

In Case You Missed It Futures - Interim Report

Plan Bay Area 2050 Summer Webinar Series

Michael Germeraad - Associate Planner
7/30/2019

Today's Webinar

Quick
Introduction
to Plan Bay
Area 2050

Futures
Process
Overview

Early
Futures
Findings
(Round 1)

Current
Futures
Analysis
(Round 2)

Q&A +
Upcoming
Webinars

What is Plan Bay Area?

- The regional plan is a **blueprint for growth and infrastructure for the next 30 years**.
- The regional plan is **updated every four years**, with this major update due in 2021.
- The regional plan is a reflection of **the shared priorities of the diverse nine-county San Francisco Bay Area**.
- The regional plan is **fiscally-constrained**, even as it aspires to tackle the Bay Area's big challenges with specific strategies.
- The regional plan is **not an expenditure plan**; it is focused on setting priorities and over the long term and looking holistically across “silos”.





Spring 2015 to
July 2017



February 2018 to
October 2019



September 2019 to
June 2021

High-performing strategies and projects from *Horizon* - those that are resilient to uncertainties - **will be recommended for inclusion in the Preferred Plan Bay Area 2050 (RTP/SCS).**



What Topic Areas Do These Efforts Tackle?

Horizon and Plan Bay Area 2050 are addressing four core topic areas, as we work to create a long-range integrated regional vision for the next 30 years.

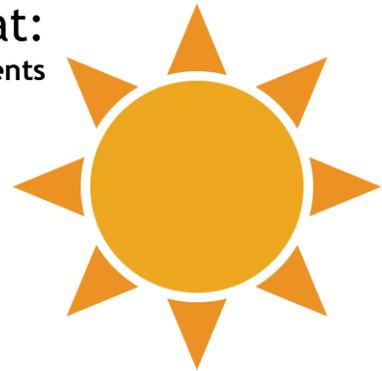


Transportation

Housing

Economic
Development

Environment



Plan Bay Area 2050: Summertime Webinar Series

Growth Framework Update

- June 26, July 1 & July 10
 - New Criteria and Submitting Letters of Interest/Letters of Confirmation

Target audience:
Cities, counties, and CTAs

Preparing for Plan Bay Area 2050

- July 9
 - Public Engagement Process Overview
- **August 6**
 - Bay Area Spatial Information System (BASIS)
- **To Be Scheduled**
 - Horizon Perspective Paper 5: Bay Crossings
 - Looking Ahead: The Vision for Plan Bay Area 2050

Target audience:
Stakeholders & interested public

In Case You Missed It! (ICYMI)



- **July 30**
 - ICYMI: Horizon Futures Round 1 Analysis
- **August 14**
 - ICYMI: Horizon Perspective Paper 1 - Autonomous Vehicles

Target audience:
New stakeholders/
public



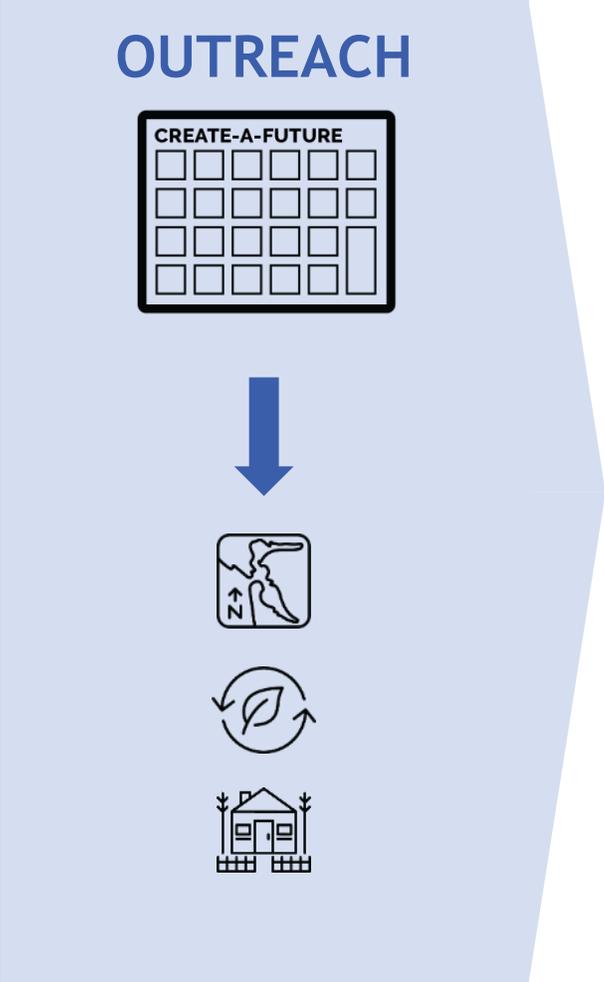
H O R I Z O N

In Case You Missed It Futures - Interim Report

Opportunities and Challenges

July 30, 2019 | Webinar

Futures Process



HORIZON CREATE-A-FUTURE

Multiple Superpowers	Higher Tax Rates More Graduated	Current Expenditures Similar Metro S
0% annual national population growth	+1.0% annual national job growth	20% increase to annually
50% e-commerce market share	Greater preference for walkable mixed-use	\$ per-oper
6 Wild Card ?	Greater preference for sharing	

ASSOCIATION OF BAY AREA GOVERNMENTS METROPOLITAN TRANSPORTATION COMMISSION



FUTURE # 5: The Rise of the City State

HORIZON CREATE-A-FUTURE

2 Feet of Sea Level Rise by 2050	M7.0 Hayward Fault Earthquake in 2035	Flawed Democracy	Decline of U.S. as Global Power	Lower Tax Rates Similar Structure	Lower Expenditures Lower Metro Share
2% tariff rates	Current Environmental Regulations	+0.5% annual national population growth	+0.5% annual national job growth	Education & Health 20% Finance 6% Government 10% Information 5% Manufacturing 4% Other (City) 9.5%	Professional & Business Services 11% Construction, Mining, Logging 5% Trade, Transport, Utilities 15% Leisure & Hospitality 15%
+4.0% annual national productivity growth	Greater preference for walkable mixed-use	Greater preference for urban job centers	15% telecommute share	50% e-commerce market share	Greater preference for sharing
Faster growth in interregional volumes	<ul style="list-style-type: none"> High Speed Rail Autonomous Rail Transit Autonomous Buses Hyperloop Freight Aerial Drones Lower-Cost Helicopter Transport Other: <input checked="" type="checkbox"/> None of the Above	10% fully-autonomous market share	50% electric vehicle market share	Greater preference for sharing	\$0.50 per-mile vehicle operating costs
\$0.5B annual federal funding for transportation		25 Wild Card ?	26 Wild Card ?		

ASSOCIATION OF BAY AREA GOVERNMENTS METROPOLITAN TRANSPORTATION COMMISSION

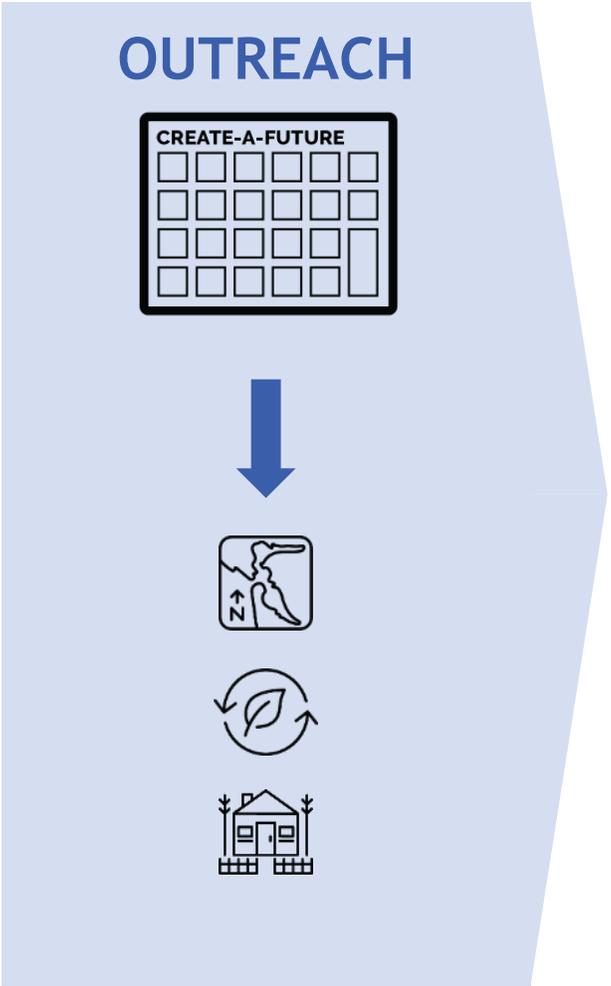
FUTURE # 6: COMBO PACK

HORIZON CREATE-A-FUTURE

2 Feet of Sea Level Rise by 2050	Flawed Democracy	Multiple Superpowers	Higher Tax Rates More Graduated	High Head Exp
20,000 immigrants to the Bay Area annually	Increased Environmental Regulations	+0.5% annual national population growth	+0.5% annual national job growth	Education & Health ↑22% Finance ↑2% Government ↓12% Information ↑2% Manufacturing ↓6% Other ↓3%
+1.0% annual national productivity growth	Greater preference for urban job centers	telecommuting 10%	e-retail 30%	Information ↑2% Manufacturing ↓6% Other ↓3%
Confidence in information	50% preference for urban jobs	95% electric vehicle market share	Greater preference for sharing	\$0.50 per-mile operating costs
\$1.1B annual federal funding for transportation	legalized marijuana	26 Wild Card ?		



Futures Process



**ROUND 1
ANALYSIS**
Current Strategies



REPORT



Futures Interim Report: Opportunities and Challenges

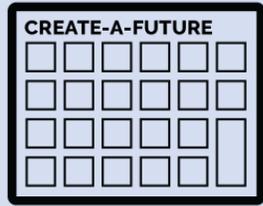
The full report highlights a broader suite of opportunities and challenges, delving into specifics for each future.

Go to: mtc.ca.gov/our-work/plans-projects/horizon/futures-planning



Futures Process

OUTREACH



ROUND 1 ANALYSIS

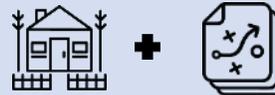
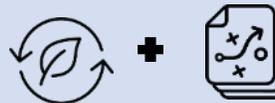
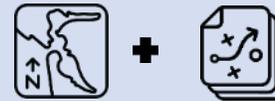
Current Strategies



REPORT

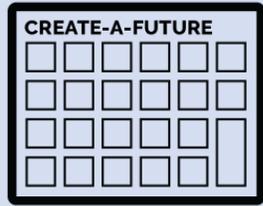


OUTREACH



Futures Process

OUTREACH



ROUND 1 ANALYSIS

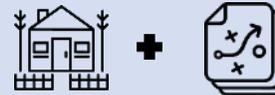
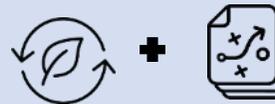
Current Strategies



REPORT



OUTREACH



ROUND 2 ANALYSIS

New Strategies



REPORT



Futures Analysis

Plan Bay Area 2040

Adopted in July 2017

Horizon Futures Round 1 Analysis

- *How does the region's currently-adopted Plan fare in an era of uncertainty?*
- *What are the opportunities and challenges the region may face?*



Baseline



PBA 2040
Strategies

Horizon Futures Round 2 Analysis

- *How might new strategies result in improved outcomes in each future?*
- *Which strategies are effective across many futures?*



Baseline



External
Forces



PBA 2040
Strategies



Baseline



External
Forces



New
Strategies

Refresher: What is a Strategy?

A strategy is a policy (such as upzoning around transit stations or pricing all freeways) or investment (such as a short list of major rail extensions, or a package of sea level rise infrastructure) that can be advanced and implemented by local, regional, or state government.

This differs from an external force, introduced in Futures Round 1 and carried over into Futures Round 2, which occurs on a national or global level and remains firmly outside the control of Bay Area residents, businesses, or local elected officials.



External Forces

- Trend reduced, lower, limited than today.
- Trend similar to today.
- Trend increased, higher, more rapid than today.

