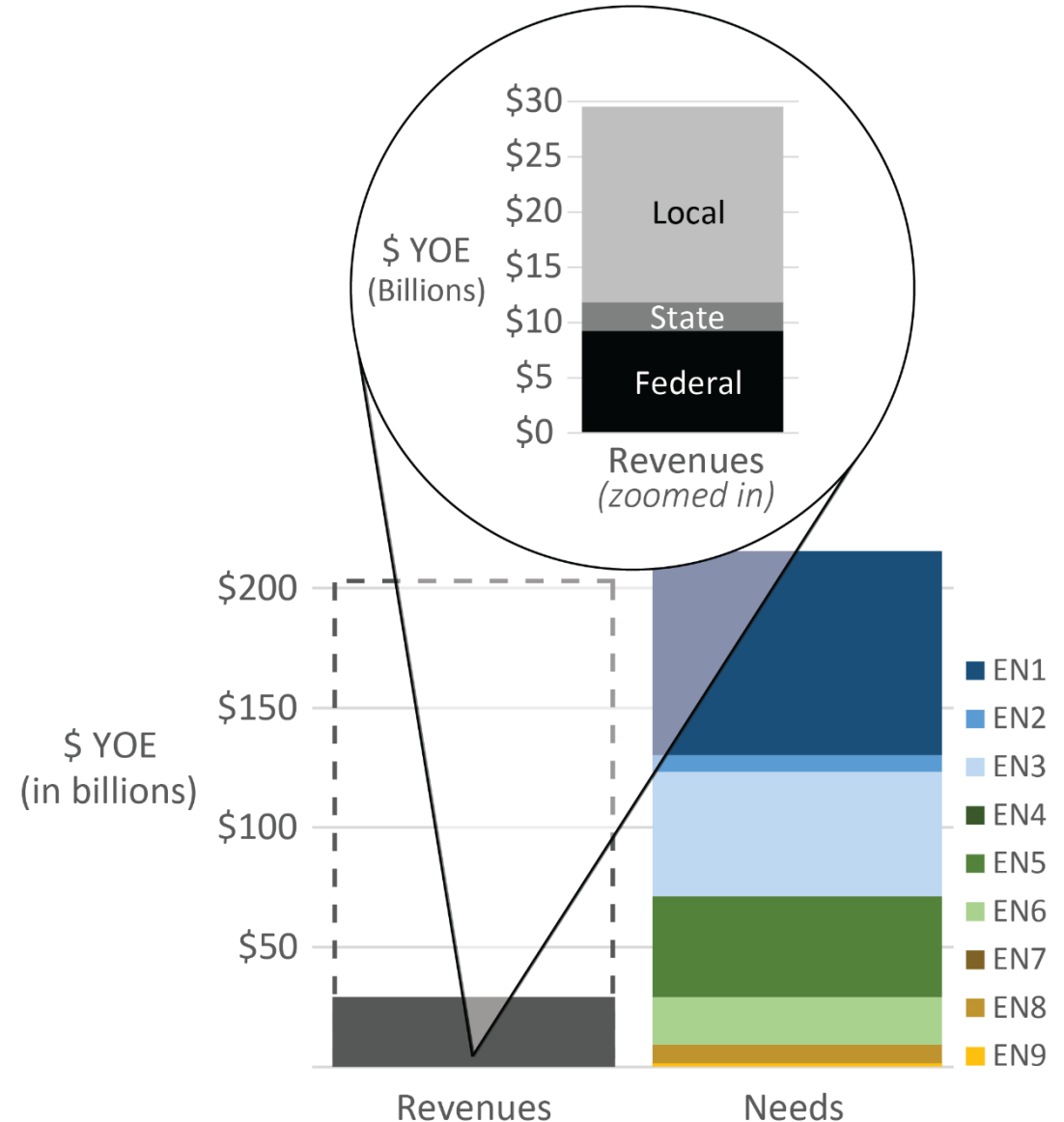
Environment: Forecasted Draft Blueprint Revenues



Only 14% of the environment needs are met with forecasted revenues.

