Long-Term Planning + Systems Change: Three Examples from the Bay Area

Ratna Amin/SPUR
Amanda Brown-Stevens/Resilient by Design
Doug Johnson/San Francisco Planning Department
Three Large Processes
2050 and Beyond

1. Connect SF/Doug Johnson
2. Resilient by Design/Amanda Brown Stevens
3. SPUR Regional Strategy/Ratna Amin
Pace Layering: The fast layers innovate; the slow layers stabilize.
Pace Layering:

“In a healthy society, each level is allowed to operate at its own pace, safely sustained by the slower levels below and kept invigorated by the livelier levels above.”

-Stewart Brand

The Clock of the Long Now
ConnectSF

URBANISM NEXT

MARCH 2018

connectsf@sfgov.org

connectsf.org
Purpose

ConnectSF aligns our agencies through a ground up process to identify our long term transportation projects and policy priorities

About the Program

• 50-year transportation vision created with city agencies (we are here)
• Phase 2 is about the projects and policies needed to achieve the vision
• Phase 3 includes San Francisco two transportation policy and action oriented documents
Process

SPRING 2017
- Pop-ups and Surveys
- Co-Learning and Futures Primer
- Conduct Research

SUMMER 2017
- Input on Scenarios
- Scenario Building Workshop
- Develop and Refine Scenarios

FALL 2017
- Public Outreach
- Scenario Check-in
- Strategic Implications Workshop
- Study Technical Implications

WINTER 2017-18
- Public Outreach on Plans and Studies
- Implementation and Funding
- Plans for People, Roads and Transit
- Guidance on Plans and Studies
# Drivers of Change

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<thead>
<tr>
<th>ConnectSF Givens</th>
<th>ConnectSF Uncertainties</th>
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<tr>
<td>• Climate change, resource scarcity, and natural disasters</td>
<td>• Regional Economy</td>
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<td>• Demographics</td>
<td>• 21st Century Infrastructure</td>
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<td>• Earthquake risk</td>
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<td>• Public distrust in government</td>
<td>• Lifestyle Choices and Values</td>
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<td>• Rapid technological change</td>
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<td>• <strong>Inequality and Polarization</strong></td>
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Scenario Development Process

- Identify Driving Forces and Critical Uncertainties
- Develop Framework for Scenarios
- Develop Plausible Future Scenarios

Workshop #1
June 20-21, 2017
Scenario Development Process

Discuss Implications and Trade-Offs

Identify Preferred Future

Monitor Progress*

Workshop #2
October 4, 2017

*Recommendation for staff to create a mechanism for an ongoing effort to monitor indicators based on drivers of change and progress towards the vision.
Scenario Matrix

- **Mind the Gap**
- **Building Bridges**
- **Wild West, Inc.**
- **Mosaic**

Changes in Economic System:
- Not Integrating Equity and/or Environmental Values
- Integrating Equity and/or Environmental Values

Political Will:
- Decentralized, Fragmented

Social and More Connected:
- Coming Together
Outreach Summary

125 PARTICIPANTS
3 LANGUAGES OFFERED: CHINESE, ENGLISH, SPANISH
1 YOUTH GROUP

5,300 RESPONDENTS
4 LANGUAGES OFFERED: CHINESE, ENGLISH, SPANISH, FILIPINO

60+ ORGANIZATIONS ENGAGED
470 POP-UP VISITORS
700 POP-UP RESPONSES
Outreach Feedback

Do you think this scenario is acceptable or unacceptable?

What scenario did people most prefer for the future of San Francisco?
The Vision

Equity

Economic Vitality

Environmental Sustainability

Safety and Livability

Accountability and Engagement
What’s Next? Upcoming Studies

• Phase 1 ConnectSF Vision is done

• Phase 2 is about the projects and policies needed to achieve the vision:
  • Transit Corridors Study
  • Streets and Freeways Study

• Phase 3 includes the two policy and action oriented documents,
  • SFTP 2050 (countywide transportation plan)
  • Transportation Element Update
Process Findings

1) Scenario planning is a strong tool...

