

Transform-the-Future Strategy Booklet

March 2019



Welcome

The Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG) welcome you to this special workshop to explore Horizon. We look forward to hearing from you – we value your ideas and encourage your questions!

About Horizon

The Horizon initiative is designed to prepare the Bay Area for an uncertain future by identifying strategies to help the region and its residents succeed through the year 2050.

Horizon is the first comprehensive planning effort for the Bay Area, analyzing transportation, housing, economic development, resilience and the effects of emerging technologies.

For more information on Horizon, go to www.mtc.ca.gov/horizon



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Horizon Guiding Principles

We received over 10,000 comments from residents across the Bay Area in 2018 when we asked, "What are the most pressing issues we should consider as we plan for life in 2050?" This feedback helped us refine five Guiding Principles that guide the Horizon initiative.

Affordable: All Bay Area residents and workers have sufficient housing options they can afford—households are economically secure.

Connected: An expanded, well-functioning transportation system connects the Bay Area—fast, frequent and efficient intercity trips are complemented by a suite of local transportation options, connecting communities and creating a cohesive region.

Diverse: Bay Area residents support an inclusive region where people from all backgrounds, abilities and ages can remain in place—with access to the region's assets and resources.

Healthy: The region's natural resources, open space, clean water and clean air are conserved—the region actively reduces its environmental footprint and protects residents from environmental impacts.

Vibrant: The Bay Area is an innovation leader, creating quality job opportunities for all and ample fiscal resources for communities.

Table of Contents

Intro

Intro-vii	Game Elements	
Intro-viii	Reading a Strategy Card	
Intro-ix	Game Goals and How to Play	

Affordable Strategies

points

A-ii	Housing Production	
A-iii	Housing Affordability	
A-1	Streamline Accessory Dwelling Units	2
A-2	Repurpose Public Land to Build Housing	3
A-3	Provide 50 Percent Fare Discount for Low-Income Transit Riders	3
A-4	Transform Aging Malls and Office Parks Into Neighborhoods	4
A-5	Reuse Excess Parking for Housing	4
A-6	Establish Urban Reserves for Housing Development	5
A-7	Allow Diverse Housing Around all Major Transit Stops	5
A-8	Raise Taxes to Spur Affordable Housing Production & Preservation	9
A-9	Institute a Bay Area Universal Basic Income (UBI) for Low-Income Households	10
A-10	Create Your Own!	

Connected Strategies

points

C-ii	Commuter Mode	
C-iii	Commuter Time	
C-1	Develop a Single Platform to Access all Mobility Options	1
C-2	Provide Commuters With Incentives to Carpool	1
C-3	Complete Regional Bike Networks	1
C-4	Build and Operate a Next Generation Bus Rapid Transit Network	3
C-5	Increase Freeway Capacity and Build Express Lanes to Sacramento and Tracy	4
C-6	Apply 10-Cent-per-Mile Peak-Period Pricing on Freeways	5
C-7	Build a New Transbay Rail Crossing	7
C-8	Build a New Transbay Highway Crossing	7
C-9	Extend the Regional Rail Network	8
C-10	Increase Capacity and Frequency by Modernizing Existing Rail Network	11
C-11	Create Your Own!	

Diverse Strategies

points

D-ii	Displacement Risk	
D-iii	Income Impacts	
D-1	Develop a Housing Lottery Preference Program	1

D-2	Expand Support for Low-Income Community College Students	1
D-3	Subsidize Small Businesses Impacted by Transit Projects	2
D-4	Invest in Free "Last Mile" Service	2
D-5	Mandate Private Mobility Businesses Accommodate the Elderly and Disabled	2
D-6	Increase Renter Protections	4
D-7	Require 20 Percent of all new Housing to be Affordable	4
D-8	Expand the Income Tax Credit for Renters	5
D-9	Allow Affordable Housing in Areas of High Opportunity	6
D-10	Create Your Own!	

Healthy Strategies

points

H-ii	Greenhouse Gas Emissions	
H-iii	Greenfield Development	
H-1	Establish Vehicle Trip Reduction Requirements for all New Development	1
H-2	Pass a Regional Measure for Parks, Trails and Greenways	3
H-3	Adapt Highway 37 to Sea Level Rise and Expand Bridge and Rail Seismic Programs	3
H-4	Purchase Disaster Recovery Financing to Fast-Lane Priority Development Area (PDA) Implementation	3
H-5	Implement Parking Fees	4

H-6	Pass a Statewide Carbon Tax on Food and Goods	4
H-7	Partially Adapt to Sea Level Rise	3
H-8	Fully Adapt to Sea Level Rise	4
H-9	Expand Financing for Energy, Water, Seismic, Fire and Accessibility Improvements	9
H-10	Create Your Own!	

Vibrant Strategies

points

V-ii	Gross Regional Product Per Capita	
V-iii	Jobs in Middle Wage Industries	
V-1	Expand Construction Workforce Programs	1
V-2	Establish Priority Production Areas to Protect Industrial Lands	2
V-3	Preserve Agricultural Lands and Jobs	2
V-4	Develop a State-Level Fund for Automation-Induced Job Displacement	3
V-5	Create Incubator Program in Economically Challenged Communities	4
V-6	Provide Portable Benefits for Part-Time and Freelance Workers	4
V-7	Implement Incentives and Disincentives to Locate Jobs in Housing-Rich Locations	5
V-8	Create Your Own!	

Game Elements

Transform-the-Future has five elements:



1. Board

There are three different 5-foot diameter game boards, each with the same layout. Each version of the board displays unique information on a single Future.



2. Strategy Booklet

Each player has a strategy booklet to reference descriptions and possible impacts of the 44 different strategies. The booklet also summarizes some of the information displayed on the board.



3. Game Piece

At the start of the game each player chooses a cube game piece that they will use for the remainder of the game.



4. Points

During the game you will use points to purchase strategies. In the back of this booklet are three, tear-out pages with points based on the available resources in each Future.

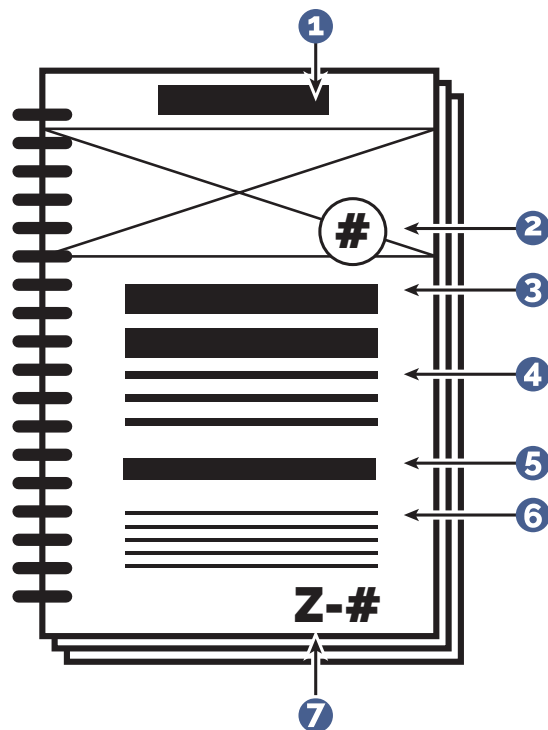


5. Selected Pins

The facilitator holds onto selected pins that will mark the strategies purchased during the game.

Understanding the Strategies

There are 44 strategies included in this booklet. The diagram below describes the information provided to help you make strategic game decisions.



1. Guiding Principle

The strategies are organized by the guiding principle they most directly address; some strategies may impact multiple principles. The five guiding principles are: **affordable**, **connected**, **diverse**, **healthy** and **vibrant**.

2. Strategy Points

Each strategy has a cost determined by associated capital costs and political difficulty.

3. Strategy Title

4. Strategy Description

Major elements of the strategy are summarized in two sentences.

5. Potential Impact

Based on case studies or simple analysis, a brief statement summarizes the potential impact. For now, these are rough estimates. The next phase of Horizon will study the impact of some strategies in greater detail.

6. Strategy Assumptions

For supporting information on potential impacts or point value, look at the fine print in the assumptions.

7. Strategy Code

To help you communicate with other players, each strategy is given a code. The letter corresponds to the principle section, and the numbers are sequential.

