Schedule for Horizon and Plan Bay Area 2050

2018 2019 2020 2021

**Outreach**
- Horizon
- Plan Bay Area 2050 (RTP/SCS)

**Policy**
- Develop perspective papers *(released on a rolling basis)*
- Horizon

**Futures**
- Define futures
- Finalize models
- Round 1 analysis
- Round 2 analysis
- Craft preferred scenario
- Develop implementation plan
- Horizon

**Performance**
- ID guiding principles
- Code projects
- Evaluate projects using futures
- Horizon
- Plan Bay Area 2050 (RTP/SCS)
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?

Horizon Futures Round 2 Analysis
- How might new strategies result in improved outcomes in each future?
- Which strategies are effective across many futures?
# External Forces

<table>
<thead>
<tr>
<th>FUTURE NAME</th>
<th>IMMIGRATION AND TRADE</th>
<th>NATIONAL TAXES AND FUNDING</th>
<th>NATIONAL GROWTH</th>
<th>LAND USE PREFERENCES</th>
<th>NATIONAL ENVIRONMENTAL POLICY</th>
<th>NEW TECHNOLOGIES</th>
<th>NATURAL DISASTERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rising Tides, Falling Fortunes</td>
<td>Reduced</td>
<td>Lower funding due to tax cuts</td>
<td>Limited</td>
<td>Housing: more urban</td>
<td>Relaxed regulations (3' SLR)</td>
<td>More limited</td>
<td>Magnitude 70 Hayward Fault earthquake</td>
</tr>
<tr>
<td>Clean and Green</td>
<td>Similar to today</td>
<td>Higher funding via carbon tax</td>
<td>Similar to today</td>
<td>Housing: more urban</td>
<td>Stricter regulations (1' SLR)</td>
<td>Widespread</td>
<td>Magnitude 70 Hayward Fault earthquake</td>
</tr>
<tr>
<td>Back to the Future</td>
<td>Increased</td>
<td>Similar to today</td>
<td>Rapid</td>
<td>Housing: more dispersed</td>
<td>Similar to today (2' SLR)</td>
<td>Widespread</td>
<td>Magnitude 70 Hayward Fault earthquake</td>
</tr>
</tbody>
</table>
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.
Three Futures

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

Imagine a future where the federal government cuts spending and reduces regulations, leaving decisions to states & regions.
Imagine a future where new technologies and a national carbon tax enabled telecommuting and distributed job centers.
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

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

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

Circle color is representative of year.

Circle area is representative of the number of homes.

50k 100k 500k

12
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

Circle color is representative of year.

Circle area is representative of the number of jobs.

50k 100k 500k
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.
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

**2050 Highway Conditions**
- major highways
- 2050 congestion (less than 35mph speeds)
- 2050 closure from hazards
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
- Hispanic +8%  
- Asian and Other +7%  
- Black -1%  
- White -14%

**Clean and Green**  
+80,000 immigrants annually
- Hispanic +7%  
- Asian and Other +9%  
- Black -1%  
- White -15%

**Back to the Future**  
+240,000 immigrants annually
- Hispanic +7%  
- Asian and Other +14%  
- Black -1%  
- White -20%

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.

Share of Lower-Income Households at Risk of Displacement

- Observations
- Rising Tides, Falling Fortunes
- Clean and Green
- Back to the Future

Year

1990 2010 2030 2050
Electrification and urban growth boundaries could reduce human impacts on the environment.

Annual Per-Capita Greenhouse Gas Emissions from Transportation (in metric tons)
Acute impacts from sea level rise and natural disasters will be more difficult to recover from if the region’s economy is weak.

Challenge HEALTHY

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

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.

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

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

**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
Middle-wage jobs continue to disappear in all three futures.
## Futures Scorecard - Guiding Principles (1)

<table>
<thead>
<tr>
<th>Selected Indicators from VITAL SIGNS</th>
<th>2015</th>
<th>2050 Rising Tides, Falling Fortunes</th>
<th>2050 Clean and Green</th>
<th>2050 Back to the Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing costs (share of income)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26%</td>
<td>48%</td>
<td>50%</td>
<td>52%</td>
<td></td>
</tr>
<tr>
<td>Housing production (net new units)</td>
<td>16,000</td>
<td>14,000</td>
<td>38,000</td>
<td>60,000</td>
</tr>
<tr>
<td>Non-auto commute mode share</td>
<td>25%</td>
<td>33%</td>
<td>55%</td>
<td>31%</td>
</tr>
<tr>
<td>Average commute time (minutes)</td>
<td>31</td>
<td>34</td>
<td>36</td>
<td>40</td>
</tr>
<tr>
<td>Risk of displacement (share of lower-income HHs)</td>
<td>38%</td>
<td>14%</td>
<td>60%</td>
<td>28%</td>
</tr>
</tbody>
</table>
# Futures Scorecard - Guiding Principles (2)

<table>
<thead>
<tr>
<th>Selected Indicators from VITAL SIGNS</th>
<th>2015</th>
<th>2050</th>
<th>2050</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DIVERSE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-income population (share of overall population)</td>
<td>50%</td>
<td>54%</td>
<td>37%</td>
<td>39%</td>
</tr>
<tr>
<td><strong>HEALTHY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greenhouse gas emissions (per-capita)</td>
<td>3.0</td>
<td>1.9</td>
<td>0.7</td>
<td>1.2</td>
</tr>
<tr>
<td>Annual greenfield development (acres)</td>
<td>1,200</td>
<td>300</td>
<td>300</td>
<td>500</td>
</tr>
<tr>
<td><strong>VIBRANT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jobs in middle-wage industries (share of all jobs)</td>
<td>21%</td>
<td>18%</td>
<td>17%</td>
<td>19%</td>
</tr>
<tr>
<td>Gross regional product (inflation-adjusted)</td>
<td>$0.7 trillion</td>
<td>$1.1 trillion</td>
<td>$2.1 trillion</td>
<td>$1.9 trillion</td>
</tr>
</tbody>
</table>
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
What’s Next?

The conditions in each future present unique challenges and opportunities for the region to leverage and address in the next round of analysis.
Next Step for Futures: Round 2

Horizon Futures Round 2 Analysis

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

Strategies are based on existing and future Perspective Papers:

• Autonomous Vehicles
• Toward a Shared Future
• Growth Strategies
• The Future of Jobs (Coming in April)
• Bay Crossings (Coming in May)
• Sea Level Rise (Coming in September)

Strategies are also based on other efforts, including:

• CASA
• BCDC’s Adapting to Rising Tides Program
• Comprehensive Economic Development Strategy
• Horizon/Plan Bay Area 2050 Project Performance
Stakeholder Workshop
San Francisco
3/11/19 - 8:30 AM to 1:30 PM

Public Workshops
Oakland
3/12/19 - 6:00 PM to 8:00 PM
San Jose
3/14/19 - 6:00 PM to 8:00 PM
Petaluma
3/16/19 - 10:00 AM to 12:00 PM
San Bruno
3/19/19 - 6:00 PM to 8:00 PM
Vallejo
3/20/19 - 6:00 PM to 8:00 PM

Online Outreach
vitalsigns.mtc.ca.gov/horizon
We’re seeking input from stakeholders & the public on which strategies would transform each future - and we’ll report back next month.

More information available at:

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