2) But is difficult to use with “standard transport planning”

3) The public appreciates hearing that we are struggling with these big questions
   • Don’t wait to get it *just right*
   • Most members of the public don’t have planning assumptions
Recommendations

1) Educate with planning assumptions

2) Do not assume you know what you are aiming for

3) Build adaptive frameworks with your funding, planning and delivery partners
Thank you
doug.johnson@sfgov.org
Resilience to a Rising Bay

March 6, 2018
Resilient by Design – Process
## Bay Area Challenge

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Design teams compete for best solution to sea-level conundrum

An ambitious design competition that seeks to make the Bay Area a model for how to prepare for sea-level rise kicks off this week.
Design Team Applications

- 51 teams applied
- 10 teams selected
- 215 team members
- 92 firms represented
- 6 countries represented
Design Teams

THE ALL BAY COLLECTIVE
AECOM

BIG + ONE + SHERWOOD
BIG

BIONIC TEAM
Bionic

COMMON GROUND
TLS

THE FIELD OPERATIONS TEAM
Field Operations

HASSELL+
HASSELL

THE HOME TEAM
Mithun

PERMACULTURE + SOCIAL EQUITY TEAM (P+SET)
Base Landscape

PUBLIC SEDIMENT
SCAPE

Team UPLIFT
Gensler
Open Call for Site Ideas

▪ What would make this site a good fit for the design challenge?
▪ What are the potential vulnerabilities that threaten the site?
▪ Do you know who owns or controls this land?
▪ What’s threatened at this site (i.e. homes, highways, public transportation, wildlife habitat, recreational areas)?
▪ What local partners would need to be involved for it to be successful; what has their involvement been to date?
▪ What local plans exist or are underway in this area?
Design Opportunity Sites

▪ All Bay Collective – Oakland and Alameda, San Leandro Bay
▪ BIG+ONE+Sherwood – San Francisco, Islais Creek
▪ BionicTeam – San Rafael
▪ The Home Team – North Richmond
▪ HASSELL+ – San Mateo County, South San Francisco
▪ The Field Operations Team – East Palo Alto to Sunnyvale
▪ Public Sediment – Alameda Creek
▪ Common Ground – San Pablo Bay
▪ Team UPLIFT – Vallejo
▪ P+SET– Marin City
Collaborative Design Phase
ISLAIS CREEK
In 1905 Brunham designed a park along Islais Creek, but because of the earthquake that hit San Francisco in 1906 it was never built.

After the earthquake in 1906 that hit the Butchertown, the city decided to reclaim the creek using earthquake debris, reducing the waterbody to its present size.
WATER FROM ISLAIS CREEK WAS ONCE THE MOST VALUABLE WATER IN SAN FRANCISCO. TODAY, THE SOUTH WASTE WATER PLANTS IS THE BIGGEST ONE IN THE CITY AND IT TREATS MORE THAN 80% OF SF WASTE WATERS.
INDUSTRIAL LAND USE FOLLOWS CONTOURS OF FLOODPLAIN
Towards a more resilient and adaptive Bay, the creek system shall be restored to its natural functioning in support of biodiversity, recreation, flood management and landscape development.

Benefits:
- Slower discharge
- Room for flood
- Maximized infiltration
- Room for wetlands migration
- Green corridors
- Enhanced biodiversity
- Allow sedimentation

Creek Restoration
CALIFORNIA HAS MADE IT A PRIORITY TO UPGRADE THESE FACILITIES AND BETTER CONNECT THEIR PROCESSES TO NATURE AND COMMUNITY...
BAY TOWNS
Reconnecting Communities to the Bay
Revitalizing the Edge
Our approach addresses nature PLUS how people and communities relate to the Bay as well as grow.

Edges, Sponges, Corridors, and Hubs.

