



Assessment: Resilient by Design Bay Area Challenge

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Prepared for Resilient by Design

By the Consensus Building Institute

About the Consensus Building Institute (CBI)

The Consensus Building Institute (CBI), founded in 1993, improves the way that leaders collaborate to make organizational decisions, achieve agreements, and manage multi-party conflicts and planning efforts. A nationally and internationally recognized not-for-profit organization, CBI provides strategic planning, organizational development, and highly-skilled facilitation for private companies, government agencies, non-profits, and international development agencies.

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Executive Summary

The premise of the Resilient by Design (RbD) Bay Area Challenge was both simple and audacious. To ready the region for impending increased flood risks due to storms and sea level rise, organizers asked the question: can the Bay Area come together to build a more resilient region while addressing other regional challenges, and can the region do that before a significant disaster hits the Bay Area?

Given the ambitious and experimental structure of the Bay Area Challenge, the Executive Committee decided to conduct an assessment of the process and outcomes, capturing the impacts and lessons learned with a focus on understanding the overall progress the region has made toward that goal. Another purpose of this assessment is to inform the next phase of implementation. The nonprofit Consensus Building Institute conducted 29 interviews and informal conversations with agency, nonprofit, community, and design team representatives to assess the Challenge's impact, lessons learned, and potential next steps toward a resilient Bay Area. Interview findings are captured here.

Impact

The Challenge created an opportunity to plan beyond the next project, jurisdiction, or a particular asset to think long term and at larger scales.

The Challenge created a platform for regional conversations about resilience and heightened the public's awareness.

The Challenge underscored that resilience depends on integrating social equity, natural systems, and the built environment to manage sea level rise, transportation, housing, the environment, and potential vulnerabilities.


Design can play an aspirational, creative role in a frightful conversation. Making design the driver shifted the conversation to what can we gain rather than what we lose.

“Retreating doesn’t have to look like failure... The designs provided visualizations of something to achieve as opposed to something to avoid.”

International perspectives brought fresh ideas to the Bay Area. The Bay Area, while quite politically progressive, can be fairly conservative in terms of change, and climate change is moving much faster than regulatory and physical changes.

Lessons Learned

Social equity is a key driver to resilience, and relationship-building with communities must start on day one.



The structure and short timeline for the Challenge did not support meaningful engagement. Community engagement should start much earlier in the process so communities can identify priorities and challenges. From there, the designers could work with communities to build upon that foundation.

“Many communities look at the designs and worry if they would recognize their communities or if they would be displaced.”

Just as the physical pieces of the project take money, the social aspects of the project take dedicated funding streams to advance.

Local leaders and regional agencies need to be engaged throughout the process to cultivate buy-in, strengthen relationships, and leverage resources.

Shaping the Next Phase

The next phase needs to prioritize activities that benefit both the next 3-5 years and the long term.

“In the next 3-5 years, RbD should push implementation from the nine designs. Developing components and pilot projects and vetting them through financial, regulatory, and scientific processes could advance implementation.”

Building on existing resilience initiatives and relationships and increasing the capacity of local jurisdictions and decision-makers to manage vulnerabilities are essential.

Circling back to communities and leaders in the very near future to maintain relationships, create trust, and build on the Challenge’s momentum could yield important benefits. Pacing engagement with project development is essential to advance design components.

Investing in both broad and focused educational efforts is necessary to raise awareness and understanding. Building the capacity of key stakeholders, decision-makers, and future local champions would create a network of long-standing collaborative teams.

Achieving regional resilience in the long term requires the engagement and commitment of jurisdictions with local and regional authorities (i.e. cities and regional agencies). And, to support this work going forward, the effort to advance resilience would benefit from credibility tied to one or more agencies with regional jurisdiction and authority.

Funding will be key. Creating a plan to support resilience planning is needed in the long term. However, building on the momentum of the Challenge to develop the necessary structure and securing resources in the next 2-3 years is also critical.



“The majority of this work started by the Challenge will fade away without a champion. We are going to need technical support, fundraising, regional support, and advocacy if we are going to be successful implementing projects.”

Establishing a coordinating entity could create a space to ensure that resiliency discussions remain at the forefront across the region. The entity could drive momentum and change; identify and support champions to advance elements of designs as projects; garner funding for projects that occur in multiple jurisdictions, creating shared approaches to projects and lessons learned; and speak with a unified voice on resilience.

Introduction

In the aftermath of Hurricane Sandy, which destroyed thousands of homes and businesses along the eastern seaboard in the fall of 2012, President Obama's Hurricane Sandy Rebuilding Task Force took on the challenge of rebuilding cities and communities in a way that would buffer against future storms. In partnership with the [the Rockefeller Foundation](#) and other funders and under the guidance of then Executive Director of President Obama's Hurricane Sandy Task Force and Housing and Urban Development Secretary Shaun Donovan, the Rebuild by Design Hurricane Sandy Competition was created. With Dutch Advisor Henk Ovink at the helm, the competition brought together design experts from around the world and produced innovative and exciting solutions to address future storm surge and sea level rise challenges.

The success of the Hurricane Sandy Competition inspired other places to consider - what could this type of initiative accomplish if it happened before a disaster struck? What would it look like to prepare cities and communities for storm surge and sea level rise before the worst impacts hit?