Game Goals

Transform-the-Future has three Goals:

- 1.** Learn about the challenges and opportunities for each future.
- 2.** Learn about a suite of possible strategies to improve each future.
- 3.** Share which strategies you think would most improve each future.

How to Play

Transform-the-Future has four main steps that repeat until all points are spent:

1. Choose a Principle.

One by one, each player places their game piece on the principle (affordable, connected, diverse, healthy, vibrant) they think requires the most action. The principle with the most game pieces is where the table will focus during step 2. At the start of the game players can use the information on the board to inform their choice. As the game progresses, players should consider how previously selected strategies may alter where attention is needed.

2. Choose a Strategy.

Focusing only within the principle determined in Step 1, players can propose a strategy listed under that section for the table to purchase. Other players can make counter proposals. The facilitator will move a single strategy with the greatest support to Step 3. Consensus is difficult. Work with players in a respectful manner. The facilitator will use their best judgement to determine where there is the greatest agreement for a strategy at the table.

3. Buy the Strategy.

Whichever strategy was chosen now needs to be purchased with points. Those who were supporters of the strategy should be early funders of the strategy. Once the facilitator collects the points, a Selected Card is placed next to the strategy on the board.

4. Repeat!

- a.** Go back to Step 2, this time focusing on the principle with the second most game pieces.
- b.** After the top two principles have had strategies selected, go back to Step 1 and repeat the entire process.

The Game End.

The game ends when the table runs out of points to purchase strategies. As one final step, each player will be given 30 seconds to place their game piece next to the single strategy they believe is most important to improving the Future.



AFFORDABLE

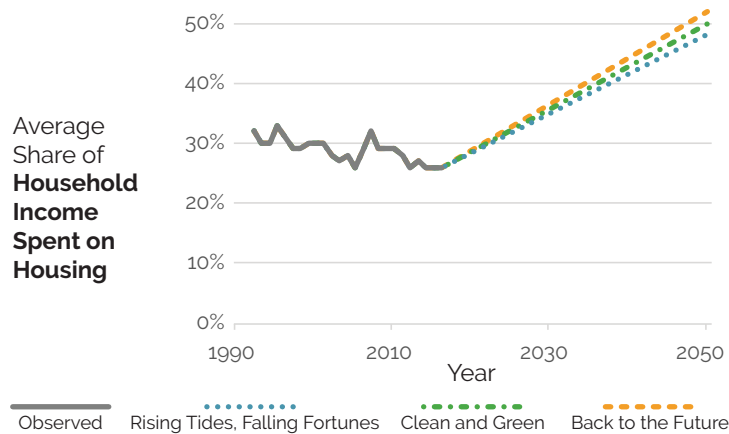
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Affordable Strategies

points

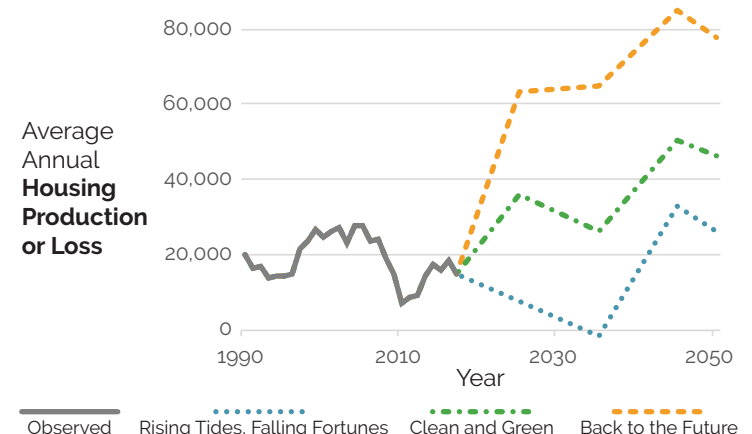
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Housing Production



Housing production is influenced by population growth, changes in demand for housing, and hazards like sea level rise and earthquakes. In *Rising Tides, Falling Fortunes*, a slower than average population growth depresses housing demand, while housing production increases in the other two futures due to growing populations. The major earthquake occurring in 2035, which results in a loss of units across all futures, then results in a housing recovery boom in later years.

Housing Affordability



While the Bay Area has some of the highest housing costs in the nation, the region's relatively high incomes have kept the average share of household income spent on housing to around twenty five percent, though many households are substantially more burdened by housing costs. By the year 2050, affordability is projected to become worse than at any time on record, with the average household spending roughly fifty percent of their income on housing in all three futures.



Photo by Joshua Abrams



2

points

3

points

Streamline Accessory Dwelling Units

Reduce regulatory barriers and create incentives to build more Accessory Dwelling Units (ADUs) across the region. Enable more single-family homeowners to convert underused garage or yard space for ADUs, and allow owners of multi-family properties to add additional units.

POTENTIAL IMPACT: Up to 5,000 new homes annually.

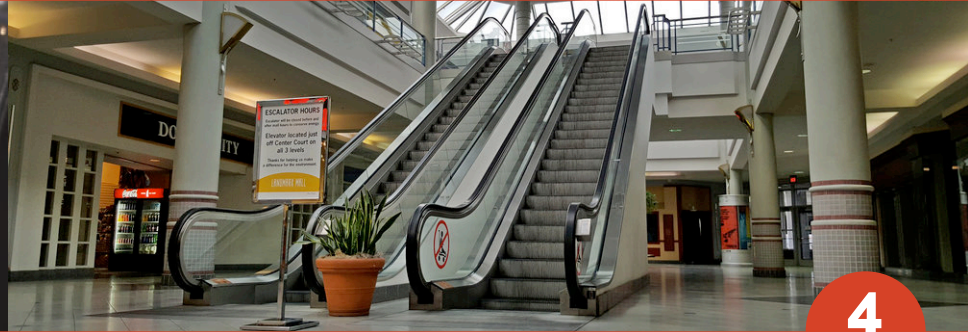
ASSUMPTIONS: If 10 percent of the 1.5 million single-family homes in the Bay Area built an ADU, 150,000 new homes could be distributed into existing neighborhoods by 2050. Encouraging construction of ADUs, also often called “in-law units,” could help accommodate the Bay Area’s growing senior population, which more than doubles in all three futures.

Repurpose Public Land to Build Housing

Pass state legislation to reduce development barriers for housing on vacant and underused public land. Prioritize the use of public land within a quarter-mile of transit for construction of mixed-income or affordable housing.

POTENTIAL IMPACT: Up to 1,200 new homes annually.

ASSUMPTIONS: The region has identified 470 publicly owned vacant or parking lot parcels within ¼ mile of transit, totaling 700 acres of land that could be zoned for housing. At 50 units per acre, these parcels could support 35,000 new housing units.



3

points

Provide 50 Percent Fare Discount for Low-Income Transit Riders

BART, Caltrain, Muni and Golden Gate Transit recently launched a pilot program for means-based fare discounts of 20 percent off regular adult fares (Muni offers a 50 percent discount already). This strategy increases the discount to 50 percent and expands participation to all transit operators.

POTENTIAL IMPACT: Cut transit costs in half for low-income residents.

ASSUMPTIONS: The estimated cost to provide a 50 percent discount to all low-income Bay Area transit riders in 2017 is \$80 million – subsidizing 20+ million trips. Over 30 years, this strategy costs roughly \$5 billion. In addition to reducing travel costs, this strategy may also reduce single-occupant vehicle travel and improve low-income residents' access to services.

4

points

Transform Aging Malls and Office Parks into Neighborhoods

Partner with cities and property owners to redevelop vacant and low-performing shopping centers into mixed-income neighborhoods with local services and transit connections, while ensuring that one-third of the homes in each neighborhood are permanently affordable.

POTENTIAL IMPACT: Up to 10,000 new homes annually.

ASSUMPTIONS: This strategy would address a key challenge – that one in four malls is projected to close in the next five years – while improving housing affordability. Rebuilding 25 percent of Bay Area shopping center sites larger than 10 acres as mixed-income neighborhoods would create approximately 10,000 to 15,000 homes annually over the next 30 years. Redeveloping 25 percent of office parks would yield an additional 5,000 to 10,000 homes per year.