FUTURE NAME	IMMIGRATION AND TRADE	NATIONAL TAXES AND FUNDING	NATIONAL GROWTH	LAND USE PREFERENCES	NATIONAL ENVIRONMENTAL POLICY	NEW TECHNOLOGIES	NATURAL DISASTERS
 Rising Tides, Falling Fortunes	Reduced	Lower funding due to tax cuts	Limited	Housing: more urban	Relaxed regulations (3' SLR)	More limited	Magnitude 7.0 Hayward Fault earthquake
				Similar to today			
 Clean and Green	Similar to today	Higher funding via carbon tax	Similar to today	Housing: more urban	Stricter regulations (1' SLR)	Widespread	Magnitude 7.0 Hayward Fault earthquake
				Jobs: more dispersed			
 Back to the Future	Increased	Similar to today	Rapid	Housing: more dispersed	Similar to today (2' SLR)	Widespread	Magnitude 7.0 Hayward Fault earthquake
				Jobs: more urban			



PBA 2040
Policies

Plan Bay Area 2040 Policies

Land Use

- **Assign higher density** than currently allowed by cities in **select PDAs**.
- **Keep urban growth boundaries** in place.
- **Preserve and incorporate office space caps** in **some job-rich cities**.
- **Assume 10% inclusionary zoning** for all for-profit housing development.
- **Assume eased parking minimums**, streamlined process, and **subsidies stimulate development** in **PDAs**.

Transportation

- **Operate and Maintain** - Fix-it-First; Ongoing Operations
- **Modernize** - Caltrain Electrification, BART Core Capacity, New BRT Lines, Bay Area Forward, etc.
- **Expand** - BART to Silicon Valley, Caltrain DTX, Express Lanes Network, etc.



H O R I Z O N

Three Futures

By imagining three different futures for the Bay Area, we can begin to explore the impacts associated with each path forward.

H O R I Z O N

Rising Tides, Falling Fortunes

Imagine a future where the federal government cuts spending and reduces regulations, leaving decisions to states & regions.



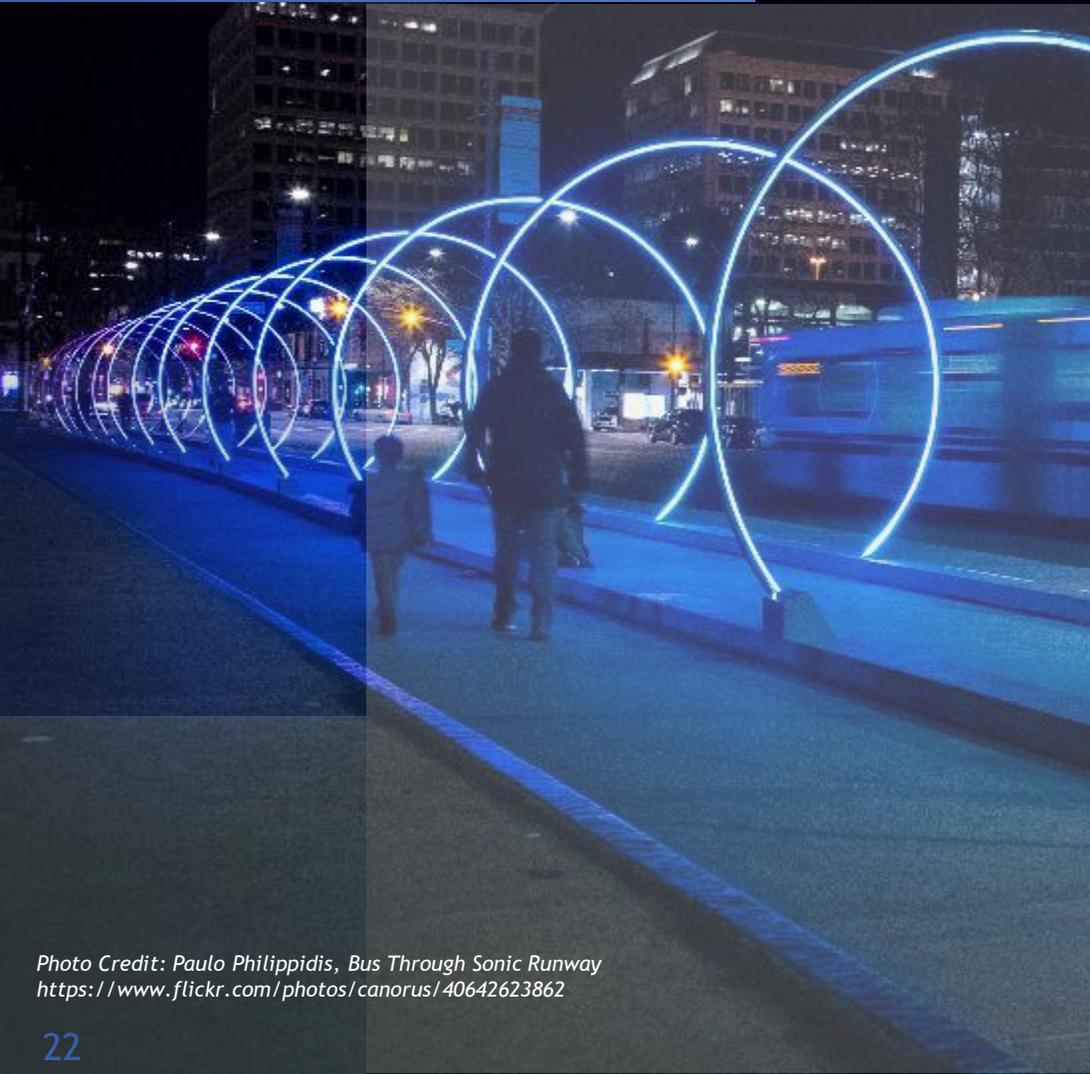
H O R I Z O N

Clean & Green

Imagine a future where new technologies and a national carbon tax enabled telecommuting and distributed job centers.



H O R I Z O N



Back to the Future



Imagine a future where an economic boom and new transportation options spur a new wave of development.

Photo Credit: Paulo Philippidis, Bus Through Sonic Runway
<https://www.flickr.com/photos/canorus/40642623862>

Population Growth

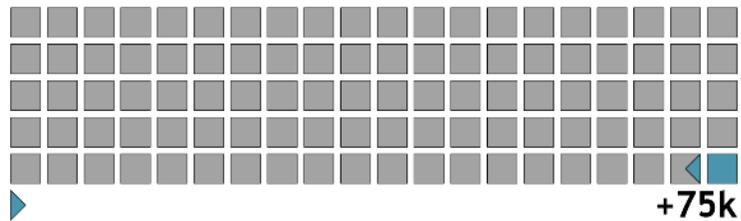
■ = 50,000 residents.
a single line represents 1 million residents



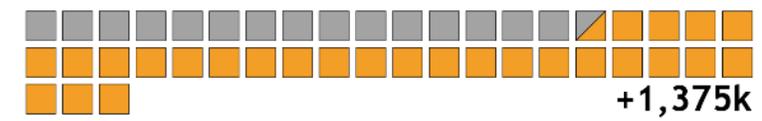
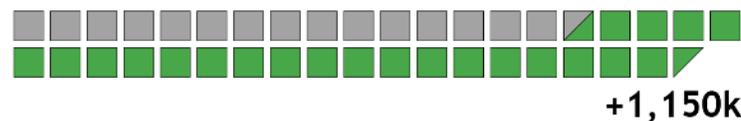
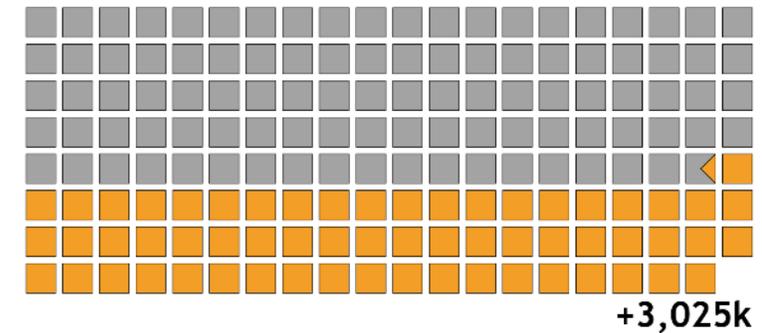
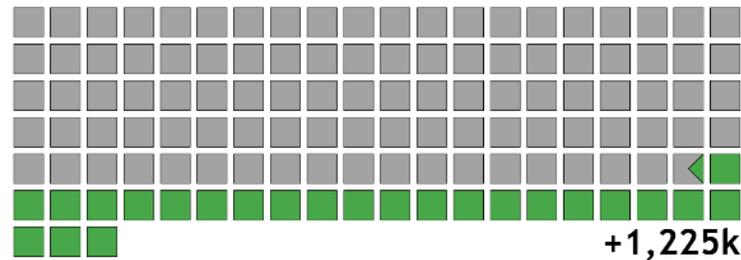
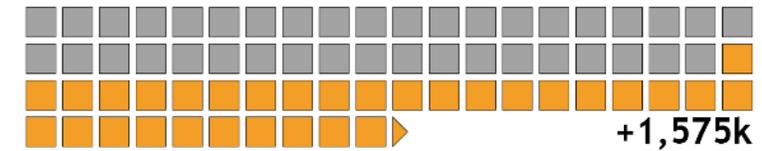
Rising Tides, Falling Fortunes
 +1.0 million residents in 2050



Clean and Green
 +3.1 million residents in 2050



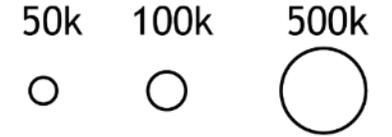
Back to the Future
 +6.0 million residents in 2050



Housing Growth

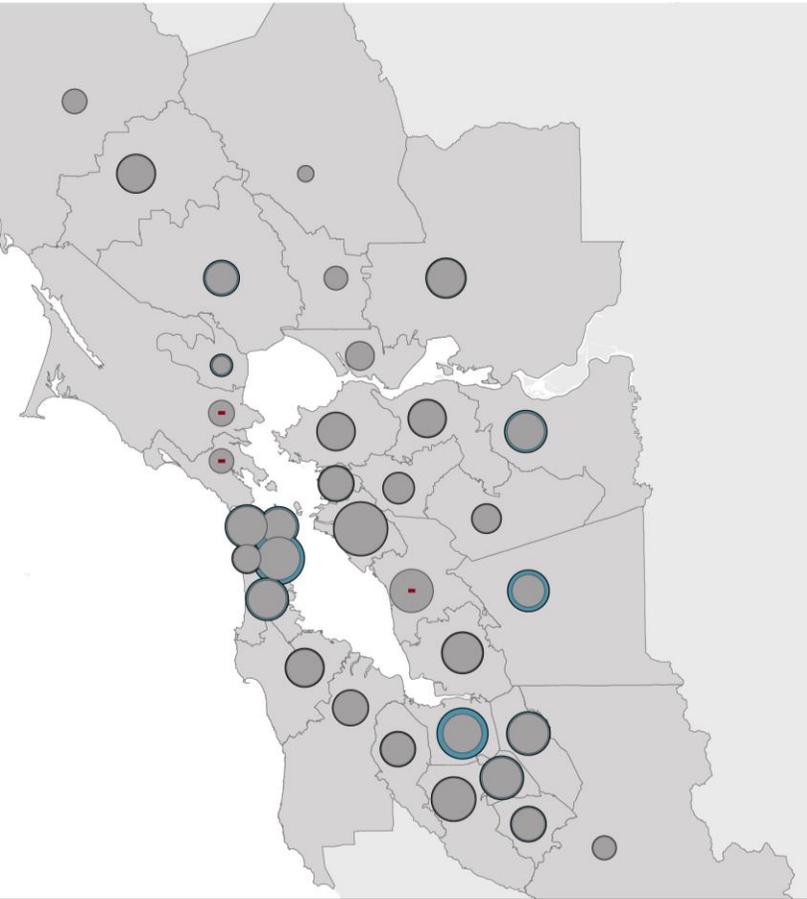
Circle color is representative of year.

Circle area is representative of the number of homes.