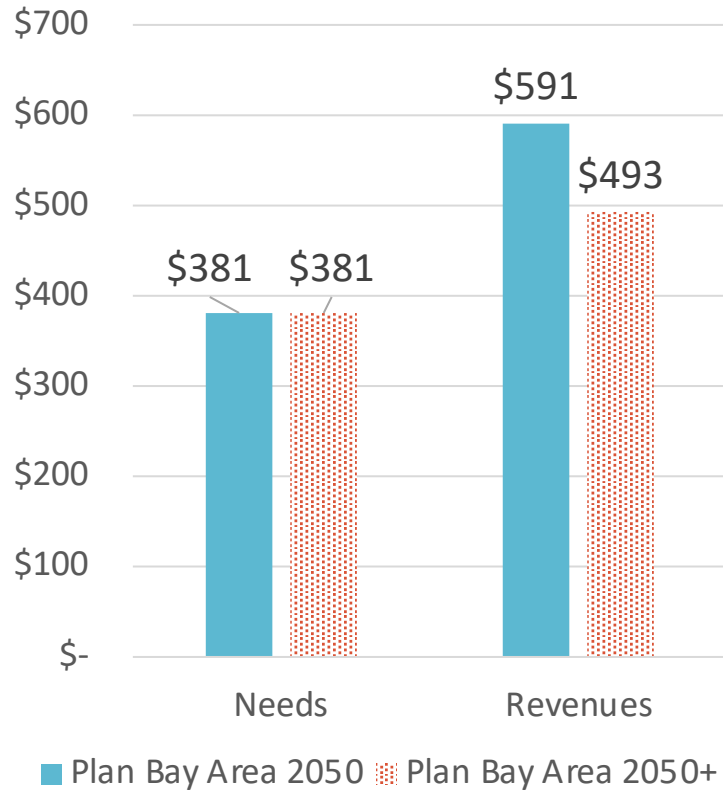
- Many environmental funding sources are one-time sources, particularly for emerging needs like sea level rise, building decarbonization, urban greening, and transportation demand management. There are very few programs that support these needs with funding anticipated beyond 2027.
- Despite trillion-dollar Federal and billion-dollar State action in recent years, the regional impact shrinks to just millions of dollars when reduced to the Bay Area's share of relevant funding programs.

Forecasted Plan Bay Area 2050+ Environment Revenues vs. Needs



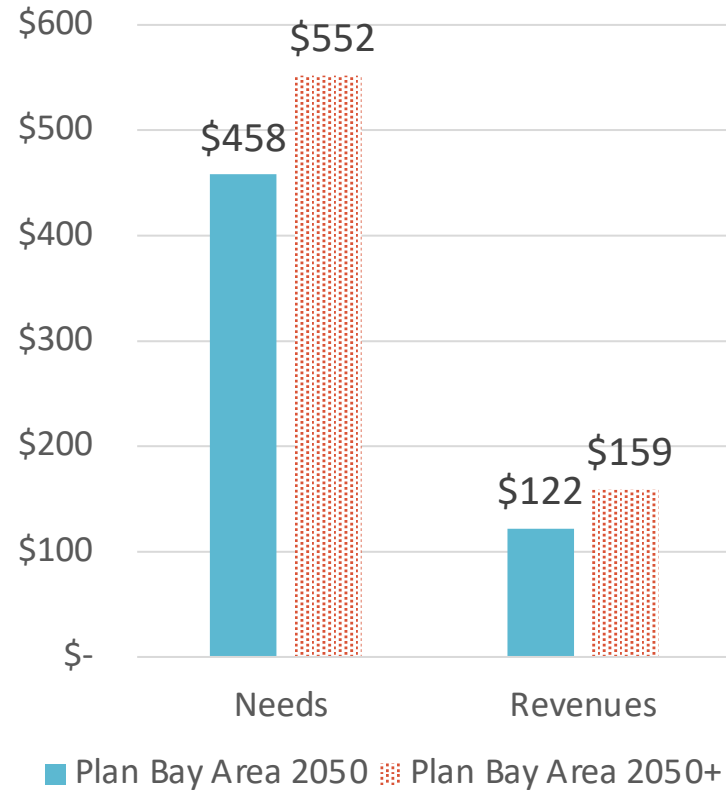
Recap: Greater Financial Challenges Facing the Region

Draft Transportation Needs & Revenues (\$ in billions)



