America’s Resilience Movement: Policy & Application

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Urban Resilience Strategies
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What is community resilience?

- Ability to live better today and recover more quickly in the midst of and after disruptive situations

- Some consider this concept as “being ready for transformative change”-- no matter the origin of that change

- What we mean by “resilience” at the community level includes finding common ground among different approaches to integrated planning & application
National Resilience Initiatives

• Presidential Executive Orders from the White House, Office of Resilience at the National Security Council; the Resilience Dialogues

• 100 Resilient Cities--Philanthropic investment in regional & global planning

• National Academy of Sciences long-term study on national resilience capacity and its Resilient America Roundtable implementation program

• FEMA’s regional resilience pilot with Association of Bay Area Governments & other federal, state & regional partners
100 Resilient Cities Initiative

- The Rockefeller Foundation led the way to designate 100 cities over three years as member communities.

- Four California cities were selected in the first global cohort—San Francisco, Berkeley, Oakland and Los Angeles.

- The Bay Area has the only regional cluster chosen globally.

- The Bay Area 100RC communities will address common regional challenges: racial & social equity, seismic safety, energy assurance, supporting community/regional collaboratives.
URBAN RESILIENCE
Is the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience.

Adapted from the 100RC Program—Milan, Italy
100RC provides cities support to address resilience problems

- Funding to hire a Chief Resilience Officer (CRO)
- Support to Develop a City Resilience Strategy
- A Platform of Services to support strategy implementation
- Membership in the 100RC Network

To help complex urban systems organize and integrate around resilience

To scale solutions efficiently

Adapted from 100RC materials
100RC City Resilience Framework

• The **City Resilience Framework** (CRF) developed by Arup and supported by the Rockefeller Foundation responds to the resilience challenge.

• It is based on a **rigorous bottom-up research process** to understand city resilience.

• Each city is unique. Yet, through this research common themes have emerged which are captured in the CRF.

• The CRF identifies **12 drivers of resilient cities**. Collectively, they **represent the ‘immune system’ of a city**
What is the 100RC Resilience Strategy?

The 100RC Resilience Strategy Process is a 6-9 month effort led by the CRO to develop a roadmap to resilience for the city. It is a deliberate process to engage a broad range of stakeholders, leverage existing plans and actions, identify cities’ unique resilience priorities, and generate an actionable set of initiatives.

Adapted from 100RC materials
Building on the Report

• Strong interest in finding ways to test, implement, and enact the pillars and recommendations of the consensus study
• Continue to convene multiple stakeholders involved in increasing community resilience
• Find new ways to build coalitions across jurisdictions and different types of decision makers
• Work with the initial communities: Charleston, SC; Cedar Rapids, Iowa; Tulsa, OK & Seattle, WA
• Philanthropy sector partners – Margaret A. Cargill Foundation, UPS Foundation and Zurich Re Foundation
Community Pilot Partnerships

- **Cedar Rapids, IA**
  - Flood resilience
  - Integrated resilience planning
  - Risk communication

- **Charleston, SC**
  - Flood resilience
  - Community engagement through art/science
  - Supply chain resilience

- **Seattle, WA**
  - Transportation
  - Social Equity
  - Climate adaptation
NAS charts practical effort

- Workshop that brings in experts to inform the community about innovative ways to do comprehensive resilience planning
- Writing session with key community stakeholders to work on the community resilience strategy
- Focus groups with community stakeholders to identify resilience challenges, priorities, and recommendations within the six environments
- Meetings with federal partners to explore ways to align the Community Resilience Strategy with federal resources and programs
NAS Pilot Communities lead planning process

Work with focus groups to:

- Define resilience within their sectors
- Develop a list of assets, components, institutions, infrastructure, etc. within the relevant environment(s) in the community
- Identify & categorize community needs, challenges and priorities
- Rank the categories by how much influence or impact they have on the resilience of the community’s environment
- Identify potential solutions and implementation strategies
LOMA PRIETA 25 SYMPOSIUM
## Regional Infrastructure Investments