Differentiated by context and place.
THE FIELD OPERATIONS TEAM

EDGES + SPONGES
EDGES + SPONGES + CORRIDORS
THE FIELD OPERATIONS TEAM

EDGES + SPONGES + CORRIDORS + HUBS
SOUTH BAY
THE CREEKS
MORE NATURE
AN ABSORPTIVE EDGE
THE FIELD OPERATIONS TEAM

EXISTING LEVEE  PONDS  LEVEE  SALT POND  LEVEE  BAY

TODAY
THE FIELD OPERATIONS TEAM

LEVEE/LINEAR PARK

RECREATIONAL PONDS

LEVEE

TIDAL MARSH

LEVEE

BAY

SOCIAL STEPS

REINFORCED LEVEE

ABSORPTION AND RECREATION
AN ABSORPTIVE EDGE 2100

THE FIELD OPERATIONS TEAM

GREEN TERRACES

SUB-TIDAL UNITS

LEVEE LINEAR PARK

TIDAL MARSH

LEVEE

SUB-TIDAL ECOLOGY

LEVEE BAY
A COMPLETE REFUGE AND MORE INTERCONNECTED SOUTH BAY
High points and infrastructure remade as parks

Open water ponds reimagined for water sports

Mouths of creeks widened into mini-deltas

Sloughs and channels become blue greenway and water trails

Bayfront infrastructure made more compact and efficient

Salt Ponds restored to large-scale tidal marshes

A COMPLETE REFUGE AND MORE INTERCONNECTED SOUTH BAY
Testing Tidal Cities

Questions:

- How big and dense?
- Where is it needed & where does it go?
- How does it perform for resiliency?
- How much does it cost and how much value does it create?
- What is pond life like?
Tidal Cities Prototype
Pond life:
Living with Water
and dogs
Place matters.

Making our world more livable, healthy and resilient.
Enjoy it!
Restoring Nature
Sharing our space
A great place to call home
Sad ponds — ponds to learn from

Poor pond health

Dried up Ponds

Ponds for the privileged
If no one can solve resilience challenges alone, how can we work together?

Resilient Equity Hubs (REHBs) are alliances among agencies, community advocates, and residents that can leapfrog jurisdictional and property boundaries to prepare for climate change and build shared equity.
Resilient Equity Hubs (REHBs)

1. Governance and Finance Implementation Strategies
2. Neighborhood Scale Urban Design
3. Collaboration Tools
Resilient Equity Hubs (REHBs)

Watersheds and jurisdictions
Resilient Equity Hubs (REHBs)

How can we share power, resources, and responsibilities?
Resilient Equity Hubs (REHBs)

Case Studies

B. Case Study Research

What financing and governance tools could help Bay Area communities improve their resilience?

Key Financing Tools and Examples

Social and Environmental Impact Bonds

Crowdfunding

Special Districts and Multi-Jurisdictional Collaboration

Reserving Parcels

WHAT IF WE SHARED...
Resilient Equity Hubs (REHBs)

Existing plans and initiatives

San Leandro Creek Greenway Master Plan Study

Transformative Climate Communities Grant

East Oakland Black Culture Zone

Measure AA

International Boulevard Transit-Oriented Development Plan

Area Specific Plan

International Boulevard TOD Plan
Resilient Equity Hubs (REHBs)

1. Governance and Finance Implementation Strategies

2. Neighborhood Scale Urban Design

3. Collaboration Tools
Resilient Equity Hubs (REHBs)

Incremental change

1. Assess
2. Pilot
3. Grow
4. Link
Resilient Equity Hubs (REHBs)

Case Studies
Resilient Equity Hubs (REHBs)

The lifestyle of shared equity
Resilient Equity Hubs (REHBs)
1. Governance and Finance Implementation Strategies
2. Neighborhood Scale Urban Design
3. Collaboration Tools
**Collaboration Tools**

**BOARD:**
- Visualize sea level rise and important sites/resources on our site.

**MITIGATION STRATEGIES:**
- Lower Levels
- Using Levels
- Water Retention Pond
- Green Infrastructure
- Floating Hospitals
- Reloading
- Inundated
- Community Facilities