4

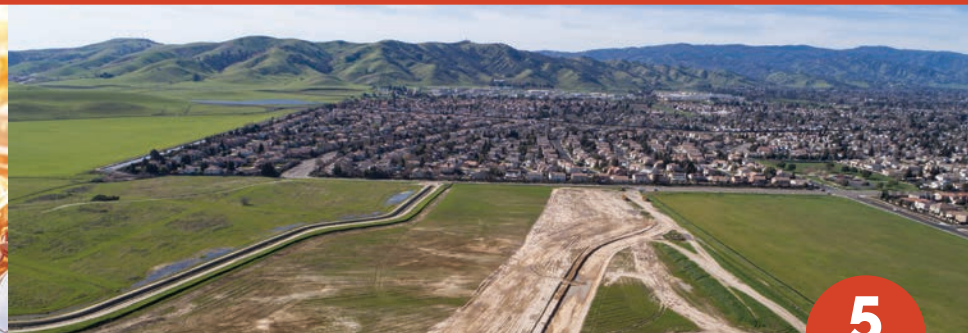
points

Reuse Excess Parking for Housing

Prepare for a future where fewer people rely on a personal vehicle by encouraging redevelopment of excess or obsolete parking lots as mixed-income housing and local services. Prioritize redevelopment of excess parking areas near high-capacity transit, or major employment centers.

POTENTIAL IMPACT: Up to 2,000 homes annually.

ASSUMPTIONS: *One regional parking dataset indicates there are at least 12,000 acres of off-street parking in the Bay Area. Converting 10 percent of these parking areas to housing could add 60,000 housing units over the next 30 years if the redevelopment averaged 50 units per acre.*



5

points

Establish Urban Reserves for Housing Development

Strategically expand some urban growth boundaries adopted by Bay Area counties to increase the amount of developable land. Support development in these locations by funding public transit extensions and other key infrastructure for projects that create at least 10,000 homes – with 30 percent permanently affordable to low- and middle-income households.

POTENTIAL IMPACT: Up to 5,000 homes annually.

ASSUMPTIONS: *Assumes one project at the scale of the previously-proposed Coyote Valley development (25,000 homes) is completed every five years over a 30-year period.*



5
points

Allow Diverse Housing Around All Major Transit Stops

Pass state legislation requiring areas within a half-mile, or a 10-minute walk, of any rail station in the region to be rezoned to allow for more diverse housing. In some communities, this would involve no change. In others, it would allow a variety of new housing, such as duplexes and apartments.

POTENTIAL IMPACT: Up to 8,000 homes annually.

ASSUMPTIONS: *The 8,000 homes annually assumes a geographic area within ½ mile of all rail stations, but excludes areas already designated Priority Development Areas. Within this geography, redevelopment of parcels without homes is assumed to take place at a density of 24 homes per acre on parcels of less than one acre, and at a density of 40 units per acre for parcels larger than one acre. Assumes buildout to 25 percent of the newly-created development capacity.*



9
points

Raise Taxes to Spur Affordable Housing Production & Preservation

Generate \$1.5 billion a year to build a broad range of permanently affordable housing — from supportive housing for the homeless to owner-occupied homes for moderate-income buyers. Spread the impact of new taxes and fees among the region's developers, homeowners, employers and shoppers.

POTENTIAL IMPACT: Funding to support 8,000 affordable units annually.

ASSUMPTIONS: *CASA estimates the revenue would result in an additional 7,100 units annually for households with incomes below 80% AMI and 750 units a year for households earning 80 to 120% AMI. This assumes subsidies of \$150,000/unit for low-income development, and \$100,000/unit for moderate-income development would leverage existing federal and state programs to build units with an estimated cost of \$600,000.*




10
points

Institute a Bay Area Universal Basic Income (UBI) for Low-Income Households

Make all low-income households eligible for a \$250 monthly basic income (\$3,000 annually). Based on 2015 figures, roughly 775,000 households would be eligible, providing low-income residents with sufficient money for basic needs, and potentially improving a variety of outcomes, from financial security to health and wellness.

POTENTIAL IMPACT: Increase 775,000 households' incomes by \$3,000 annually.

ASSUMPTIONS: *In 2015 the region had 775,000 low-income households. We assume the \$250 monthly benefit is phased in over a 15-year period reaching \$2.3 billion annually by 2035. The 30-year total cost to provide the benefit is \$50 billion. Two small UBI pilots by Y Combinator and Stockton, California are experimenting with \$1,000 and \$500 per month benefits respectively. This strategy reduces the benefit, but scales to all low-income households in the region.*

Create Your Own!

What strategy do you think would improve affordability for Bay Area residents?



CONNECTED

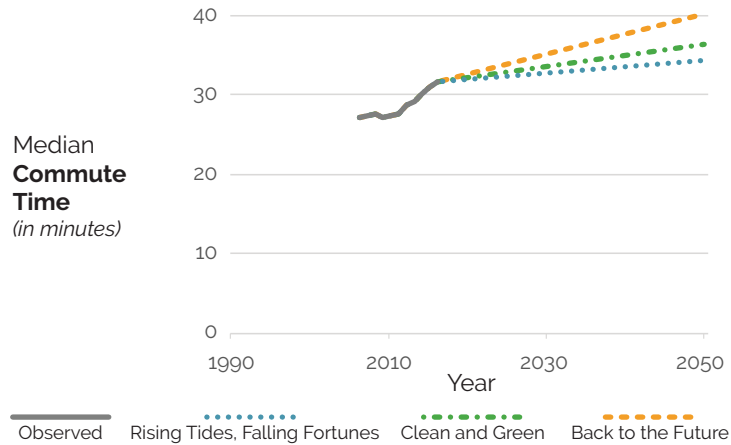
An expanded, well-functioning transportation system connects the Bay Area—fast, frequent and efficient intercity trips are complemented by a suite of local transportation options, connecting communities and creating a cohesive region.

Connected Strategies

points

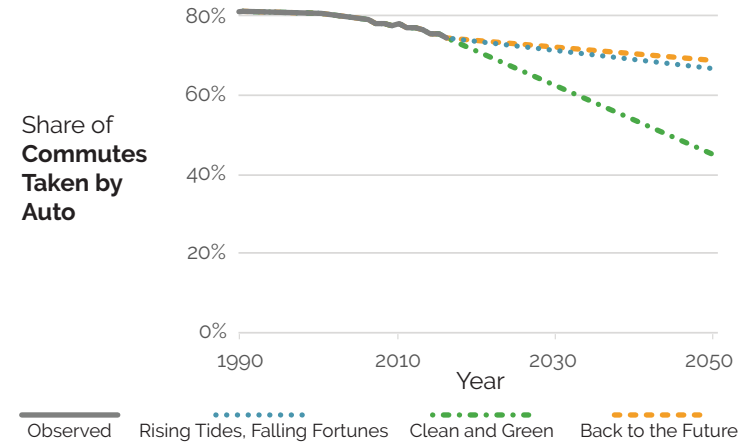
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Commute Mode



The share of trips to work taken by car, be it a person driving alone, carpooling, hailing a ride or taking a taxi, has been declining since 2000, and continues to decline in all three futures. In Back to the Future and Rising Tides, Falling Fortunes, the share decreases at a similar pace to the past decade. In Clean and Green, the high cost of driving due to a nationwide carbon tax results in a much larger decrease in car commute trips.

Commute Time



The time it takes Bay Area residents to get to work has been increasing since the 1980s, and continues to increase in all three Futures. The increase in commute times is greatest in Back to the Future, a Future where the region's population growth accelerates and the economy booms. Back to the Future also features the largest share of trips taken by automobile and an influx of development just outside the region's borders, with commuters traveling longer distances in autonomous vehicles.

1
point

Digital Rendering App Design by katvellos.com

1
point

Develop a Single Platform to Access all Mobility Options

Finance the development of a Mobility as a Service (MaaS) app that combines trip planning with a single-payment system and incentivizes use of shared modes (bike, scooter, transit, ridehail, etc.). Users of the app would be able to see all transportation options to their destinations and pay for the entire trip with the app.

POTENTIAL IMPACT: An easier-to-use transportation system.