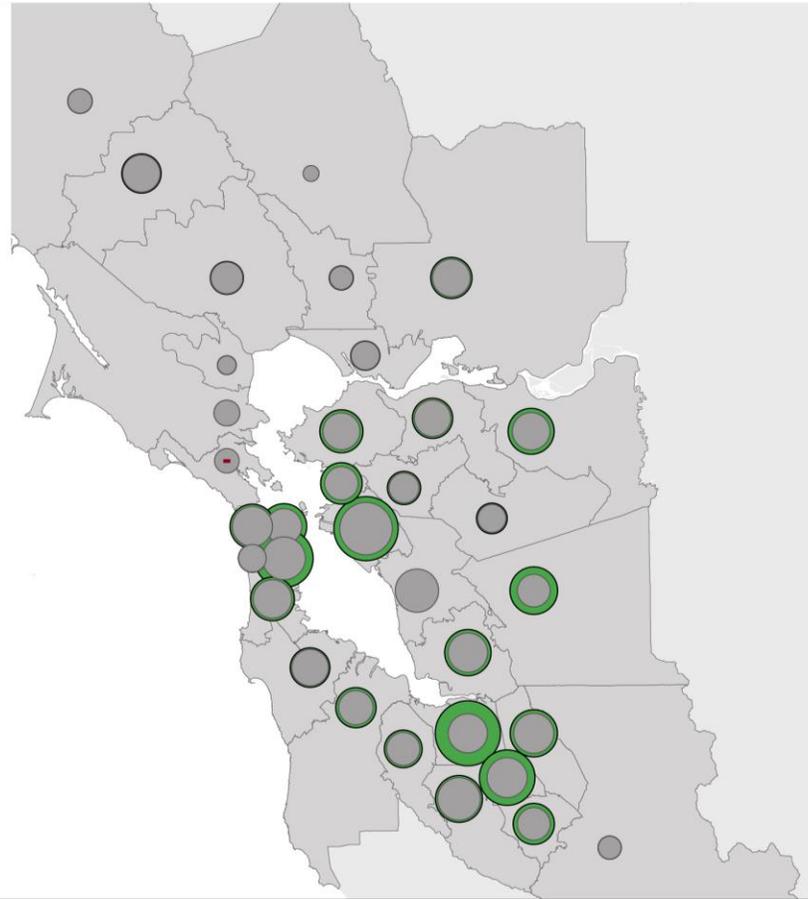
Rising Tides, Falling Fortunes

+0.5 million units by 2050



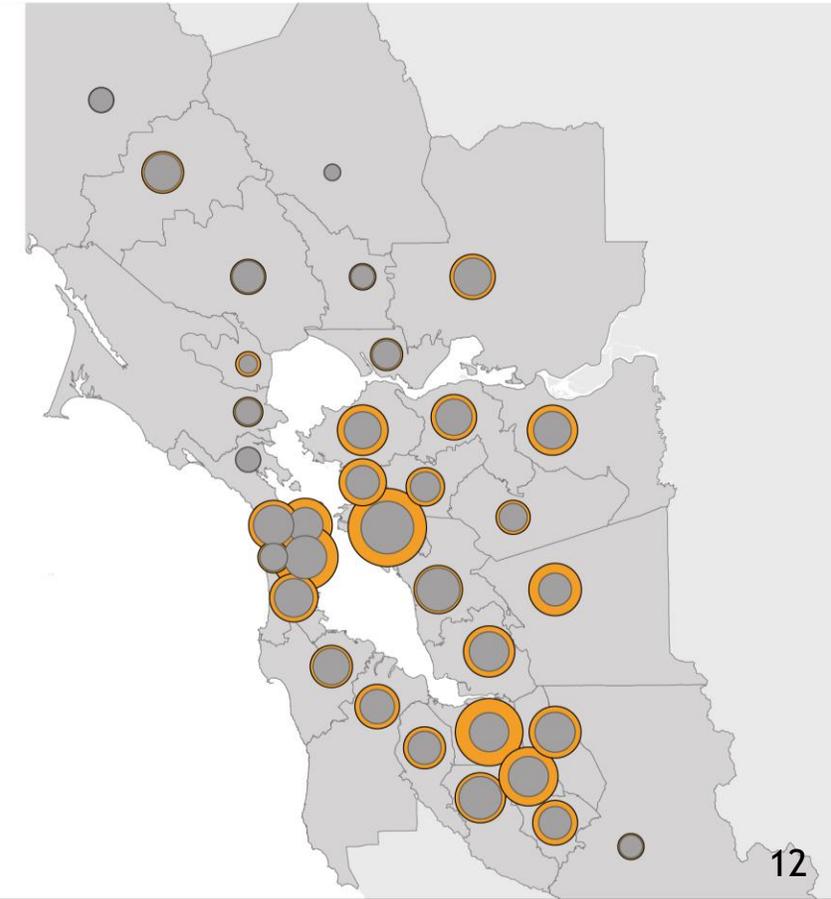
Clean and Green

+1.3 million units by 2050



Back to the Future

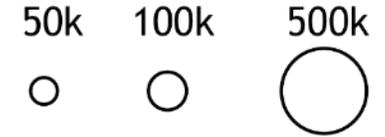
+2.1 million units by 2050



Job Growth

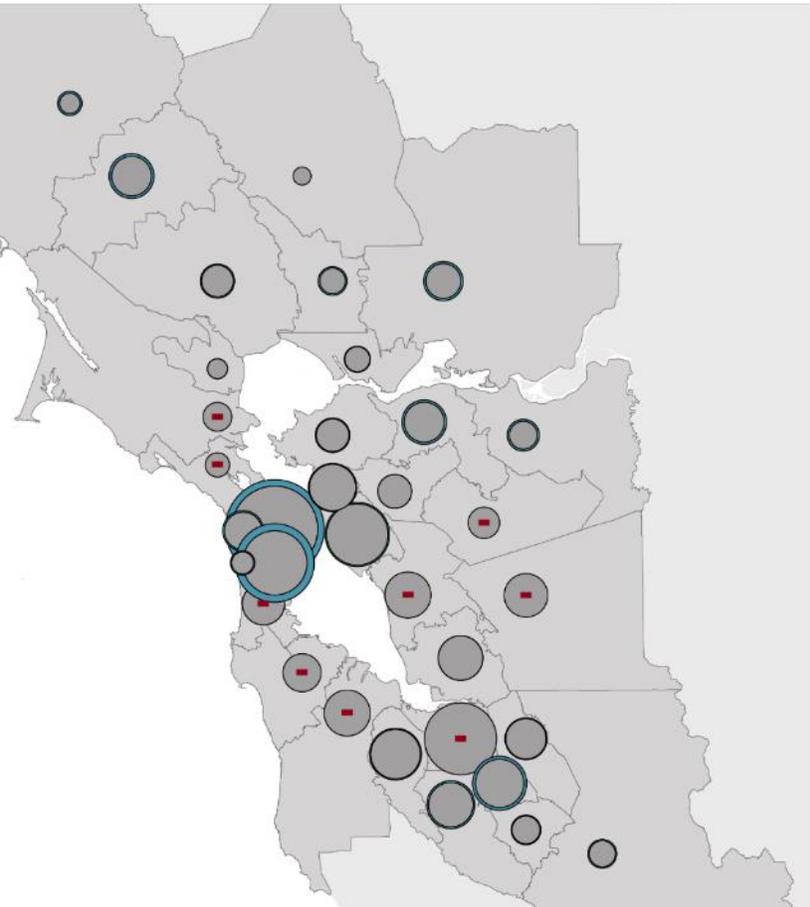
Circle color is representative of year.

Circle area is representative of the number of jobs.



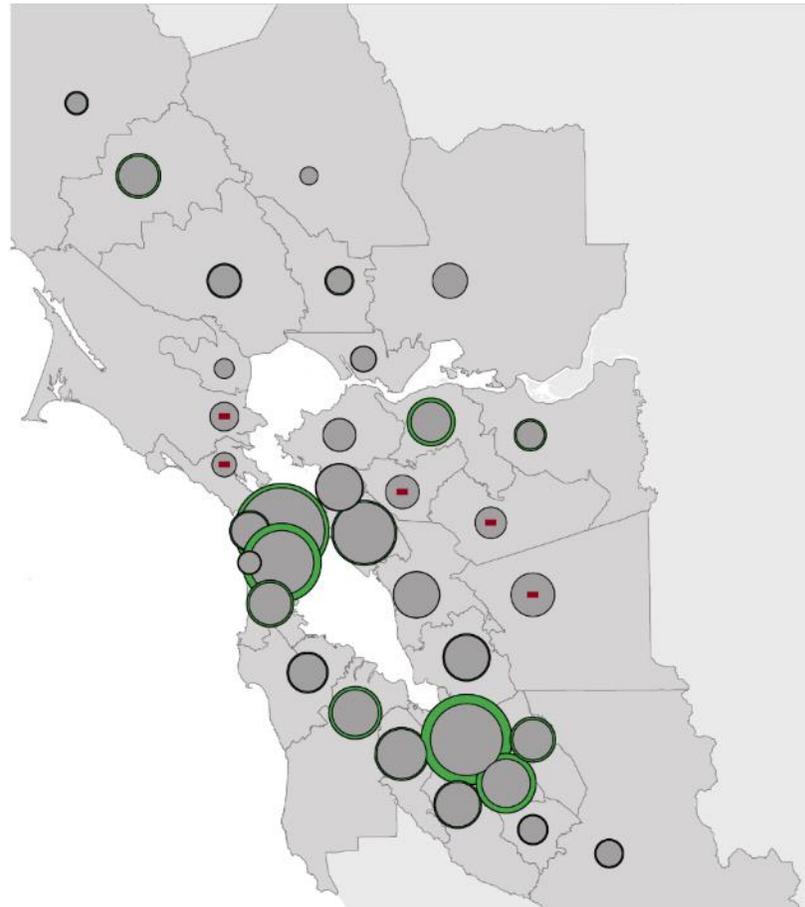
Rising Tides, Falling Fortunes

+0.5 million jobs by 2050



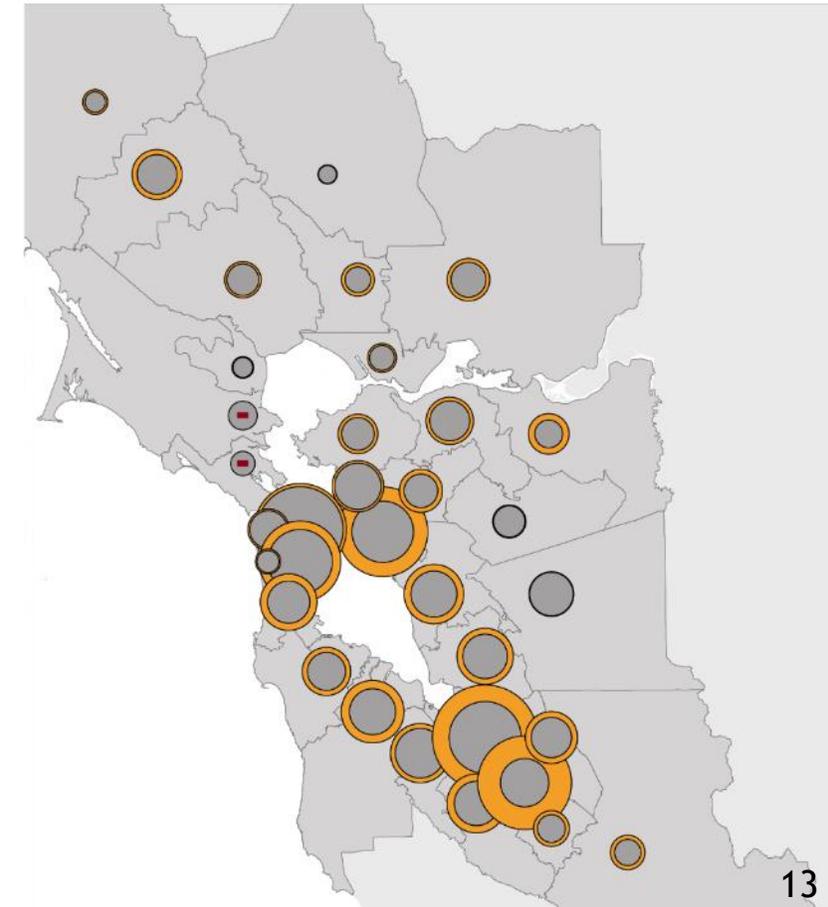
Clean and Green

+1.1 million jobs by 2050



Back to the Future

+2.7 million jobs by 2050



The logo features a white, wavy line resembling a horizon or water surface, set against a dark blue background. Below this line, the word "HORIZON" is written in white, uppercase, sans-serif letters.

H O R I Z O N

Opportunities & Challenges: Top 10 Findings

We have explored the opportunities and challenges associated with each future across the five Guiding Principles of Horizon.