<table>
<thead>
<tr>
<th>Infrastructure provider</th>
<th>Number clients served</th>
<th>Scope of upgrades</th>
<th>Total cost/source of funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pacific Gas and Electric</td>
<td>15M throughout N CA</td>
<td>System upgrade of underground gas, electrical components, substations, and admin building.</td>
<td>$2.5B rate payers</td>
</tr>
<tr>
<td>Bay Area Rapid Transit</td>
<td>400,000 daily ridership</td>
<td>Retrofit core system-aerial structures, stations, transbay tube (completion system 2018, tube 2023)</td>
<td>$1.3B bonds &amp; taxpayers/ $3M from FEMA</td>
</tr>
<tr>
<td>East Bay Municipal Utilities District</td>
<td>1.3M in East Bay</td>
<td>Entire system upgrade: pipelines, fault crossings, dams, admin building, pumping and treatment plants (completed 1999?)</td>
<td>$0.189B rate payers</td>
</tr>
<tr>
<td>CalTrans</td>
<td>38.3M state-wide</td>
<td>Structurally upgraded and seismically retrofit over 2000 bridges and overpasses, new E span Bay Bridge</td>
<td>$13.08B CA taxpayers</td>
</tr>
<tr>
<td>San Francisco Public Utilities Commission</td>
<td>2.6 M residential, commercial, and industrial</td>
<td>Upgrade of 100+ yr old Hetch Hetchy water system-pipelines, fault crossings treatment facilities, and reservoirs (2016 completion)</td>
<td>$4.6B bond measure $2.7B</td>
</tr>
</tbody>
</table>

**Total Investment** $24.3B

Developed by Dr. Mary Lou Zoback
ABAG’s Resilience Program

Featured Projects

- Stronger Housing, Safer Communities
  An ABAG and BCDC report on vulnerability of housing and communities to earthquakes and flooding and strategies to address them

- Mitigation and Adaptation Plans
  ABAG and BCDC are supporting jurisdictions to update and develop local hazard mitigation and climate adaptation plans

Upcoming Events

- In the News
  - M6.4 Taiwan Earthquake - The February 6th quake appears to have damaged buildings and infrastructure. The Bay Area has many strong ties to Taiwan and we offer our collective sympathy to the impacted communities. Damaging earthquakes reaffirm the Bay Area’s commitment to ensuring safe housing, and resilient infrastructure across the region. Get more information about how to get prepared in our Earthquake Portal.
    Posted on 02.03.16

  - New Bay Area Policy Database – ABAG is developing a regional policy database to serve as a clearinghouse for innovative local policy, including resilience policies. The database will grow as we collect more policies. You can search by jurisdiction or policy type. Check out the database today! If you have any policies you’d like to include, email us.
    Posted on 12.30.15

- Floodwall for Bay Area Wastewater Treatment Plant - In October 2015 the Vallejo Sanitation and Flood Control District
ABAG Resilience Program

Research, planning, and action for a resilient Bay Area

- Building partnerships
- Livability and quality of life
- Integrated with comprehensive regional and local planning
- Practical implementation support for communities & policy leaders
ABAG’s 100RC Regional Coordination

• Partnering with San Francisco, Berkeley & Oakland through the Rockefeller Foundation initiative
• Leveraging the 100RC initiatives with Bay Area cities for comprehensive planning & action
• The Resilience Directory is a compendium of resilience policy support from regional, state and federal agencies
• Complements FEMA partnership for regional resilience planning
100RC Coordination: Initial Steps

- Analysis of 100RC regional investment
- Comprehensive and dynamic map of regional resilience planning and application
- Development of case studies to demonstrate successful Bay Area resilience practice
- Integration of resilience policies into local planning, including Plan Bay Area policy and practice with potential financial resources
FEMA sponsors Regional Resilience Planning

• Update to the 2010 Multi-jurisdictional Local Hazard Mitigation Plan process yielded a new approach
• Applying a comprehensive community engagement & planning initiative—CERC & Risk Map programs as anchors
• Supporting communities in hazards’ identification & risk analysis, community engagement & resilience strategies’ implementation
• Developing a comprehensive resilience planning framework to test in California & FEMA RIX
• Working on resilience inventory project to examine programs, implementation & fiscal investments
What comes next?

• Regional testbed for resilience metrics through new resilience inventory of Bay Area cities; establishing the region’s Resilience Quotient

• Creating regional and local implementation support for disaster and climate action through state mandates and federal incentives

• Using existing requirements as baseline activities to integrate resilience guidelines through General Plans, CAPs, Hazard Mitigation Plans

• Leveraging technical and social tools to accelerate resilience adoption