ASSUMPTIONS: MaaS platforms can encourage use of transit and shared modes by simplifying the planning and payment process. A MaaS app in Helsinki, Finland, saw a 50 percent drop in private car trips and a 56 percent increase in public transit use among users. Because unregulated development of MaaS service could shift users to more car trips, this strategy assumes there are other policies and supportive incentives (e.g., congestion pricing, transit subsidies) to encourage users to select shared modes.

Provide Commuters With Incentives to Carpool

Use technology and incentives to increase carpooling and reduce the number of vehicles on the road. Approximately two-thirds of commuters in the Bay Area drive alone to work with an estimated 16,000 empty seats each day crossing the Bay Bridge alone.

POTENTIAL IMPACT: 100,000 fewer trips every day.

ASSUMPTIONS: In San Mateo County a \$1 million incentive allocation resulted in about 175,400 fewer vehicle trips. Using this program as a model, a 30-year, \$5 billion scaled strategy could reduce 100,000 trips every work day for 30 years. Just a three-to-five percent reduction of vehicles can result in a 50 percent drop in congestion-related delays.



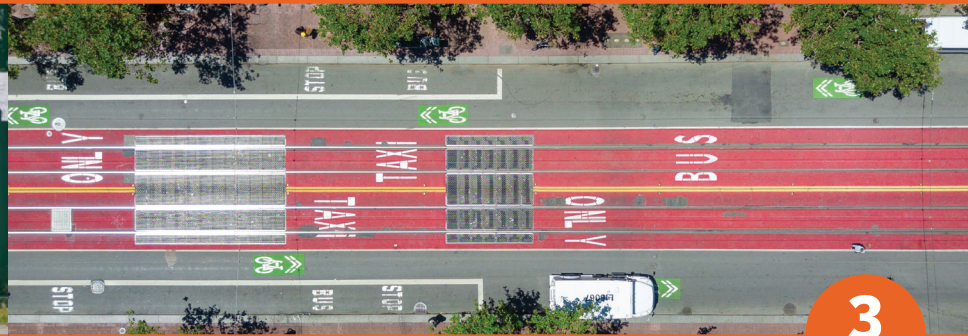
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point

Complete Regional Bike Networks

Allocate funding to complete over 3,000 miles of continuous and connected bike infrastructure, including completion of the 500-mile Bay Trail and the addition of Bike Superhighways with separated cycle tracks alongside the region's major freeways: I-80, U.S. 101, I-280, I-580, I-680 and I-880.

POTENTIAL IMPACT: 3,000 miles of connected regional bike infrastructure resulting in an active transportation mode share increase.

ASSUMPTIONS: In San Jose, trail gap closures have shown significant impact. Completion of a gap in the Guadalupe River Trail in 2008 resulted in an 86% increase in use and as the quality of the trail network improved over time, usage has grown. Completion of the Regional Bike Network (RBN) costs \$2.3 billion and could bring active transportation mode share up from today's 5 percent towards 20 percent with the construction of connected facilities that are attractive to a broad demographic.



3
points

Build and Operate a Next Generation Bus Rapid Transit Network

Invest in the development of a more expansive bus rapid transit (BRT) network, including dedicated lanes and enhanced stations. Building off planned BRT projects in three regional corridors, expand the network to include all transbay bridges and more high-use arterial roadways.

POTENTIAL IMPACT: Boost capacity in high-use corridors by 5,000 passengers per hour.

ASSUMPTIONS: AC Transit currently runs about one bus each minute across the Bay Bridge, with an average load of 40-45 passengers. Assuming BRT infrastructure allows 30 second headways, and attracts more passengers to fill 60-seat buses, capacity can increase by roughly 5,000 passengers. Past modeling efforts suggest San Francisco BRT projects would result in a 50 percent to 80 percent increase in ridership.



4

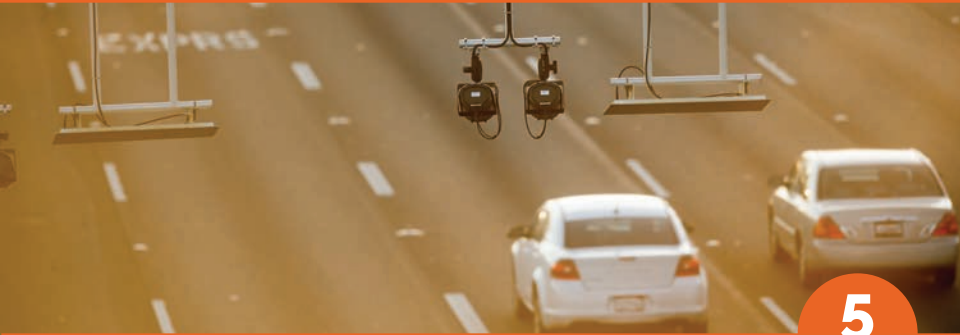
points

Increase Freeway Capacity and Build Express Lanes to Sacramento and Tracy

Fund a package of improvements that includes new/enhanced interchanges, widening and express lanes to relieve bottlenecked areas in the region, including from Solano County to Sacramento, and from Alameda County to Tracy.

POTENTIAL IMPACT: Relieve bottlenecks and reduce cut-through traffic on local streets.

ASSUMPTIONS: This suite of investments is estimated to cost roughly \$10 billion. Illustrative examples of improvements include the 580/680 interchange in Alameda County, along with widening I-80 in Solano County; State Route 4 in Contra Costa County; State Route 12 in Solano, Napa and Sonoma counties; and State Route 92 in San Mateo County. This strategy also adds express lanes going out of the region on I-580 and I-80. The widening of State Route 37 is addressed by strategy H-3 (due to the sea level rise adaptation element).



5

points

Apply 10-Cent-per-Mile Peak-Period Pricing on Freeways

Toll all highways during morning and evening peak periods at a rate of 10 cents per mile. The strategy, implemented in many cities across the world, would use sensors to charge all lanes of traffic on the region's freeways. Tolling can reduce peak traffic congestion, make limited road capacity more efficient and improve travel time reliability.

POTENTIAL IMPACT: Reduce peak-period freeway congestion.

ASSUMPTIONS: A 10-cent-per-mile peak-period pricing would cost the average Bay Area household roughly \$350 annually. This assumes that 15% of the 23-mile average Bay Area per-capita miles driven per day occur on highways during peak hours.



7

points

Build a New Transbay Rail Crossing

Construct a new BART or conventional rail crossing between the East Bay and San Francisco to increase transbay transit capacity, provide enhanced system integration, and provide redundancy in the system. A new transbay BART or rail crossing could include new station stops in Jack London Square (Oakland), Alameda County and San Francisco.

POTENTIAL IMPACT: Double Transbay Rail corridor capacity.

ASSUMPTIONS: The new rail crossing would have the same 27,000-people-per-hour-per-direction capacity as the current BART tube. Draft costs being developed for a suite of different rail crossings as part of a larger Bay Crossings Perspective Paper to be released in May 2019 average about \$25 billion.



7

points

Build a New Transbay Highway Crossing

Construct a new highway connection between the East Bay and San Francisco or the Peninsula. The alignment of a new bridge or tunnel could be placed at a number of different locations between the current San Mateo-Hayward and Bay bridges.

POTENTIAL IMPACT: Add capacity for 5,000 to 7,500 vehicles per hour in each direction across the Bay.

ASSUMPTIONS: A bridge with three lanes in each direction (like the San Mateo-Hayward Bridge) carries roughly 5,000 vehicles an hour. This translates to roughly 5,600 people per hour during the peak period. The five-lane Bay Bridge carries roughly 9,000 vehicles and 14,000 people per hour in one direction. A new transbay highway bridge likely would cost about \$20 billion but could have greater impacts on local communities compared with a rail line.



8

points

Extend the Regional Rail Network

Connect more neighborhoods and communities directly to the region's main rail systems and close gaps in core system service. This strategy includes a suite of extensions across the region. The projects are discussed in detail in the assumptions.

POTENTIAL IMPACT: Add 150 miles of new regional rail.

ASSUMPTIONS: Assumes the completion of \$32 billion in rail expansion projects, including BART to Brentwood, I-680 BART, State Route 85 Rail, Muni Metro to South San Francisco, light-rail lines in Fremont and Newark, and a Dumbarton Rail crossing with service from the Peninsula and South Bay through southern Alameda County to the San Joaquin Valley, as well as SMART extensions to Solano County and Cloverdale in the North Bay. Completion of BART to San Jose (Phase 2), Caltrain Downtown Extension (DTX), and VTA's Vasona and Eastridge Light-Rail expansions already are assumed.