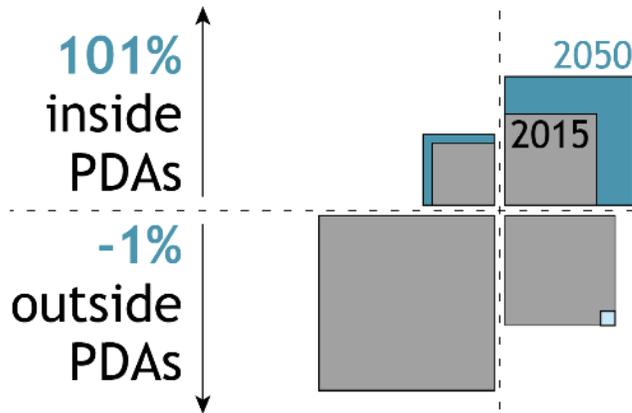
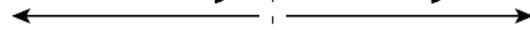


Priority Development Areas (PDAs) thrive in all three futures, putting a greater share of residents close to higher-quality affordable transit.

Rising Tides, Falling Fortunes

14%
single
family

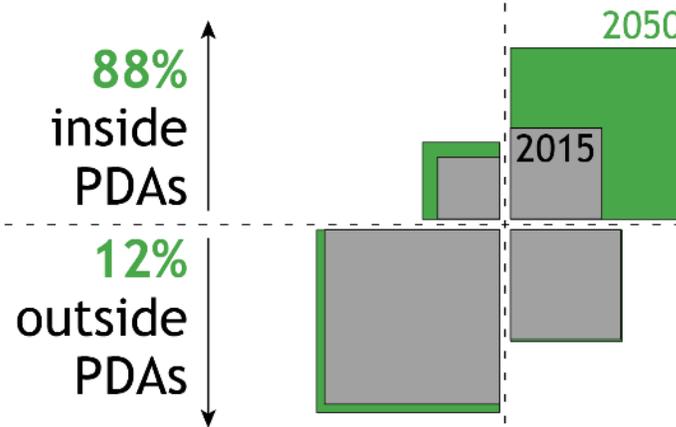
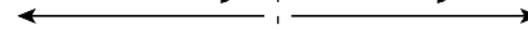
86%
multi
family



Clean and Green

19%
single
family

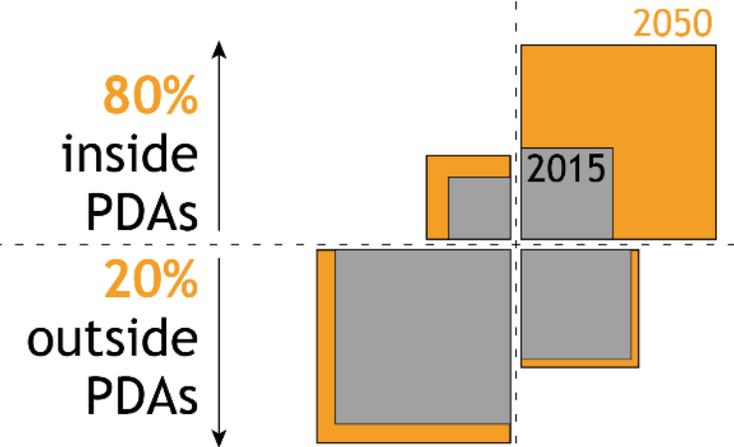
81%
multi
family



Back to the Future

24%
single
family

76%
multi
family

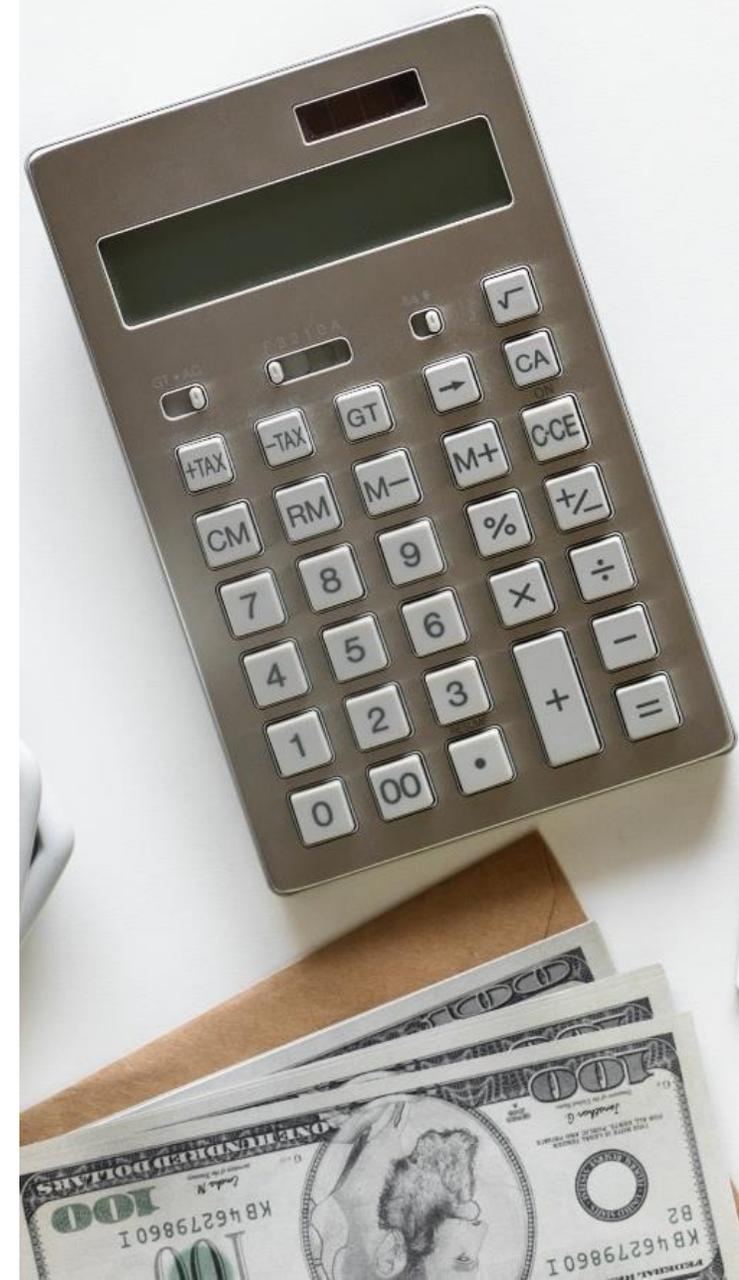
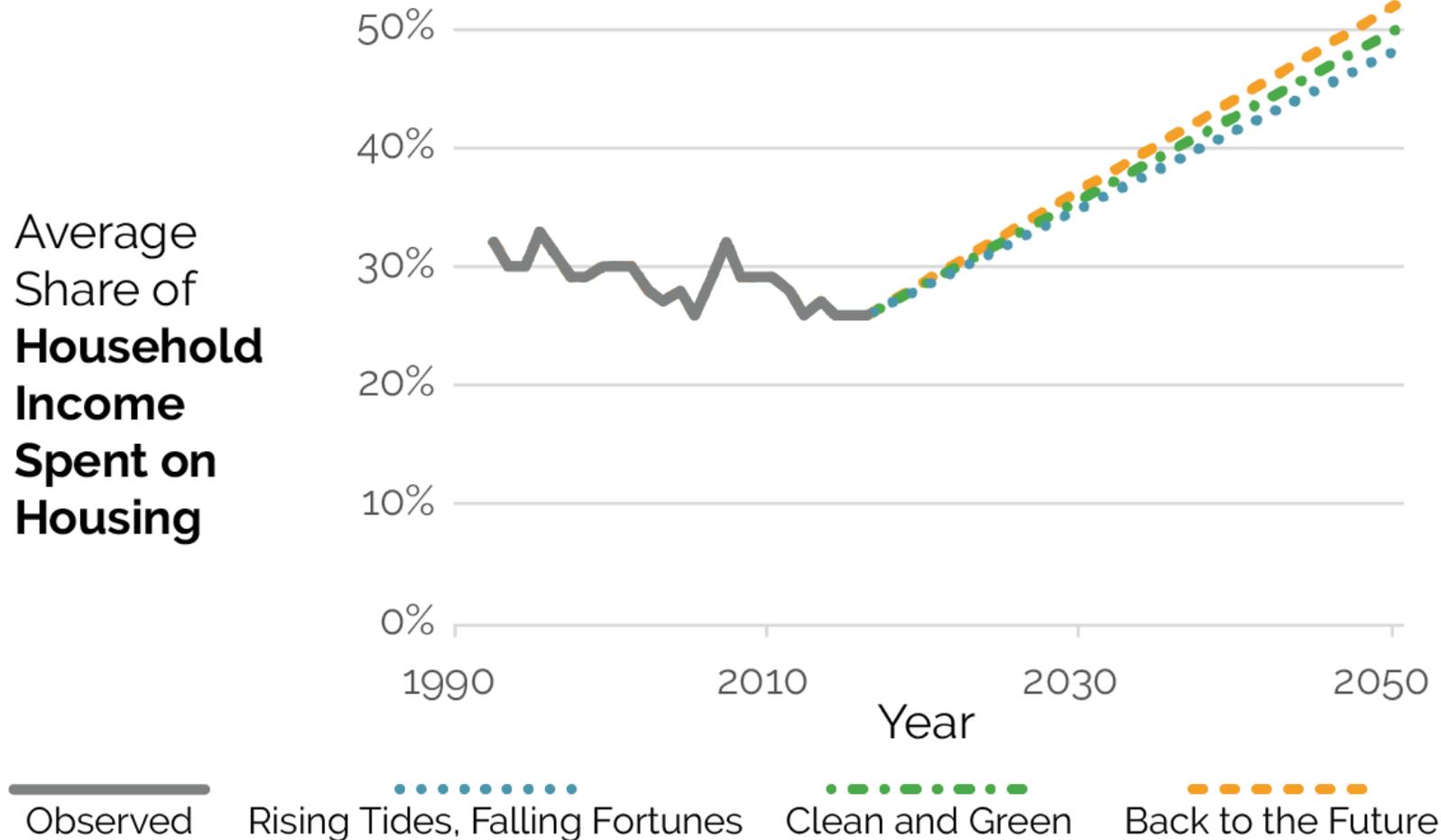


Challenge



AFFORDABLE

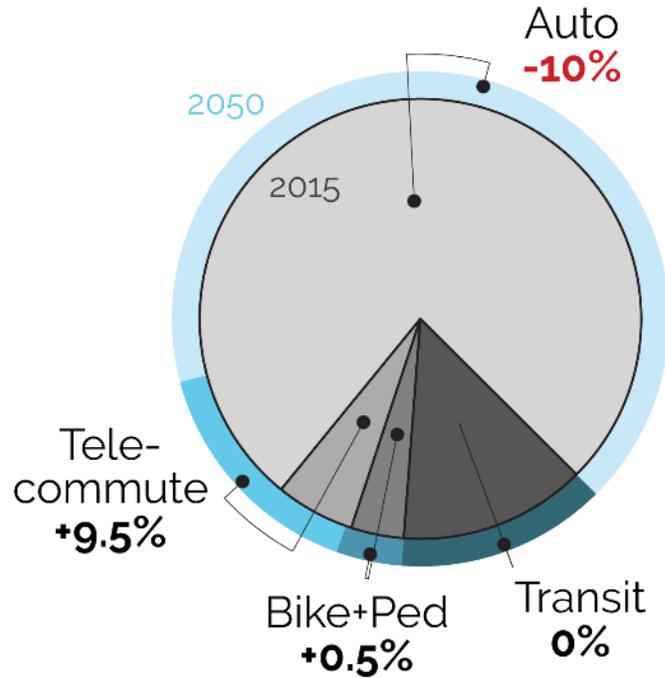
Without new strategies in place, Bay Area housing affordability is likely to continue to get worse.



With growing demand for telecommuting and transit, a smaller percentage of residents may need to depend on automobiles to get around.