**PLAYERS**
- Role play different objectives
- Test interdependencies and alliances formed among players (i.e. REHBs)

**EVENTS:**
- Sports teams leave
- Tax shortfall etc.

**QUADRUPLE BOTTOM LINE:**
- Identify opportunities/costs of various combinations of strategies.
Resilient Equity Hubs (REHBs)
1. Governance and Finance Implementation Strategies
2. Neighborhood Scale Urban Design
3. Collaboration Tools
Final Designs
Resilient by Design – Who We Are
Executive Board

ALLISON BROOKS, BAY AREA REGIONAL COLLABORATIVE
TOM BUTT, MAYOR OF RICHMOND
AMY CHESTER, REBUILD BY DESIGN
ADRIAN COVERT, BAY AREA COUNCIL
AMY HUTZEL, COASTAL CONSERVANCY

KIRAN JAIN, NEIGHBORLY
ASHWINI KANTAK, CITY OF SAN JOSE
DWAYNE MARSH, GOVERNMENT ALLIANCE ON RACE AND EQUITY
JOHN RAHAIM, CITY OF SAN FRANCISCO
LAURA TAM, SPUR
FRANCESCA VIETOR, SFPUC
Jury

DR. LAUREN ALEXANDER AUGUSTINE

SARAH MINEKO ICHIOKA

ROBERTO MORIS

LIZ OBGU

HENK OVINK

SHELLEY POTICHA

DENISE REED

JERRY SCHUBEL

CYNTHIA SMITH

HELLE SØHOLT

DAVID WAGGONNER
Research Advisory Committee
Research Advisory Committee

- **Academic**
  - Stanford Woods Center for the Environment
  - UC Berkeley Department of Engineering

- **Government**
  - ABAG Resilience Team
  - Bay Area Flood Protection Association
  - BART
  - BCDC

- **Private Sector**
  - PG&E
  - Winter Consulting

- **Regional Planning**
  - SPUR Transportation Policy
  - Great Communities Collaborative
  - Climate Readiness Institute

- **Environmental advocacy and expertise**
  - Save the Bay
  - SF Estuary Partnership
  - San Francisco Estuary Institute
  - Point Blue Conservation

- **Environmental Justice and Health**
  - Resilient Communities Initiative
  - APEN
  - Center for Race, Poverty and the Environment
  - JCH Advisors
  - HealthxDesign

- **Design**
  - WRT
  - AIA Fellow
Toward Implementation
SPUR Regional Strategy
SPUR’s mission is to promote good planning and good government through research, education and advocacy.
We are working in the region’s three largest cities
Regional Strategy: Driving Forces
Driving Forces for the Bay Area

- Climate change
- Demographic Change
- Economy
- Inequality
- Physical growth
- Housing affordability
- Transportation/mobility
- Public sector/federal government
- Earthquake
Driving Force #1: Climate change

How severe and how fast will climate change hit us?
Baseline climate change
- *Sea level rise ~1 ft by 2050*
- *Planning and adaptation; coastal armament and retreat*

Rapid, catastrophic climate change
- *Sea level rise (1-3 ft. by 2050)*
- *Extreme heat, poor air quality and severe health problems*
- *Huge diversion of funds into crisis response*
Driving Force #2: Demographic Change

How many people will be here and who will they be?
Driving Force #3: Economy

What kind of economy will exist here?
Driving Force #4: Inequality

Will economic inequality increase or decrease?
Driving Force #5: Physical growth

*Where will physical growth go and what form will it take?*
The region continues to expand outward as growth is constrained in the urban core.
Driving Force #6: Housing affordability

Will housing become more or less affordable?
Driving Force #7: Transportation

What will urban mobility look like in 2050?
Driving Force #8: The capacity of the public sector

What kind of role will the federal government play in the region?
Driving Force #9: Earthquake

How prepared are we for it?
Creating scenarios

“The test of a good scenario is not whether it portrays the future accurately, but whether it enables [us] to learn and adapt.”