11

points

Increase Capacity and Frequency by Modernizing Existing Rail Network

Recent plans have prioritized future funding for core improvements to BART and Caltrain in San Francisco. This strategy expands this investment by improving frequencies on Caltrain, significantly reducing travel times on VTA light rail by elevating key segments of track, and making major capital investments in Muni Metro to boost capacity and speed.

POTENTIAL IMPACT: Increase peak-period frequencies by 25-50% and improve reliability.

ASSUMPTIONS: This project includes \$35 billion in capital projects, which support Muni Metro, Downtown and North San Jose light-rail subways, the elevation of some VTA light-rail lines, and Caltrain modernization and grade separation projects. In addition to the \$35 billion cost to build these system upgrades, the increased operations would cost an additional \$13 billion over 30 years, bringing the overall strategy cost to \$48 billion.



Create Your Own!

What strategy do you think would make the region's transportation system more cohesive and connected? Are there other strategies that would improve our ability to move efficiently around the region?



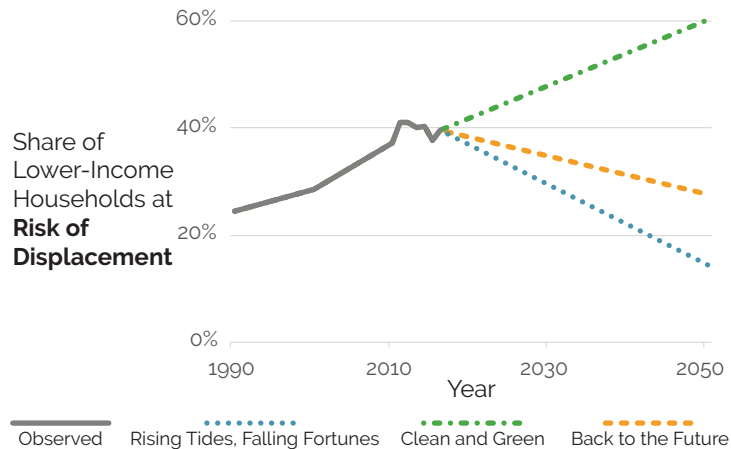
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Diverse Strategies

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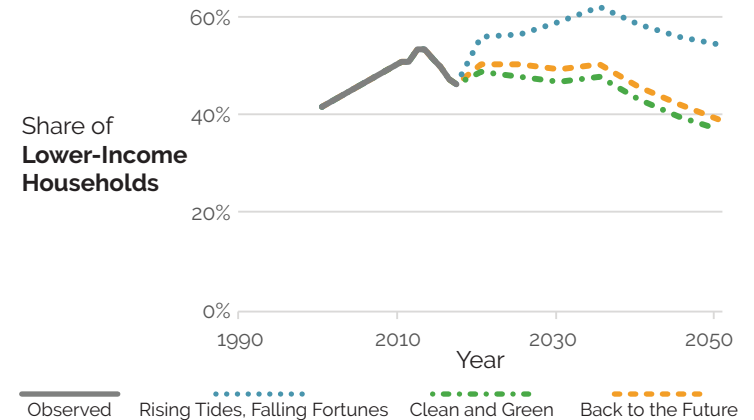
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D-10	Create Your Own!	

Displacement Risk



The current lower income household displacement risk trend accelerates in Clean and Green, as the cost of housing increases in tandem with increasing wages that are not equally distributed. Meanwhile, displacement risk decreases in Rising Tides, Falling Fortunes and Back to the Future, though likely for different reasons. In Rising Tides, Falling Fortunes, the weak economy reduces housing demands and costs. In Back to the Future, there is a stronger preference for suburban housing, alleviating demand for housing in traditionally lower-income neighborhoods of the region's urban core, which in turn, reduces the risk of displacement in urban areas.

Income Impacts



The share of lower-income households in the Bay Area, or households earning less than \$86,000 per year in today's dollars, has declined in recent years. In Back to the Future a national economic boom, and in Clean and Green a strong regional economy, result in a smaller share of lower income households by the year 2050. Meanwhile, in Rising Tides, Falling Fortunes, a national economic recession that the Bay Area cannot withstand results in a larger share of lower-income households in 2050 than today.



1

point

Develop a Housing Lottery Preference Program

Implement a lottery preference program to prioritize the placement of previously displaced individuals in new affordable rental or ownership housing. The strategy would prioritize individuals who were displaced by urban renewal programs in the 1960s and 1970s and tenants evicted through the Ellis Act.

POTENTIAL IMPACT: 30 percent of affordable units filled by previously displaced residents.

ASSUMPTIONS: This policy is based on a suite of prioritization programs passed by San Francisco from 2008 to 2015. Over a two-year period, 305 of 1,012 affordable units that became available in San Francisco were filled by priority applicants. A similar regional initiative would place previously displaced residents at the top of the affordable housing lotteries.



1

point

Expand Support for Low-Income Community College Students

Make community college and training programs increasingly accessible with free tuition, childcare assistance during education, and free access to class-related resources. Similar programs in Oregon, Virginia and Georgia have increased "A" grades by as much as 9 percent and reduced dropouts by 5 percent.

POTENTIAL IMPACT: Increase low-income student community college graduates by 2,500 annually.

ASSUMPTIONS: In 2013 the Bay Area had 250,000 full- and part-time community college students. Assuming half these students are eligible for free class resources (textbooks, etc.) at \$100/course, and 10 percent of students need childcare at an estimated cost of \$1,900/month for 20 hours of childcare for a full time student, the region would need \$2 billion over 30 years to offer this program. Assumes the program increases graduation rates among low-income students by 6 percent.

2

points

Subsidize Small Businesses Impacted by Transit Projects

Offer grants and loans to existing small businesses during the construction of new rail or bus rapid transit projects to help ensure these businesses benefit from future transit projects. The subsidies would help businesses stay afloat and give them capital to prepare for a changing market.

POTENTIAL IMPACT: 22,500 small businesses supported during construction.

ASSUMPTIONS: Assumes 150 miles of business corridors will be impacted by new transit projects over the next 30 years. Averaging two years in disruption, the program would offer \$50,000 in grants each year. It is assumed that 150 businesses would participate per mile.

2

points

Invest in Free "Last Mile" Service

Replace traditional bus service in lower density communities with shared, on-demand, appropriately sized driverless feeder service, and expand bike and other light electric mobility options throughout the region. Provide the feeder services within three miles of rail, ferry and expanded high-capacity express bus stations.

POTENTIAL IMPACT: Expands accessibility within three miles of transit stations.

ASSUMPTIONS: Assumes 3,000+ autonomous 15-seat vehicles operate everywhere in the region except San Francisco. Scales a 530-vehicle Contra Costa County project across seven other counties on a population basis. Assumes the bike share system expands from 7,000 bikes to 50,000 hybrid bikes in all nine counties around transit hubs. Today, over 50 percent of all Bay Area trips are three-miles or less, and a majority of these trips are taken in a private automobile.



2

points

Mandate Private Mobility Businesses Accommodate the Elderly and People with Disabilities

Require fleet service and mobility companies (whether automated or not) to make at least 10 percent of their fleets wheelchair accessible. These vehicles will enable a broader array of trips for elderly, people with disabilities, as well as trips with strollers or bulky packages.

POTENTIAL IMPACT: Ridehail and fleet vehicles designed for all Bay Area residents.

ASSUMPTIONS: *In all the Futures the senior population comprises at least 10 percent of the regional share. This policy could be dynamic, increasing or decreasing as necessary, but always balanced to provide accessibility to all Bay Area residents.*



4

points

Increase Renter Protections

A suite of four strategies could help current Bay Area renters stay in their communities: (i) just cause eviction ensures tenants are protected from arbitrary evictions; (ii) anti-gouging cap prevents extreme rent increases on a year-to-year basis; (iii) right to legal counsel ensures all tenants facing eviction have the right to legal counsel; and (iv) no net loss aims to preserve opportunities for low-income households to return to newly redeveloped areas.