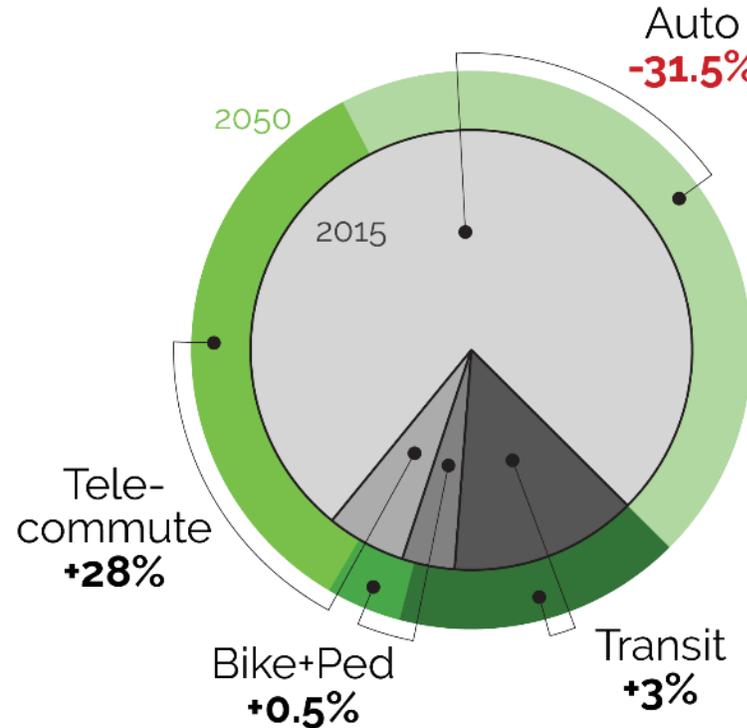
Rising Tides, Falling Fortunes

In 2050, 67% of commuters use autos.



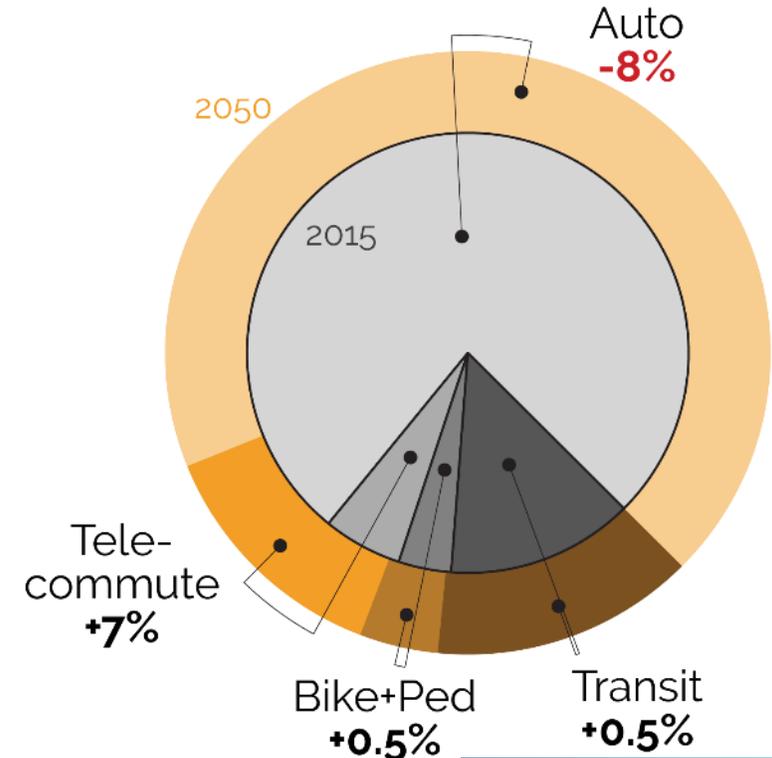
Clean and Green

In 2050, 45% of commuters use autos.



Back to the Future

In 2050, 69% of commuters use autos.



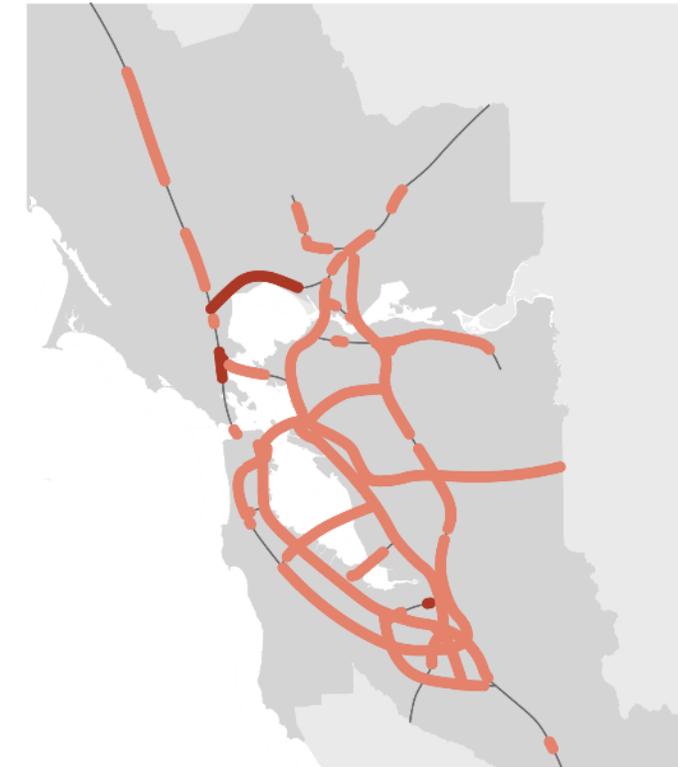
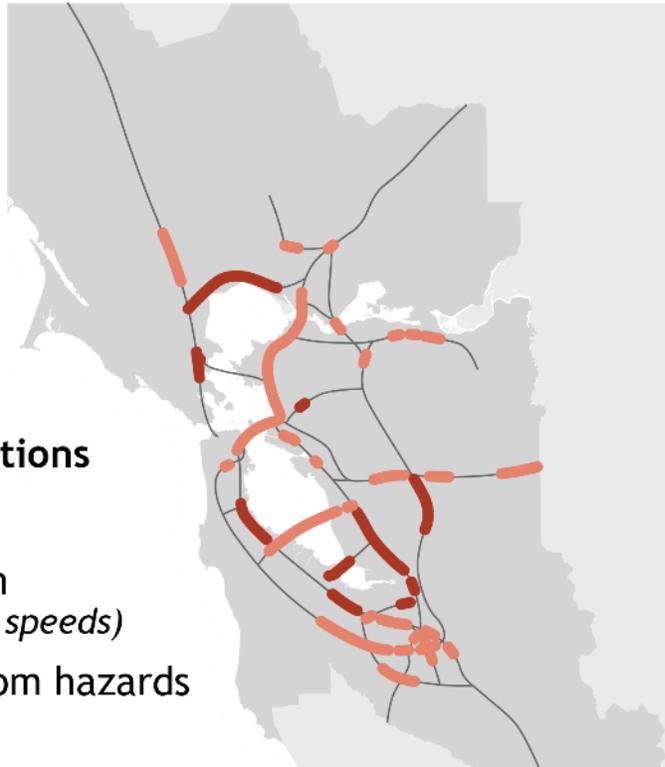
In 2015, 77% of commuters use an automobile to get to work.

Without new strategies like roadway pricing, changing conditions will result in even higher levels of traffic congestion.

Rising Tides, Falling Fortunes
Limited AV, Similar cost to drive,
Similar ownership model

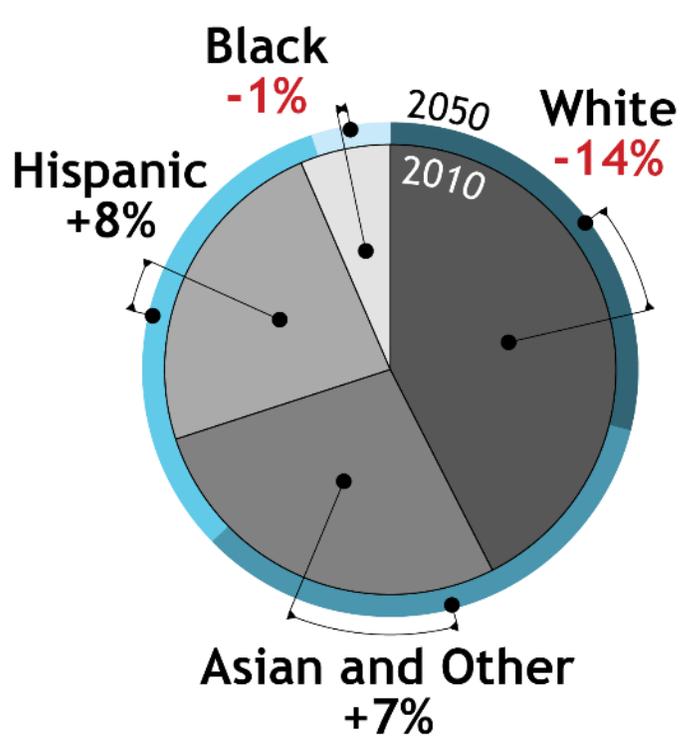
Clean and Green
Significant AV, High cost to drive,
Shared ownership model

Back to the Future
Significant AV, Low cost to drive,
Individual ownership model

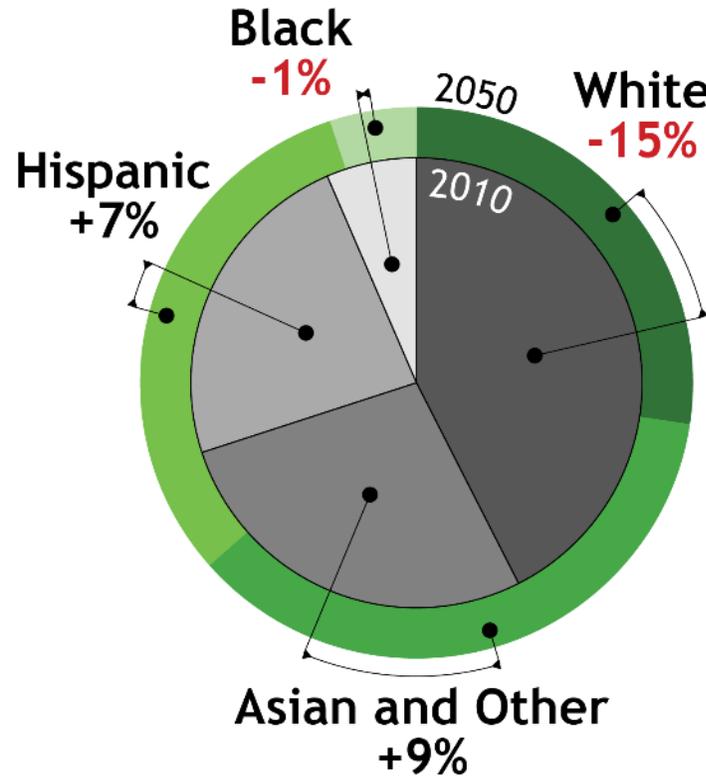


The Bay Area is likely to become more racially diverse over time, driven primarily by immigration from abroad.