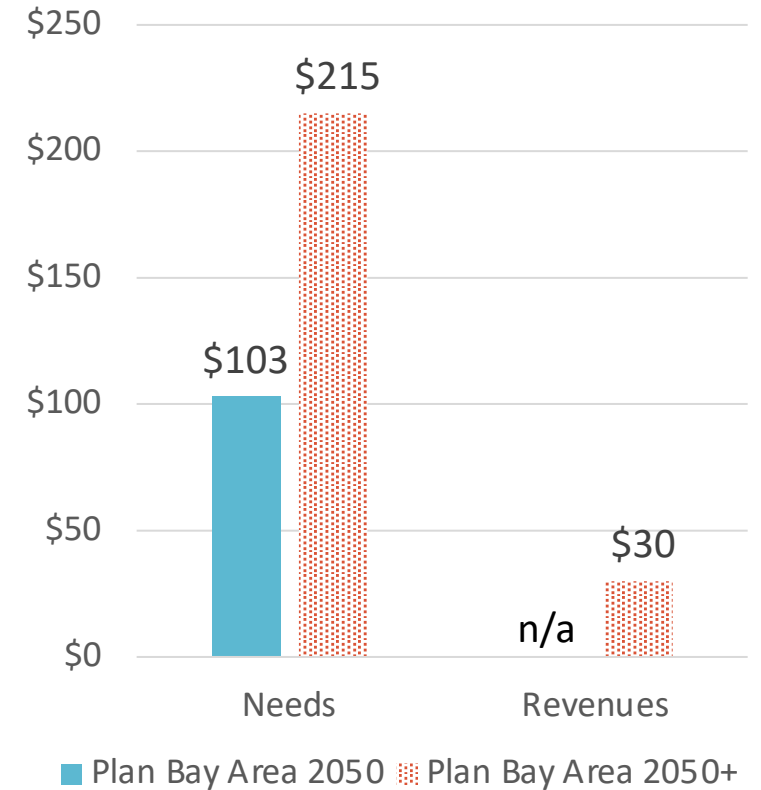
Transportation revenues decrease by \$98 billion, despite similar level of needs to operate and maintain the system. This leaves significantly less funding for all remaining transportation strategies and associated projects.

Draft Housing Needs & Revenues (\$ in billions)



Housing needs increase by \$97 billion, despite only \$37 billion in revenue increase. This indicates a significant financial gap that requires federal, state, regional, and local monies to provide sufficient affordable housing for all.

Draft Environment Needs & Revenues (\$ in billions)



Environment needs increase by \$112 billion, far exceeding the available revenues. This indicates a significant financial gap that requires federal, state, regional, and local monies to advance environmental goals.



PLAN BAY AREA 2050+



ASSOCIATION OF BAY AREA GOVERNMENTS
METROPOLITAN TRANSPORTATION COMMISSION

Q & A

(20 minutes)