POTENTIAL IMPACT: Protect 36,000 low- and moderate-income households annually.

ASSUMPTIONS: *In addition to the policy measures, a \$90 million annual subsidy would provide the legal counsel and short-term rental assistance.*



4

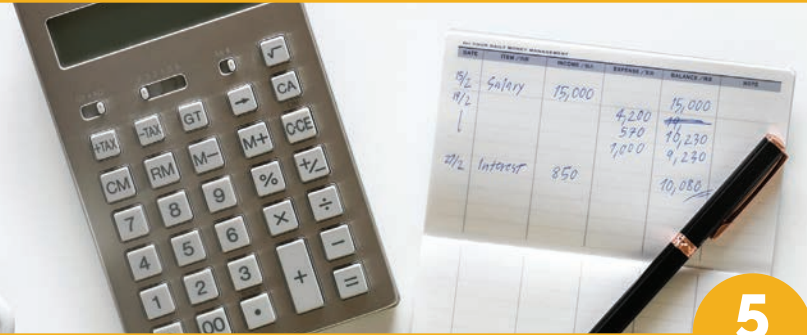
points

Require 20 Percent of all new Housing to be Affordable

Increase the requirement on new construction to build greater amounts of deed-restricted affordable housing. Inclusionary zoning creates more economically integrated communities and directly addresses segregation. Plan Bay Area 2040 assumed a minimum 10 percent rate across the region.

POTENTIAL IMPACT: Ensures all development will result in at least 20 percent affordable housing production.

ASSUMPTIONS: Many cities in the region have already passed inclusionary zoning standards. This policy would set a regional standard to ensure a greater percentage of what is generated is designed for lower income residents.



5

points

Expand the Income Tax Credit for Renters

Pass state legislation to institute a substantial tax credit for low-income renters burdened by housing costs. The formula-based tax credit would be directed at low-income renters and adjusted based on their level of housing cost burden.

POTENTIAL IMPACT: Cut the housing cost burden by 25 percent for 50,000 Bay Area households annually.

ASSUMPTIONS: Building on the Center on Budget and Policy Priorities' 2012 report on Renters' Tax Credits, an expanded program would result in a \$2 billion annual credit statewide for renters. In the Bay Area, this would translate to \$400 million in tax credits to renters, which could support roughly 55,000 households at an average annual credit of about \$7,000. The state administrative costs would be roughly \$150 million.



6

points

Allow Affordable Housing in Areas of High Opportunity

Allow for the construction of mixed-income housing near transit and in high-opportunity areas – places with quality schools and other resources linked to better life outcomes. In addition, provide assistance and counseling to low-income families living in high-segregation, high-poverty communities to move to high-opportunity areas.

POTENTIAL IMPACT: up to 2,500 new homes annually.

ASSUMPTIONS: Assumes a 25 percent buildout of parcels that are not occupied by residents and that have fewer than ten jobs. Parcels larger than 0.5 – 1.0 acres in size are assumed to be built at 24 units per acre; parcels larger than 1.0 acre are assumed to be built at 50 units per acre. All parcels within ½ mile of transit service.

Create Your Own!

What strategy do you think would improve quality of life for all Bay Area residents? What could the region do to celebrate our diversity?



HEALTHY

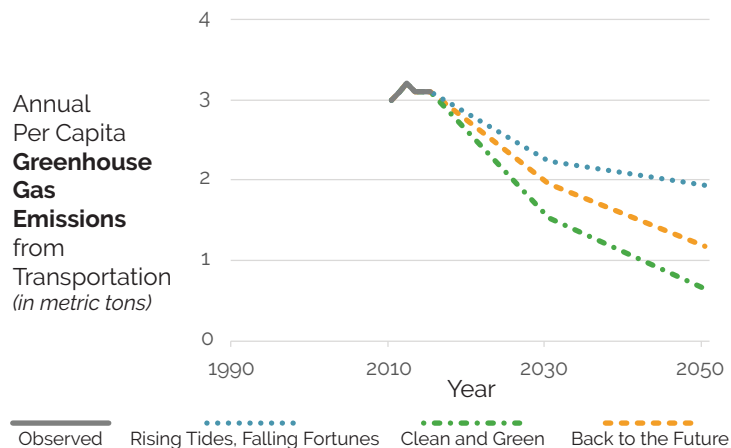
The region's natural resources, open space, clean water and clean air are conserved—the region actively reduces its environmental footprint and protects residents from environmental impacts.

Healthy Strategies

points

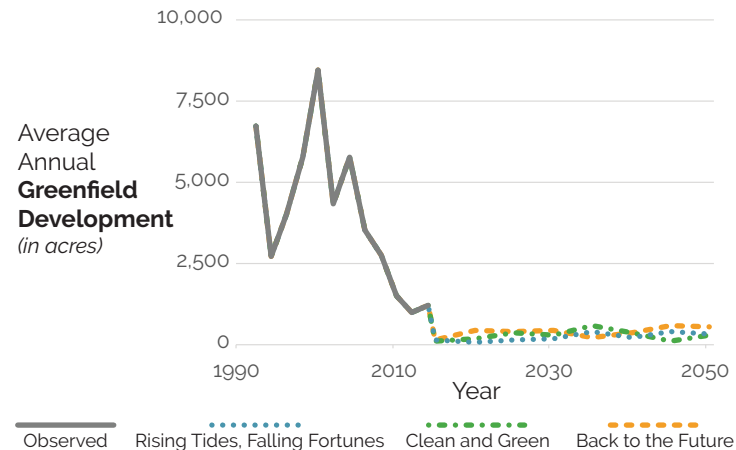
H-ii	Greenhouse Gas Emissions	
H-iii	Greenfield Development	
H-1	Establish Vehicle Trip Reduction Requirements for all New Development	1
H-2	Pass a Regional Measure for Parks, Trails and Greenways	3
H-3	Adapt Highway 37 to Sea Level Rise and Expand Bridge and Rail Seismic Programs	3
H-4	Purchase Disaster Recovery Financing to Fast-Lane Priority Development Area (PDA) Implementation	3
H-5	Implement Parking Fees	4
H-6	Pass a Statewide Carbon Tax on Food and Goods	4
H-7	Partially Adapt to Sea Level Rise	3
H-8	Fully Adapt to Sea Level Rise	4
H-9	Expand Financing for Energy, Water, Seismic, Fire and Accessibility Improvements	9
H-10	Create Your Own!	

Greenhouse Gas Emissions



Transportation is one of the largest sources of greenhouse gas emissions. Greenhouse gas emissions from transportation decrease 78 percent by 2050 in Clean and Green due to widespread adoption of electric vehicles and a nationwide carbon tax that increases the cost of driving. Meanwhile, the decrease is more gradual in Rising Tides, Falling Fortunes, with electric vehicles remaining a minority of all vehicles on the road.

Greenfield Development



Greenfield development, or the conversion of previously natural lands to urbanized lands, declined sharply in the Bay Area between 2004 and 2014. In each of the Futures, greenfield development declines rapidly due to the assumed continuation of today's urban growth boundary policies. This policy, which has already been adopted by over 40 Bay Area cities and four Bay Area counties, places a limit beyond which natural lands are conserved and development is not permitted.



1
point



3
points

Establish Vehicle Trip Reduction Requirements for all New Development

Require all new commercial and residential projects to implement strategies to reduce single-occupancy vehicle trips. Developers, property owners and employers would have to implement trip reduction strategies such as offering bike facilities, shuttle service or transit subsidies.

POTENTIAL IMPACT: A 15 percent reduction in vehicle trips associated with new development.

ASSUMPTIONS: San Francisco applies a 25 percent tax on all parking lot and garage spaces while Oakland has an 18.5 percent parking tax. A 20 percent increase in parking prices is assumed for this policy, which when paired with studies examining the impact of parking prices on driving, results in a 6 percent reduction in vehicle trips.

Pass a Regional Measure for Parks, Trails and Greenways

Pass a regional funding measure to invest in open space preservation, recreational trails and wildlife corridors. Funding allocations would be based on existing plan goals to close gaps in habitat networks and to ensure more equitable recreation opportunities for all Bay Area residents.

POTENTIAL IMPACT: Protect 660,000 acres of open space and marsh, and build 1,360 miles of trail.