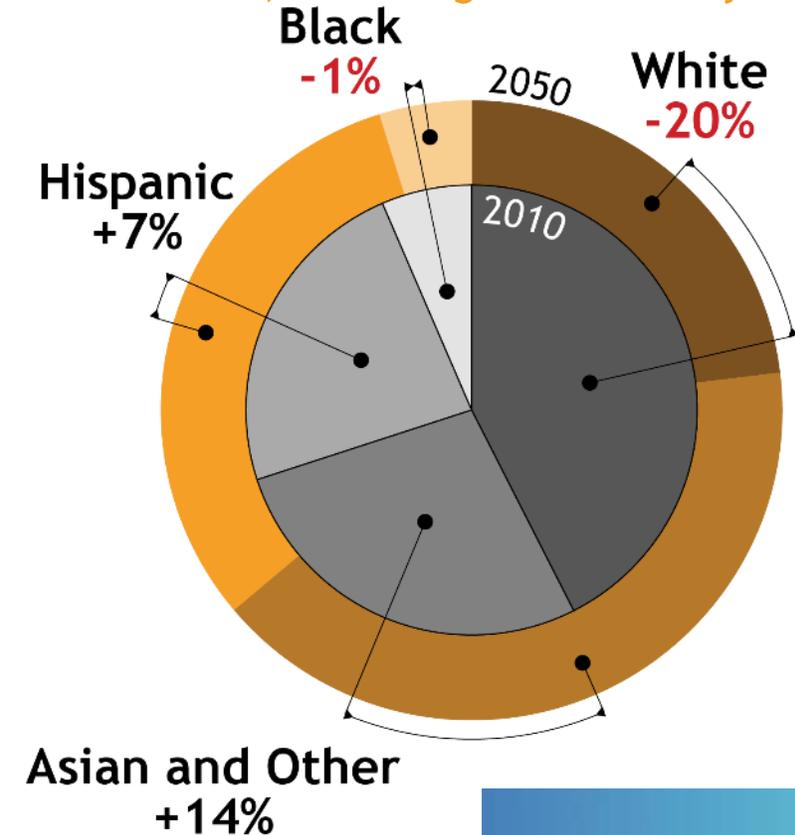
Rising Tides, Falling Fortunes +20,000 immigrants annually



Clean and Green +80,000 immigrants annually



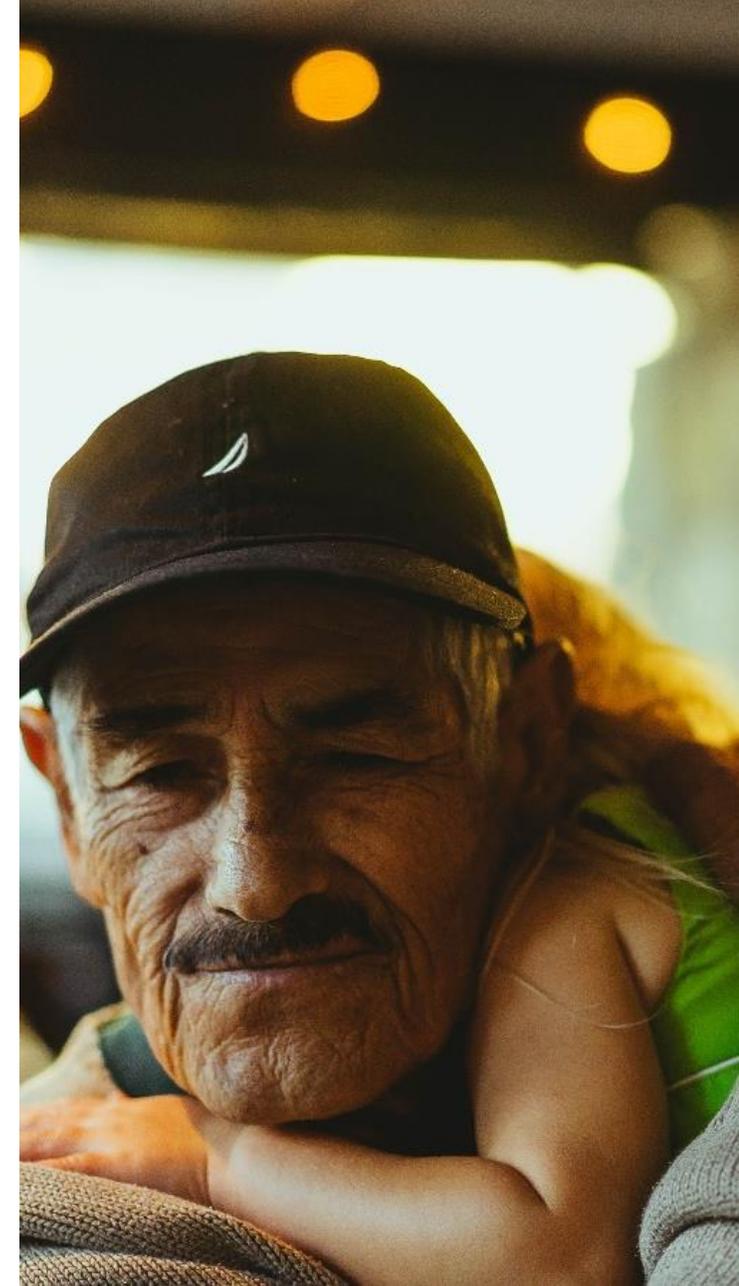
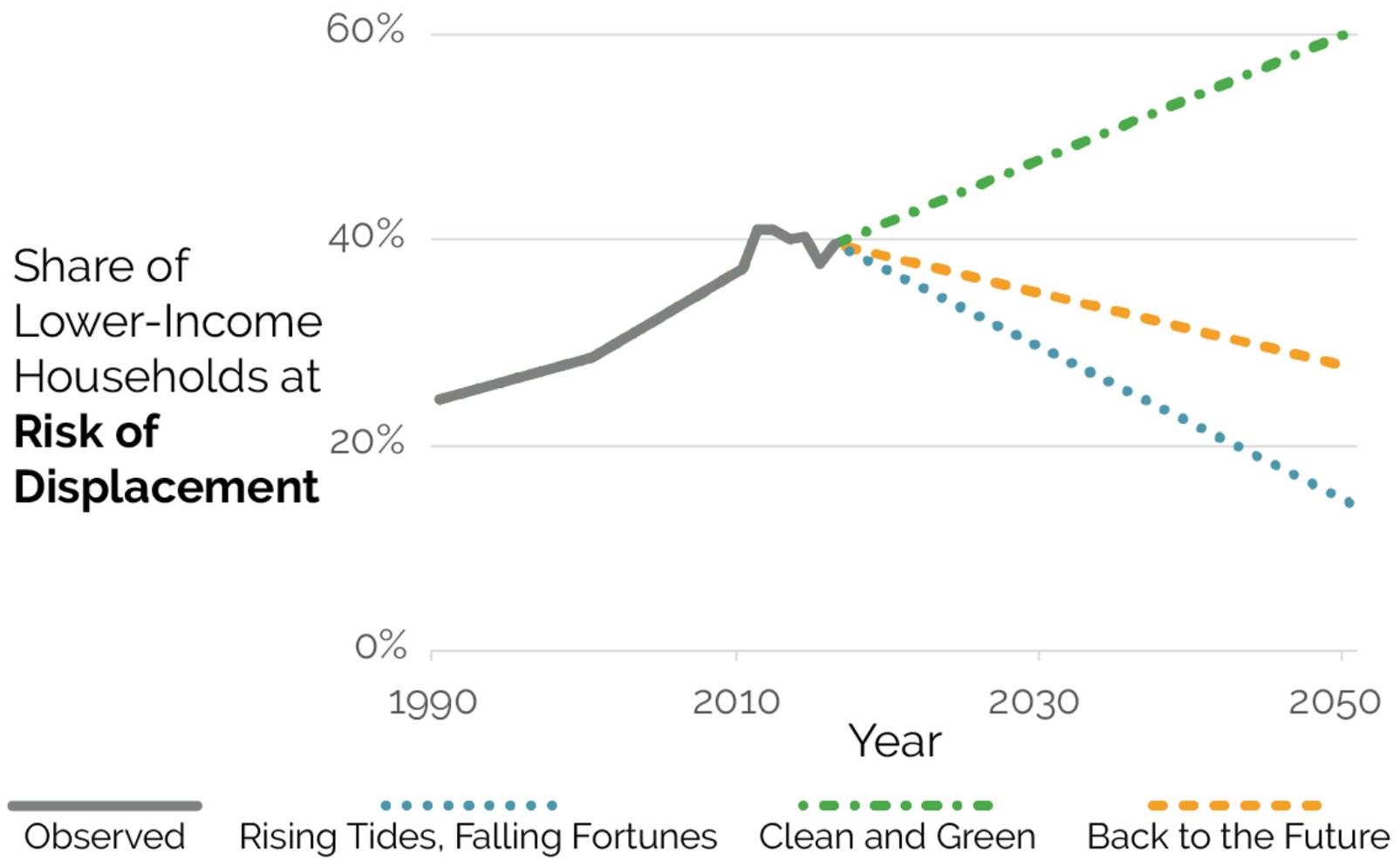
Back to the Future +240,000 immigrants annually



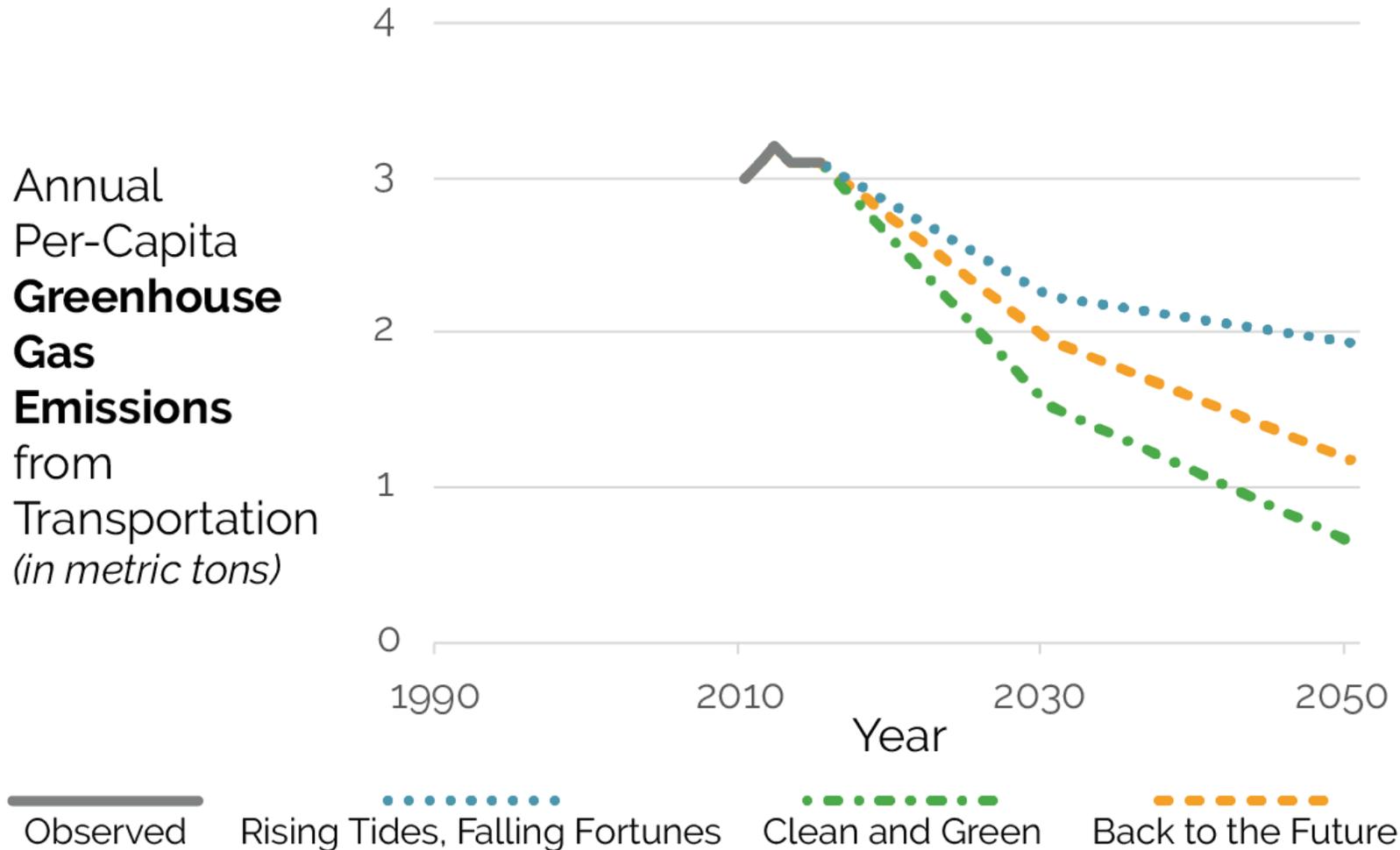
Above is the change in regional share. In *Rising Tides*, a future with slower growth, the absolute number of white residents decreases. In *Back to the Future*, a future with faster growth, the absolute number of white residents increases, but as a share of the regional population it decreases.

Opportunity #2

Rapid housing growth - or an economy cool-off - could both help ease displacement pressures.



Electrification and urban growth boundaries could reduce human impacts on the environment.



Acute impacts from sea level rise and natural disasters will be more difficult to recover from if the region's economy is weak.