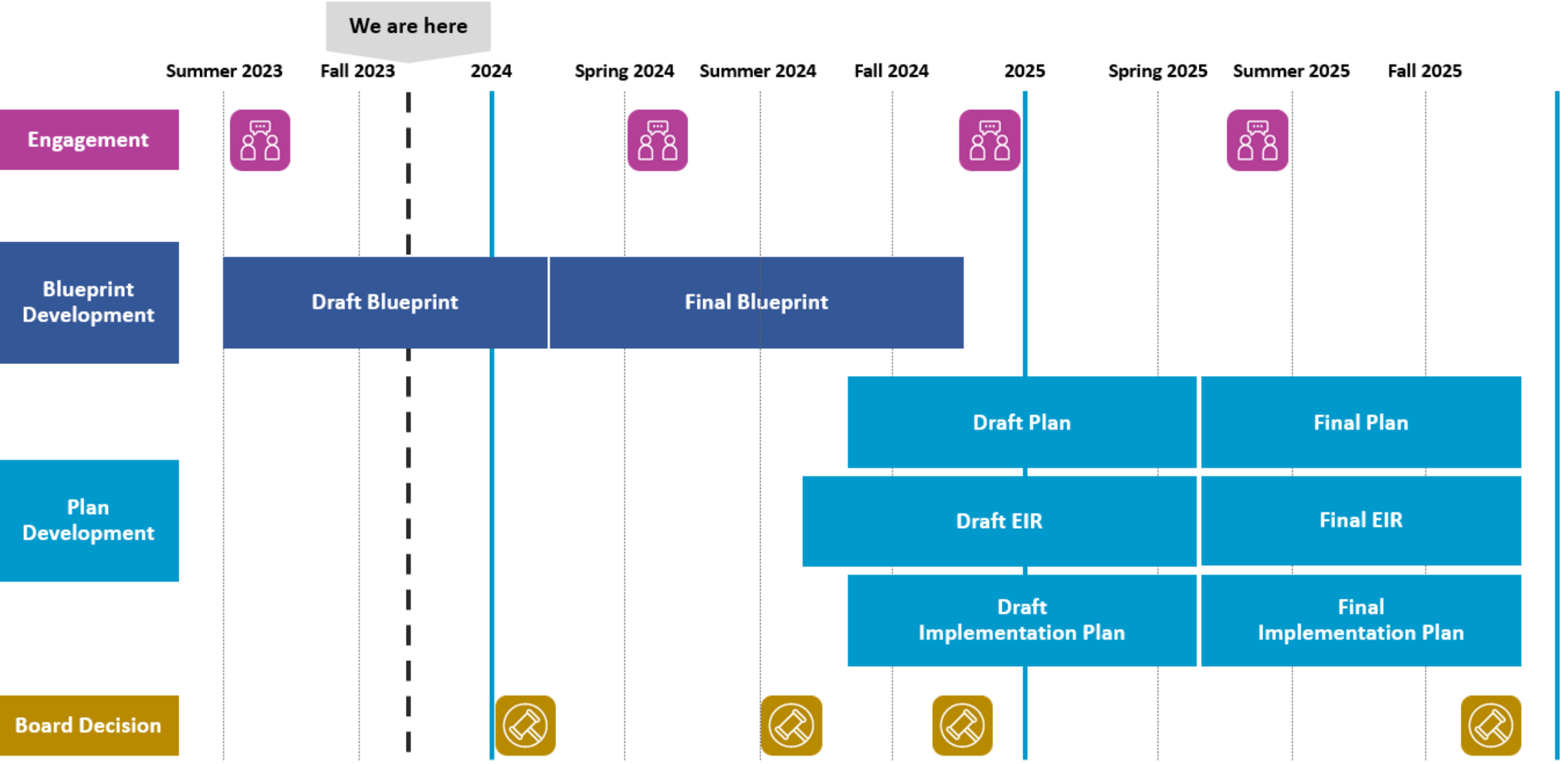
Draft Needs and Revenues Forecasts



Next Steps

What's Coming Up & Other Opportunities for Input

Plan Bay Area 2050+: Schedule



Plan Bay Area 2050+: Key Next Steps

- Staff will provide **updates to MTC/ABAG committees** on a variety of topics over the coming months, including:
 - Round 1 Public Engagement Findings; Draft Core Planning Assumptions; Anticipated Draft Blueprint Refinements
(November 2023 – Information)
 - Transit 2050+ Update
(December 2023 – Information)
 - Draft Blueprint Strategy Adoption
(January 2024 – Action)



Photo: Noah Berger



PLAN BAY AREA 2050+



ASSOCIATION OF BAY AREA GOVERNMENTS
METROPOLITAN TRANSPORTATION COMMISSION

Remaining Round 1 Engagement Opportunities

Office Hours

Schedule direct meetings with MTC/ABAG staff in **October** to further discuss the Draft Blueprint.

Comments

Submit written comments by email to info@planbayarea.org, or by mail to **MTC Public Information Office**
375 Beale Street, Suite 800
San Francisco, CA 94105.

Visit the Partner Engagement page on planbayarea.org to learn more.



PLAN BAY AREA 2050 +



ASSOCIATION OF BAY AREA GOVERNMENTS
METROPOLITAN TRANSPORTATION COMMISSION

Thank you!

Chirag Rabari – crabari@bayareametro.gov

Plan Bay Area 2050+ Project Manager, MTC/ABAG

Yuqi Wang - ywang@bayareametro.gov

Plan Bay Area 2050+ Deputy Project Manager, MTC/ABAG