ASSUMPTIONS: Pulling from a suite of regional open space, bayland and trail plans, this project assumes the region achieves its goals of 2 million acres of preserved open space; 100,000 acres of restored marsh land; and 2,700 miles of trail. This strategy does not include completion of the Bay Trail, which is part of Strategy C-3. This strategy assumes roughly \$15 billion would be needed, with the majority of money needed to acquire land.

3
points

Adapt Highway 37 to Sea Level Rise and Expand Bridge and Rail Seismic Programs

Use transportation dollars to adapt the low-lying State Route 37 corridor that connects Marin County to Vallejo in Solano County to sea level rise, and expand the state's seismic bridge program. Without action, a future earthquake and increasingly frequent floods may limit accessibility across the region.

POTENTIAL IMPACT: Keep key transportation corridors functional as seas rise and after earthquakes.

ASSUMPTIONS: All other sea level rise associated transportation impacts are addressed in strategies H-7 and H-8. SR-37 is specifically called out because it is such a long and extensive corridor. This strategy also sets aside additional funds to expand the recently completed Caltrans seismic program to ensure motorists are not only safe when on roads, but that bridges will be immediately useable after an earthquake.

3
points

Purchase Disaster Recovery Financing to Fast-Lane Priority Development Area (PDA) Implementation

Purchase a \$5 billion catastrophe bond, to ensure the region has the funds necessary to rebuild better after a major earthquake, flood or fire. The funding could be used to fast-track the implementation of existing long-range plans, leveraging existing Priority Development Area (PDA) plans.

POTENTIAL IMPACT: \$5 billion available to fast-track Plan Bay Area policies during disaster recovery.

ASSUMPTIONS: A set of parametric catastrophe bonds costing the region roughly \$200 million annually would provide the region with immediate and flexible funds in the event of a major earthquake, flood or fire. These funds could be used to enhance traditional recovery and insurance investments.



4

points

Implement Parking Fees

Impose fees on spaces in parking lots and garages. Increasing the cost of parking will reduce vehicle trips and raise revenue that can be used to support other transportation options, such as transit service or bike and pedestrian infrastructure. Parking fees will increase the cost of driving, thereby reducing the number of vehicle trips.

POTENTIAL IMPACT: A 6 percent reduction in vehicle trips.

ASSUMPTIONS: San Francisco applies a 25 percent tax on all parking lot and garage spaces while Oakland has an 18.5 percent parking tax. A 20 percent increase in parking prices is assumed for this policy, which when paired with regional assumptions about the density of development, travel mode options, trip purpose, and land use types, results in a 6 percent reduction in vehicle trips.



4

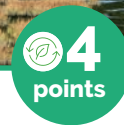
points

Pass a Statewide Carbon Tax On Food and Goods

Pass a statewide carbon tax on food and goods to complement California's Cap and Trade program. The intent of the new tax would be to increase the cost of large carbon footprint goods and steer consumers toward low GHG products. Revenues would be redistributed to counter the regressive nature of the tax.

POTENTIAL IMPACT: Shift consumers toward lower carbon items by pricing everyday purchases.

ASSUMPTIONS: One-third of the average Bay Area household's carbon emissions come from food and goods (clothing, furnishings, equipment, etc). Assuming an initial \$30/metric ton of CO₂e tax, the average annual tax on Bay Area households would be \$480. The latest IPCC report recommends carbon should be priced at \$135/metric ton of CO₂e by 2030. We have not developed an estimate for how this would reduce emissions.



Partially Adapt to Sea Level Rise

Using marsh restoration, horizontal levees, traditional levees, sea walls and tidal gates at creeks, adapt the most affected portions of the bay shoreline while allowing inundation of some areas with more minor impacts.

POTENTIAL IMPACT: Protect 90 percent of residents, businesses and transportation assets from sea level rise impacts, and adapt 50 percent of natural ecosystems.

ASSUMPTIONS: This strategy has different costs in each future because each assumes a different trajectory for sea level rise, thus requiring different levels of intervention. Most impacts from 1', 2', and 3' of sea level rise occur in just a few areas in the region. Protecting roughly 90 percent of the impacts to housing, jobs and transportation assets can be achieved with focused protection. This strategy does not include State Route 37 which is specially called out in H-3.

Fully Adapt to Sea Level Rise

Expand marsh restoration, horizontal levees, traditional levees, sea walls and tidal gates at creeks to adapt a greater portion of shoreline envisioned in H-7.

POTENTIAL IMPACT: Protect 99 percent of residents, businesses, and transportation impacts from sea-level rise impacts, and adapt 90 percent of natural ecosystems.

ASSUMPTIONS: Protecting the region from the majority of impacts is increasingly costly as there are many areas with at least some level of expected flooding. This strategy does not fully protect the region from all impacts, but it does capture the next tier of impacts beyond the partial adaptation strategy, H-7. It assumes twice the extent of investment in adaptive measures across the Bay Area, with a much larger commitment to adapting more of the region's existing marsh and shoreline ecosystems.



9

points

Expand Financing for Energy, Water, Seismic, Fire and Accessibility Improvements

Provide low- or zero-rate financing for owners of existing homes to upgrade their properties to reduce their carbon and water footprint, and to reduce their earthquake and wildfire risks. Most residential buildings built before the 1970s require a suite of upgrades.

POTENTIAL IMPACT: Seismically retrofit 500,000 homes; wildfire retrofit 250,000 homes; energy and water upgrades for 1 million homes.

ASSUMPTIONS: *The assumed average seismic or wildfire retrofit is \$15,000 per unit; energy upgrade is \$25,000; and water retrofit is \$5,000. Summing these costs results in a need for a \$40 billion revolving loan fund. The region has over 1.2 million homes built before 1970 before modern codes.*

Create Your Own!

What strategy do you think would improve the Bay Area's environment? How can we lessen our impact on the environment? How can we better adapt to climate change and other natural forces like earthquakes?



VIBRANT

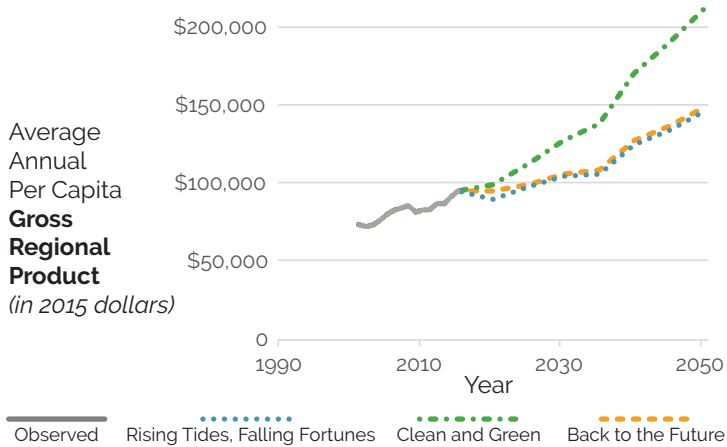
The Bay Area is an innovation leader, creating quality job opportunities for all and ample fiscal resources for communities.

Vibrant Strategies

points

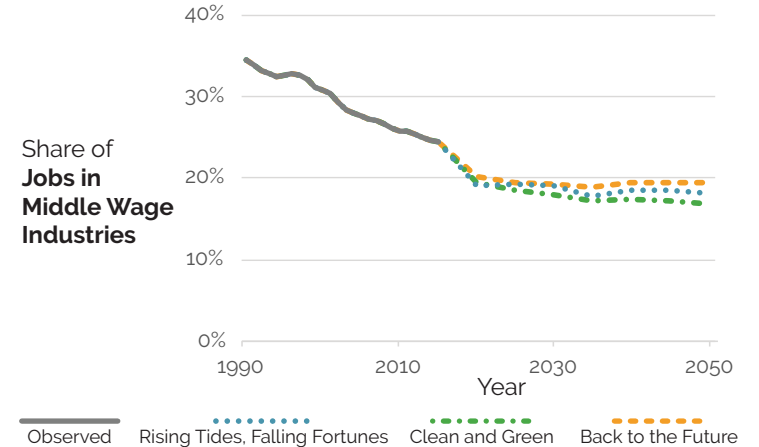
V-ii	Gross Regional Product Per Capita	
V-iii	Jobs in Middle Wage Industries	
V-1	Expand Construction Workforce Programs	1
V-2	Establish Priority Production Areas to Protect Industrial Lands	2
V-3	Preserve Agricultural Lands and Jobs	2
V-4	Develop a State-Level Fund for Automation-Induced Job Displacement	3
V-5	Create Incubator Program in Economically Challenged Communities	4
V-6	Provide Portable Benefits for Part-Time and Freelance Workers	4
V-7	Implement Incentives and Disincentives to Locate Jobs in Housing-Rich Locations	5
V-8	Create Your Own!	