Rising Tides, Falling Fortunes
3 feet of sea level rise

Clean and Green
1 foot of sea level rise

Back to the Future
2 feet of sea level rise

Homes Affected by Hazards

1k 10k 40k



Sea Level Rise

Permanent Inundation

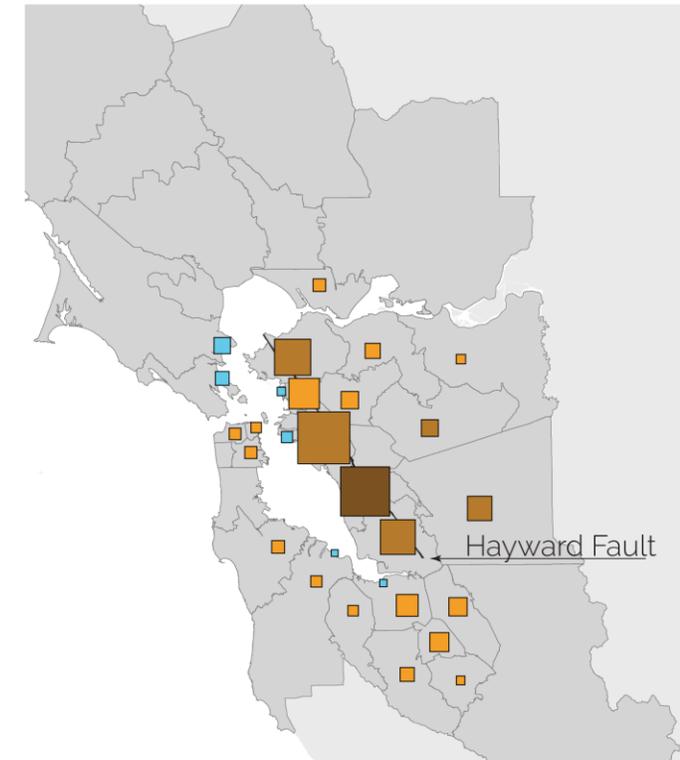
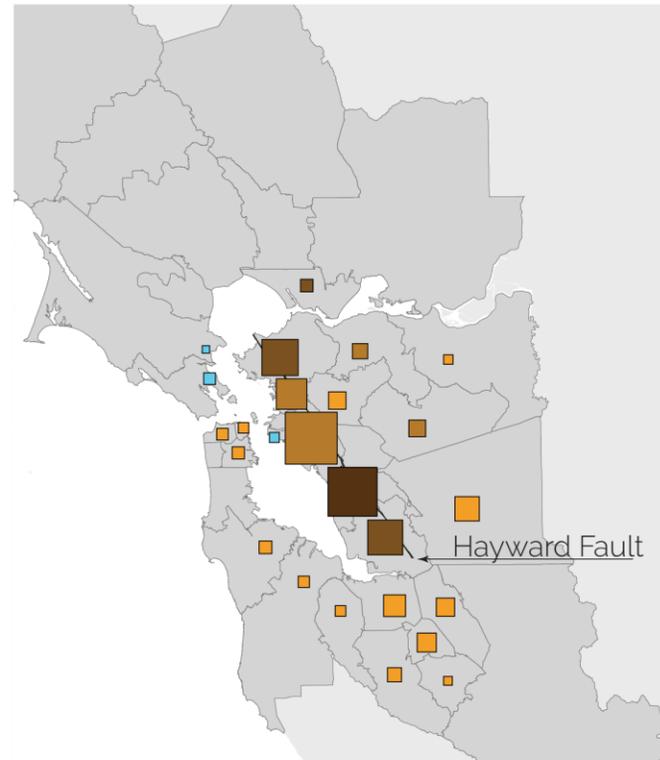
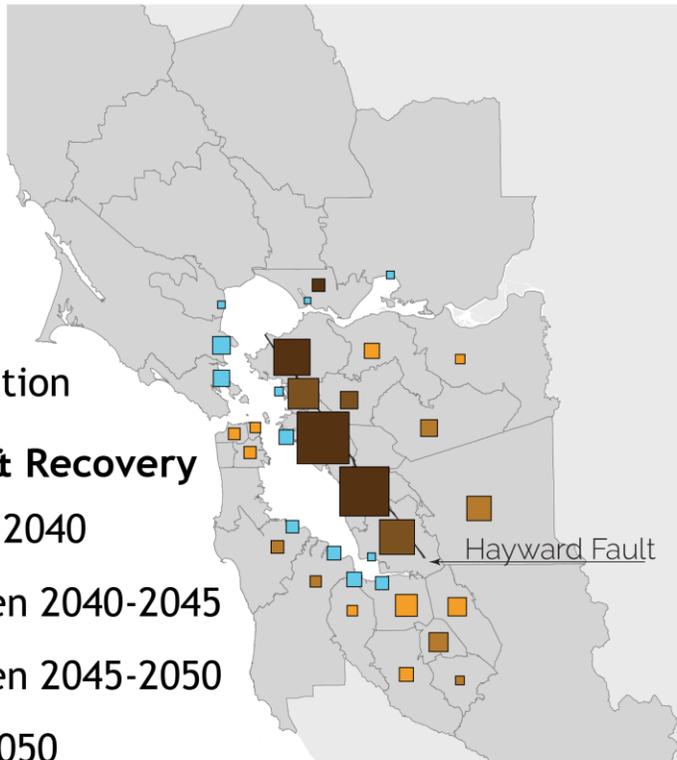
Earthquake Damage & Recovery

Recovered before 2040

Recovered between 2040-2045

Recovered between 2045-2050

Recovered after 2050



Land use strategies included in *Plan Bay Area 2040* are insufficient to address the region's longstanding jobs-housing imbalance.

Rising Tides, Falling Fortunes
+0.5M Homes, +0.5M Jobs

Clean and Green
+1.3M Homes, +1.1M Jobs

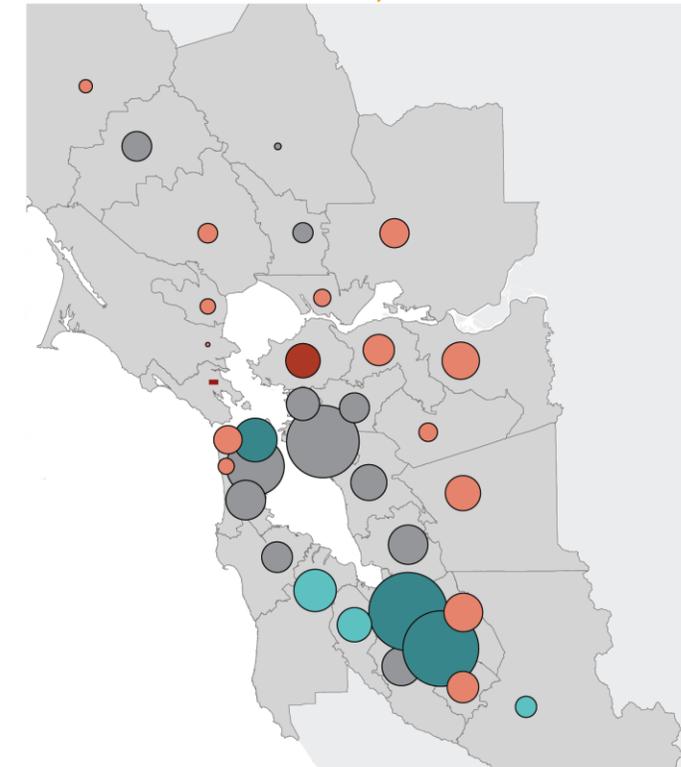
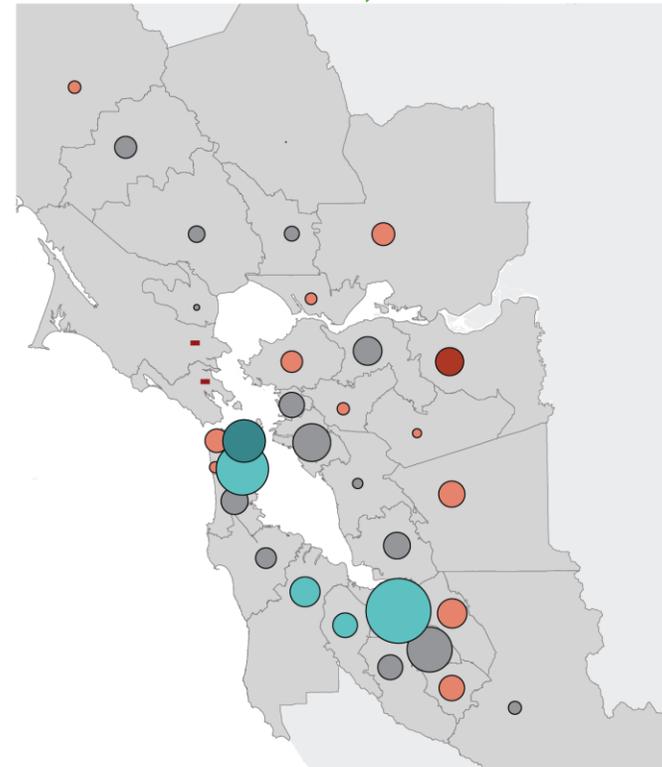
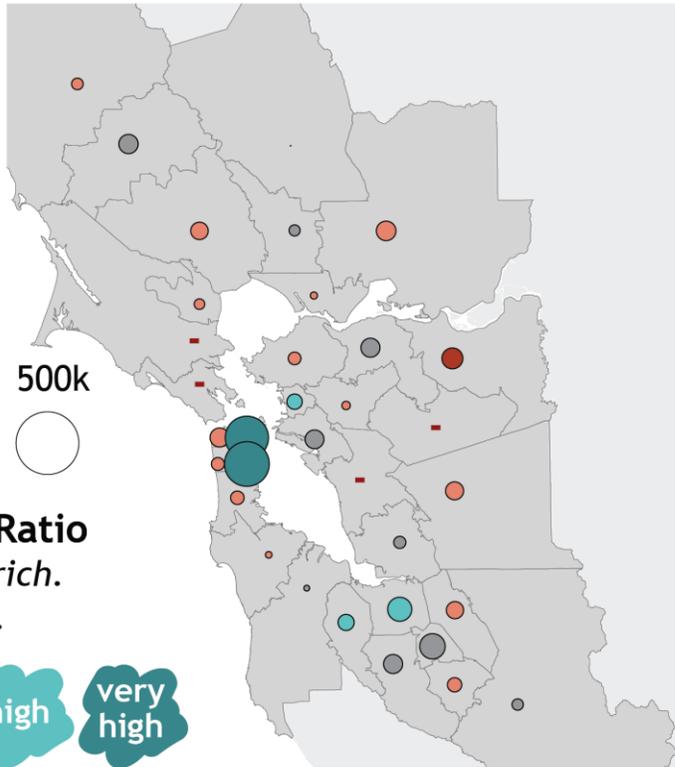
Back to the Future
+2.1M Homes, +2.7M Jobs

Overall Growth
Circle area represents combined job & housing growth from 2015 to 2050.