-Peter Schwartz,
The Art of the Long View
Scenarios

**Hopes**
- Education Central
- Valley sprawl

**Expectations**
- Corporate sovereignty

**Fears**
- Loss of faith in institutions/gate
- Hacking war, cyber war
- Int’l competition

**High-Impact**
- Cities are beautiful, under water
- Sustainable tech, energy
- Universal basic income
- Resilient to climate, earthquakes
- Shared caring for community members
- Welcoming to immigrants
- New creative work, workplaces, work
- Green, healthy housing, transit
- Less division, rebuilding, displaced from crisis
- Disengaged, wealthy classes
- Low recovery from EQ, terrorism
- No incentive to rebuild
- Totalitarian, police, no privacy
- Exit from US
- Global famine
- Political polarization
- No water
- Air pollution, disease, no water
- Concentration of power
- Disengaged, wealthy classes
- Less $ for education
- Learning what they need
- "Dumbing down" society
- Abandoned cities
- who flee to the "catty"
- Sprawl, seal level rise
- Urban collapse
- Mass job losses

**Regional**
- Rent-liable, housing
- Economic disparity
- Less economic mobility
- Disengaged, wealthy classes
- Less support for education
- Central Valley sprawl

**Economic**
- Tech changes: industrial workforce
- Investment in multiple pathways
- Education, future workforce
- Enable retraining for sustainable development
- Bike, green energy, transit
- Education of health
- Sharing goods, services in local circles

**Social**
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Future Scenario: Hypergentrification

The Bay Area continues to be an innovation center to attract talented people who earn high incomes. A great lifestyle is available — but only for those who can afford it.
Hypergentrification

- Local interests and preservation predominate
- The Bay Area provides a great life for legacy homeowners, global elites
- *more subsidized housing benefits a lucky few, but very little housing production overall*
- limited physical change: low infill and low sprawl
- *extreme housing costs and long commutes* punish the less affluent
- strong economy based on established companies, legacy wealth
- *innovation, creativity, and risk are in decline*. Young people must maximize earnings and security to live here.
- diversity is in decline as people of color and the working class relocate. *Immigrants go elsewhere.*
- *public services are unevenly distributed*. Wealthy communities have good schools and parks, others do not.
Hypermangentrification

**Sea Level Rise**: Wealthy, high-value locations are protected, but flooding in unprotected areas is a chronic drain on resources.

**Major Earthquake**: Rich cities are resilient and major infrastructure is repaired, but damage and loss of life hits low-income people hardest, reinforcing inequality.
Future Scenario: Bunker Bay Area

Inequality and segregation have become extreme. We are highly vulnerable to stressors and shocks because this is a high-stress, low-satisfaction way of life for all.
Bunker Bay Area

- **extreme inequality** breeds cynicism and self-interest
- liberal "public interest" consensus erodes
- economic stagnation despite significant legacy wealth
- **minimal economic mobility**
- wealthy enclaves surrounded by sprawling high-crime slums
- homeless encampments become *permanent favelas*
- **low-density sprawl in Central Valley**
- civil unrest -- and its suppression -- is routine
- liberals are buying guns
- **public services neglected** and stigmatized, bonds fail
Bunker Bay Area

**Sea Level Rise**: minimal adaptation investment. Chronic flooding drains resources from other priorities. Insurance crisis.

**Major Earthquake**: Widespread damage, loss of life. Low-income populations are hit hardest. "San Francisco's Katrina" could precipitate long-term regional decline.
Future Scenario: New Social Compact

A renewed faith in our ability to solve collective challenges drives significant progress on solving the region’s problems and making the Bay Area into a place of opportunity.
New Social Compact

- a new faith in **collective action** drives significant efforts on regional challenges
- housing, social equity, climate crisis, and national politics animate ambitious policy innovations, and **generation-scale initiatives** on the scale of BART and GGNRA.
- **progressive values** remain, but find new expression for new challenges. Liberals embrace housing development.
- the Bay Area is diverse, inclusive, dynamic and innovative
- economy thrives and new firms tackle regional and global issues
- the region is a **global model of post-carbon prosperity**
- creative young people choose the Bay Area as a place to come take risks
- **quality public services** attract a broader spectrum of users and provide a social equalizer
- **infill development** of livable, mixed-income neighborhoods is widespread and welcome
- housing needs are being met through **infill at all income levels** and widespread ADUs
- **pathways to middle-wage jobs** are established and effective
- immigrants from the US and around the world find a home here
New Social Compact

**Sea level rise:** New institutions invest in proactive, coordinated adaptation measures, actions are pegged to climate triggers, and funded in advance.