Gross Regional Product Per Capita



Gross regional product is a measure of the overall productivity of a region’s economy, where a higher gross regional product per capita indicates a more productive workforce. Rising Tides, Falling Fortunes and Back to the Future follow a similar upward trajectory to today’s growth, while productivity increases at a faster rate in Clean and Green due to assumed technological advances. Widespread automation in this Future is expected to eliminate jobs that do not require critical thinking or that are repetitive.

Jobs in Middle Wage Industries



The share of jobs in middle-wage industries – construction, manufacturing, and transportation, trade, and utilities – continues to decline in each of the three Futures. By the year 2050, jobs in middle-wage industries are projected to constitute between 17 to 19 percent of all jobs in the region. The fact that this indicator follows a similar trend in the three divergent Futures indicates this will likely be a challenge for the region in the coming years, regardless of the other external forces that may emerge.



1

point

Expand Construction Workforce Programs

Invest billions in school, apprenticeship, and financial incentives that prepare workers for middle-wage construction-related jobs, fostering a new cluster in construction innovation. By increasing the local construction workforce, labor costs may stabilize and more projects can be constructed in a single year.

POTENTIAL IMPACT: Creates 1,000 new construction workers annually.

ASSUMPTIONS: \$30 million would be used each year to bolster high school, community college and trade-training construction programs. The program also would provide \$70,000 in incentives over five years to workers who stay in the field. Over the course of 30 years, the program would generate and retain 30,000 new construction workers.



2

points

Establish Priority Production Areas to Protect Industrial Lands

Designate Priority Production Areas to enable local jurisdictions to plan for and invest in areas needed for manufacturing, distribution and repair. Across the region, industrial land uses and middle-wage jobs are at risk from competing land-use pressures.

POTENTIAL IMPACT: Protect land uses that provide 750,000 (mostly middle-wage) jobs.

ASSUMPTIONS: The region's 600,000-plus jobs on industrial land are projected to grow to 750,000 by 2040 given the Plan Bay Area 2040 growth scenario. Industrial lands have a comparatively high share of the region's jobs that provide middle-wage opportunities for workers without a college degree. These businesses also provide support services for a broad range of business activities throughout the Bay Area.



2

points

Preserve Agricultural Lands and Jobs

Enhance funding to purchase permanent agricultural conservation easements for prime agricultural lands. Offer tax incentives to encourage local agricultural businesses. The strategy helps preserve a more diverse economy and the ability to grow and provide fresh and local foods.

POTENTIAL IMPACT: Protect 200,000 at-risk acres of agricultural land, maintaining the associated jobs.

ASSUMPTIONS: *The California Economic Development Department estimates that the region has 20,000 permanent agriculture jobs. Santa Clara County has a \$500 million, 25-year plan to protect 12,000 acres of prime agriculture lands. We assume a similar priced program for 100,000 acres of prime ag lands facing development pressure and a lower cost for 100,000 acres of less developable grazing lands, for a \$5.5 billion 30-year total.*



3

points

Develop State-Level Wage Insurance for Automation-Induced Job Displacement

Develop state-level wage insurance for job sectors impacted by automation. Wage insurance would incentivize displaced workers to accept a lower-wage, entry-level job rather than collect unemployment. Wage insurance supplements the lower wage for three years as workers learn new skills.

POTENTIAL IMPACT: Provide wage insurance to 10 percent of Bay Area workers.

ASSUMPTIONS: *The federal government already provides income support to workers displaced by international trade. Workers who obtain full-time jobs that pay \$50,000 or less within six months of becoming unemployed can qualify for 50 percent of their loss in earnings (up to \$10,000 annually) for two years. Assuming a similar benefit, the program would cost \$10 billion, supporting 360,000 workers over the three decades*



4

points

Create Incubator Programs in Economically Challenged Communities

Create incubation programs that promote the creation of businesses by low- and moderate-income people in communities with limited job opportunities. Incubation programs would provide technical assistance for establishing the foundation of the business, as well as access to workspaces, mentorship and financing.

POTENTIAL IMPACT: Creation of 25,000 jobs in economically challenged PDAs.

ASSUMPTIONS: Other incubator programs estimate the average cost to create a job at roughly \$50,000 in today's dollars, with the average life-span of generated jobs only four years. This strategy assumes that the investment in incubation programs would be continuous over 30 years to keep 25,000 jobs in the incubation cycle at all times.

4

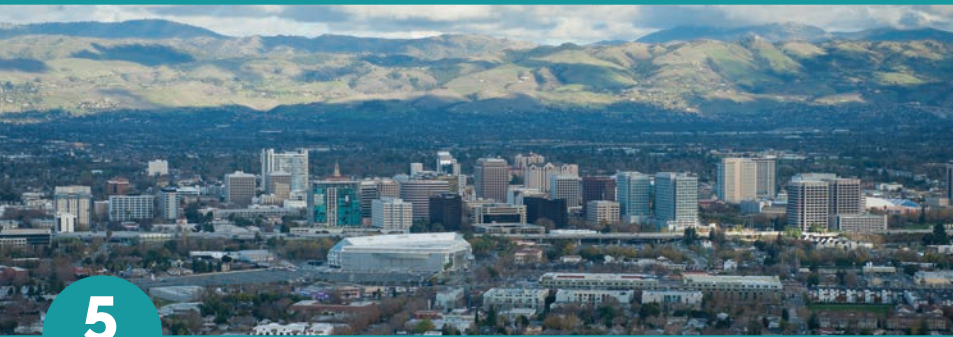
points

Provide Portable Benefits for Part-Time and Freelance Workers

Pass state legislation requiring companies that rely on freelance (gig economy) workers to contribute to prorated benefits in proportion to the work done. As the gig economy grows, workers will have the traditional set of work-related benefits such as leave, healthcare and retirement funds.

POTENTIAL IMPACT: Provide contract and part time workers with access to benefits.

ASSUMPTIONS: In New York, the Black Car Fund provides compensation coverage to 33,000 contract workers of black car companies. Benefits are paid by passengers who pay a 2.5 percent surcharge on every ride. The state could leverage existing programs like San Francisco's Health Care Security Ordinance, which provides employees working at least eight hours with health insurance and California's CalSavers retirement savings vehicle, to offer part-time and contract workers greater access to traditional full-time benefits.



5
points

Implement Incentives and Disincentives to Locate New Jobs in Housing-Rich Locations

Place job caps and head taxes in areas with many more jobs than residents, and use the tax to establish economic development incentives in Priority Development Areas (PDAs) located within cities that have a jobs/housing ratio less than 1.

POTENTIAL IMPACT: Shift toward a more equal distribution of jobs and housing.

ASSUMPTIONS: *At the macro level, this policy would only redistribute jobs. But at the jurisdiction level, it would help local economies that have struggled to attract economic opportunities. There is no guarantee, however, that this strategy would not simply push jobs out of the region. Examples of locations that would receive job incentives include Concord, Vallejo and Fairfield.*

Create Your Own!

What strategy do you think would improve the Bay Area's economy? How can we improve job opportunities for all residents? How do we remain an attractive location to global companies?

Clean & Green



1 point

Clean & Green



1 point

Clean & Green



1 point

Clean & Green



1 point

Clean & Green



1 point

Clean & Green



1 point

Clean & Green



1 point

Rising Tides,
Falling Fortunes



1 point

Rising Tides,
Falling Fortunes



1 point

Rising Tides,
Falling Fortunes



1 point

Rising Tides,
Falling Fortunes



1 point

Back to the Future



1 point

Back to the Future



1 point

Back to the Future



1 point

Back to the Future



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Back to the Future



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Back to the Future



1 point

Back to the Future



1 point