negative growth
10k 100k 500k

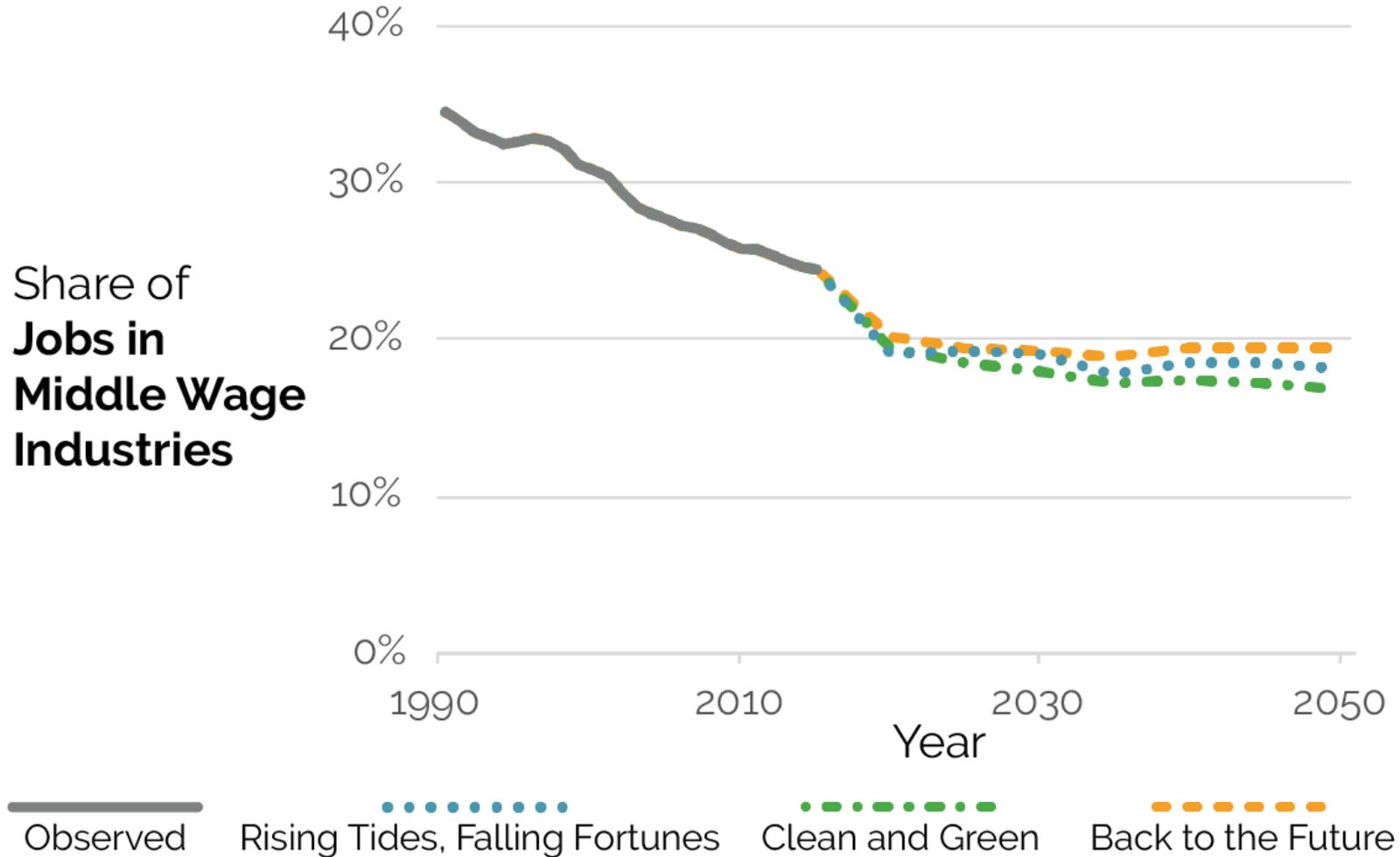
2050 Jobs/Housing Ratio
Red areas are housing rich.
Blue areas are job rich.

very low low avg. high very high



Challenge #2

Middle-wage jobs continue to disappear in all three futures.



Futures Scorecard - Guiding Principles (1)

Selected Indicators from VITAL SIGNS		2015	<i>Rising Tides, Falling Fortunes</i>	<i>Clean and Green</i>	<i>Back to the Future</i>
			2050 <i>Plan Bay Area 2040 Policies</i>	2050 <i>Plan Bay Area 2040 Policies</i>	2050 <i>Plan Bay Area 2040 Policies</i>
 AFFORDABLE	Housing costs <i>(share of income)</i>	26%	48%	50%	52%
	Housing production <i>(net new units annually)</i>	16,000	14,000	38,000	60,000
 CONNECTED	Non-auto commute mode share	25%	33%	55%	31%
	Average commute time <i>(minutes)</i>	31	34	36	40
 DIVERSE	Risk of displacement <i>(share of lower-income HHs)</i>	38%	14%	60%	28%

Futures Scorecard - Guiding Principles (2)

Selected Indicators from VITAL SIGNS		2015	<i>Rising Tides, Falling Fortunes</i> 2050 Plan Bay Area 2040 Policies	<i>Clean and Green</i> 2050 Plan Bay Area 2040 Policies	<i>Back to the Future</i> 2050 Plan Bay Area 2040 Policies
 DIVERSE	Lower-income population <i>(share of overall population)</i>	50%	54%	37%	39%
 HEALTHY	Greenhouse gas emissions <i>(per-capita)</i>	3.0	1.9	0.7	1.2
	Annual greenfield development <i>(acres)</i>	1,200	300	300	500
 VIBRANT	Jobs in middle-wage industries <i>(share of all jobs)</i>	21%	18%	17%	19%
	Gross regional product <i>(inflation-adjusted)</i>	\$0.7 trillion	\$1.1 trillion	\$2.1 trillion	\$1.9 trillion

Summer Analysis

Using input received in the spring, staff are studying the impact of new strategies in the second round of analysis. Findings will be shared in a final report, released in October.

Futures Analysis

Plan Bay Area 2040

Adopted in July 2017

Horizon Futures Round 1 Analysis

- *How does the region's currently-adopted Plan fare in an era of uncertainty?*
- *What are the opportunities and challenges the region may face?*



Baseline



PBA 2040
Strategies

Horizon Futures Round 2 Analysis

- *How might new strategies result in improved outcomes in each future?*
- *Which strategies are effective across many futures?*



Baseline



External
Forces



PBA 2040
Strategies



Baseline



External
Forces



New
Strategies

The 4 Focus Areas of Horizon + 9 Strategy Package Goals for Futures Round 2

Economic
Development

Housing

Transportation

Environment
& Resilience

Improve
Economic
Mobility

Shift the
Location of
Jobs

Spur Housing
Production

Retain and
Expand
Affordable
Housing

Improve
Access,
Reliability and
Speed

Prioritize
Active Modes

Price
Transportation
Services

Reduce Our
Impact on the
Environment

Reduce the
Environment's
Impact on Us

Futures Round 2: Economic Development Strategies



Improve Economic Mobility

Help promote the growth of the middle class in an era of automation and growing income inequality.

- V-6 Provide Portable Benefits for Part-Time/Freelance Workers
- D-2** Expand Childcare Support for Low-Income Families
- V-1** Expand Construction Workforce Programs



Shift the Location of Jobs

Encourage new employment centers to locate in transit-served, housing-rich communities.

- PBA-8* Preserve Office Space Caps in Job-Rich Cities & Assess VMT-Based Commercial Development Fee
- V-5 Create Incubator Programs in Econ.-Challenged Areas
- V-7 Implement Incentives & Disincentives to Locate Jobs in Housing-Rich Locations

Futures Round 2: Housing Strategies



Spur Housing Production

Expand the regional growth footprint beyond today's PDAs, and make it easier to build a broader array of housing types.

- PBA-1* Assign Higher Densities to PDAs
- PBA-2* Streamline Development in all Growth Areas
- A-7 Allow Diverse Housing around all Major Transit Stops
- D-9 Allow Affordable Housing in Areas of High Opportunity
- A-4 Transform Aging Malls and Office Parks into Neighborhoods
- A-2 Repurpose Public Land to Build Housing



Retain & Expand Affordable Housing

Advance a suite of policies to ensure greater equity and affordability.

- D-7 Require 20 Percent of All New Housing to be Affordable
- D-6 Increase Renter Protections
- A-8** Fund Affordable Housing Preservation & Production

Futures Round 2: Transportation Strategies



Improve Access, Speed, and Reliability of Transportation



Prioritize Active Modes



Price Transportation Services

Build a next-generation transit network for the 21st century.

- PBA-6 Operate and Maintain the Existing System
- PBA-5* Build Carpool Lanes & Address Interchange Bottlenecks
- PBA-4 Make Strategic Transit Modernization/Expansion Investments
- C-4 Build a Next-Generation Bus Rapid Transit Network
- C-10** Increase Capacity/Frequency by Modernizing Existing Rail
- C-9** Extend the Regional Rail Network
- C-7** Build a New Transbay Rail Crossing

Make active modes safer and more accessible.

- D-4 Invest in Free Short-Trip Service
- NEW! Implement Vision Zero Speed Reduction Measures
- C-3 Build a Complete Micromobility Network

Price freeways to drive different mode choices and advance equitable outcomes.

- C-1 Develop a Single Platform to Access & Pay for all Mobility
- C-6 Apply Time-of-Day Tolls on All Freeways
- A-3** Provide Free Transit to Lower-Income Riders

* = modifications have been made to Plan Bay Area 2040 strategy

** = included only in two higher-growth, higher-resource Futures

Futures Round 2: Environment & Resilience Strategies



Reduce Our Impact on the Environment

Protect greenfields and parks while retrofitting existing buildings.

- PBA-7 Keep Current Urban Growth Boundaries in Place
- V-3/H-2** Expand Park, Trails, Greenways; Preserve Ag. Lands
- H-9** Expand Existing Building Improvements (Energy, Water, Seismic, Fire, Accessibility)



Reduce the Environment's Impact on Us

Protect communities from sea level rise, and improve readiness for other natural disasters.

- H-4 Purchase Disaster Recovery Financing
- H-7 Partially Adapt to Sea Level Rise
- H-8** Fully Adapt to Sea Level Rise
- H-3** Adapt SR-37 to Sea Level Rise

How Will Horizon Be Integrated Into Plan Bay Area 2050?

The purpose of Horizon is to identify strategies and projects that perform well under a wide range of conditions - and to **prioritize these resilient strategies in the fiscally-constrained Plan Bay Area 2050.**



PLAN BAY AREA 2050

CLEAN & GREEN

Recognizing the growing impacts of climate change, the federal government significantly tightened environmental regulations and implemented an ambitious, nationwide carbon tax. New technologies thrive, with virtual reality creating unprecedented and cleaner workspaces distributed across boom centers. While high-tech manufacturing thrives in the United States, economic growth slows for other more energy-intensive sectors.

And here's what this means for the Bay Area in the year 2050...

- 1 FOOT OF SEA LEVEL RISE AFFECTING 8.8M HOMES
- 21% OF THE POPULATION CLASSIFIED AS LOW-INCOME DUE TO SLOWER ECONOMIC
- 208,000 HOMES AFFECTED BY 24 EARTHQUAKE ALONG THE HAYWARD FAULT
- 17% LOWER COMPLETES THAN 2050
- 10.9 MILLION RESIDENTS
- 45% LOWER GREENHOUSE GAS EMISSIONS THAN 2050
- 5.2 MILLION JOBS
- 73% OF THE BAY AREA POPULATION (NON-RESIDENT)

RISING TIDES, FALLING FORTUNES

Nationwide tax cuts and spending caps significantly reduce infrastructure funding. Combined with autonomous vehicle to live up to the hype, cities, regions and states are forced for much-needed traditional infrastructure projects. There's a lack of regulatory action on climate change, so worldwide sea levels rising by three feet by 2050 - creating a new set of infrastructure needs in an era of slow growth.

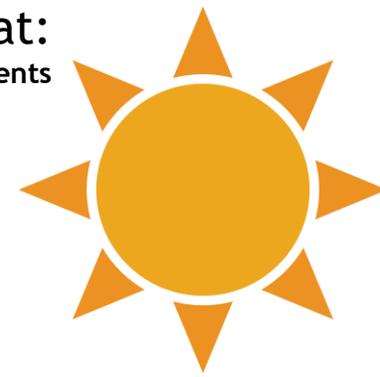
And here's what this means for the Bay Area in the year 2050...

- 3 FEET OF SEA LEVEL RISE AFFECTING 32.8M HOMES
- 31% OF THE POPULATION CLASSIFIED AS LOW-INCOME DUE TO A SLOWER GROWTH ECONOMY
- 196,000 HOMES AFFECTED BY 24 EARTHQUAKE ALONG THE HAYWARD FAULT
- 11% LOWER COMPLETES THAN 2050
- 5 MILLION JOBS DUE TO IMMIGRATION
- 67% OF COMPLETES ARE BY GAS
- 4.6 MILLION JOBS
- 47% OF INCOME IS SPENT ON HOUSING
- 71% OF THE BAY AREA POPULATION (NON-RESIDENT)
- 35% LOWER GREENHOUSE GAS EMISSIONS THAN 2050

Add background photo here

Thanks for attending today's webinar!

Michael Germeraad
mgermeraad@bayareametro.gov



Reminder: Upcoming Webinars

Growth Framework Update

- June 26, July 1 & July 10
 - New Criteria and Submitting Letters of Interest/Letters of Confirmation

*Target audience:
Cities, counties, and CTAs*

Preparing for Plan Bay Area 2050

- July 9
 - Public Engagement Process Overview
- **August 6**
 - Bay Area Spatial Information System (BASIS)
- **To Be Scheduled**
 - Horizon Perspective Paper 5: Bay Crossings
 - Looking Ahead: The Vision for Plan Bay Area 2050

*Target audience:
Stakeholders & interested public*

In Case You Missed It! (ICYMI)

- July 30
 - ICYMI: Horizon Futures Round 1 Analysis
- **August 14**
 - ICYMI: Horizon Perspective Paper 1 - Autonomous Vehicles

*Target audience:
New stakeholders/
public*