**Major Earthquake:** We invest in preparation through both retrofits and emergency response. Regional coordination is well-established. Loss of life is minimal, recovery is fast.
Transportation Scenarios
Future stories about Bay Area transportation.

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Bunker Bay Area

Space/Mobility:

• Linear favelas under/on freeways and rail.
• Wealthier marooned in private settings. Fewer people use the street.
• Flooding takes out the 880/101 and housing.
• A black market of transportation emerges.
• Extreme affluence has control over the system.
Bunker Bay Area

Government/Infrastructure

• Toll roads come back, transit doesn’t.
• Cannot maintain existing transit system – we become WMATA.
• Private sector organizations start to drive more of the decisions — act more like government.
• Cities and fend for themselves, self-funded.
• Public system becomes insolvent: private entities might buy transit systems.
• Mafias run goods movement again.
Bunker Bay Area

Technology:

• Big surveillance aspect to AVs, bake in preexisting biases in the algorithm.

• Private companies don’t want to send assets into poorer places at all – if high risk of damage to assets.

• Poor continue to use old technology (like Cuba). Favelas are not full autonomous, people are dying on the roads.

• Commuter Air Travel between wealthy enclaves around the region.
Bunker Bay Area
Hyper Gentrification

Space/Mobility

- Great public transit in the core. Declined condition in mid-tier.
- Rates for utilizing transit are closer to market rates.
- Jitneys could run from central valley and take two hours.
- Systems are built at high cost and run at high cost for the elite.
- Santana Row policed, surveilled, “curated” population.
- Big private sector projects but also in the public interest.
Hyper Gentrification

Government/Infrastructure

• Some transfer of wealth — free Muni for youth, seniors.
• Continue to strengthen regional agencies, smaller in scope.
• Most planning and funding happen at the county level.
• Local control stays, some rewarding of less wealthy cities to upzone.
Hyper Gentrification

Technology:
• More owned AVs for private use.
• Everybody is a google employee, working the whole time, in luxury.
• Air travel gets folks who have been pushed out of the city back in -- an extension of the tech buses.
• Cost of mobility is so low because there are so many ad cars. Elites supports ads on cars coming in from edges.
Hyper Gentrification
New Social Compact

Space/Moblity System:
• People get comfortable with density, dense nodes in more places with transit.
• Same system for lots of different people.
• Hong Kong style public transit in a lot of cities.
• Traffic is a result, but not as much as time in travel.
New Social Compact

Government/Infrastructure

• Mega-measure passes ($100B for transportation).
• Invest in long-haul transit: public, affordable, reliable and serves people.
• “Greater Bay Area Rail/Transit Authority”, like LA Metro, TFL, TransLink, Hong Kong MTR. Has some land use authority.
• Unified transit system (or feels like one).
• Cost doesn’t become a driver because technology is better. Optimized by a data platform that’s shared.
New Social Compact

Technology:

• Public agencies adopt autonomous technology.
• Everyone would have access to air travel and its subsidized. Take $ from roads.
• Bridge digital divide.
New Social Compact
Lessons About The Future

1. Transportation is just a layer, defined by space, funding, infrastructure, governance. We don’t know the future of transportation without knowing about the other futures.

2. The “Uber/Lyft” conversation is distracting us from infrastructure and funding.

3. Flying cars/Vertical Takeoff/Drones a big unknown.
Process Lessons

1. Start big, wide, dramatic – quickly move away from the status quo conversation.

2. Have the futures conversation over, and over, and over again; bring in new people.
Long-Term Planning + Systems Change: Three Examples from the Bay Area

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