Resilient by Design | Bay Area Challenge

In 2016, the Bay Area passed a groundbreaking ballot initiative to generate hundreds of millions of dollars for wetland and habitat restoration, flood control, and public access along the shoreline. Over 70% of Bay Area voters supported the Clean Water, Pollution Prevention, and Habitat Restoration Measure (or Measure AA) to invest in the health and preservation of San Francisco Bay.

The commitment of regional leaders to an innovative, proactive climate adaptation design challenge, along with the willingness of Bay Area voters to proactively fund Bay restoration, inspired the Rockefeller Foundation to provide a foundational grant to launch the Resilient by Design | Bay Area Challenge in early 2017, which was modeled on the Hurricane Sandy Region's Rebuild by Design.

“Rising seas are already impacting our most vulnerable communities and threatening outdated and insufficient infrastructure around the country. More than ever before, it is critical that we work together to find innovative ways to protect our communities, which is why we are proud to support this Challenge. The Bay Area’s commitment to Resilient by Design will help reimagine the region’s future, create resilient communities, and serve as a blueprint for others around the world to take a similar approach.”
Patrick Brennan, Chief of Staff of The Rockefeller Foundation.

The Rockefeller Foundation defines resilience as ‘the capacity of individuals and systems to respond to, thrive, and adapt in the face of chronic stressors and acute shocks.’

Current projections show that the Bay Area may see an increase in sea level that could reach nearly seven feet by 2100. At these levels, homes, job centers, and major regional transportation infrastructure, as well as other critical services, will be at risk. Wastewater treatment and sanitation systems could be inundated or overwhelmed, and residential neighborhoods will see significant flooding.

This uncertainty and change in our natural world comes at a time of unprecedented housing pressure in the region. The rapidly accelerating displacement, especially of low-income residents and communities of color, is a defining crisis in the Bay Area. Creating solutions to protect the region from future sea level rise impacts that also respond to the current social and economic challenges is fundamental to building a more resilient region.

The Bay Area Challenge was a year-long collaborative design challenge that brought together local residents, public officials, and local, national, and international experts to develop innovative, community-based solutions to strengthen the region’s resilience to sea level rise, severe storms, flooding, and earthquakes. The Challenge sought to:

- combine implementable and creative design-driven ideas with technical expertise;
- reflect rigorous research and a strong understanding of ecosystems, local community, and government challenges;
- inspire collaboration, connection, and coordination across the region; and
- prepare communities for the future by addressing ecological, economic, and social vulnerabilities that exist today.

The Process

The below process timeline illustrates the distinct phases of the Challenge, which was initiated in early 2017 and completed in May 2018.



Assessment Overview and Goals

Following the final designs presentation in May 2018, the Resilient by Design leadership engaged the services of the Consensus Building Institute (CBI) to conduct an assessment with the goals of:

- capturing lessons learned from the Bay Area Challenge;
- assessing Resilient by Design's progress to date; and
- informing the next phases moving towards implementation of design elements.

CBI conducted 29 one-hour interviews in August and September 2018 with Resilient by Design participants and partners representing local government, local communities, regional and local non-profit organizations, regional agencies, design team members, and Resilient by Design advisors, staff, and board members (see list of interviewees in the appendix). CBI developed a standard set of questions, compiled interview notes, and methodically reviewed, summarized, and analyzed the information (see interview guide in the appendix). This report synthesizes the key findings that emerged from the interviews. Every effort has been made to accurately represent the input provided by stakeholders whose specific comments are confidential and, therefore, appear in this report without attribution.

Impact of the Challenge on the Bay Area and Beyond

The Challenge brought resilience to the forefront on a regional scale.


Interview respondents consistently articulated that Resilient by Design created a platform for regional, resilience-focused conversations that spanned boundaries and jurisdictions and reached diverse audiences, building networks that previously did not exist and, in some cases, among people and entities that don't usually interact.

Specifically, the Challenge broadened the awareness of the media, the public, and decision-makers. It took questions about water, infrastructure, sea level rise, and climate adaptation out of a policy forum usually inhabited solely by government agencies and as one interviewee expressed,

“...established a grassroots resilience conversation all over the Bay Area by taking these questions to the streets.”

Additionally, the Challenge raised the profile of these issues among elected officials and, in doing so, heightened their sense of urgency and priority to implement solutions. Further, agencies that don't usually interact with one another engaged in new and different ways. The Challenge was an inspiration to break down silos and awakened the need for collaboration on interdisciplinary projects. Resilient by Design improved communication among these agencies and encouraged enhanced coordination, which is crucial for the successful implementation of long-term projects.

Overall, those interviewed expressed that the Challenge affirmed what many have known for some time: thinking on a bigger, regional scale is vital. The Challenge raised awareness about



how big and interconnected the problems are and emphasized that, ultimately, achieving resilience will require interdisciplinary, integrated multi-jurisdictional solutions.

“This problem is not going to be solved on an asset-by-asset or jurisdiction-by-jurisdiction approach.”

Design can play an aspirational, creative role in a frightful conversation.

The Challenge highlighted that design is a powerful tool and can play an essential and aspirational role in complex, difficult conversations. Many interview participants conveyed that by making design the driver, Resilient by Design helped shift the conversation toward what the region has to gain instead of focusing on what would be lost. Bringing designers together with communities, agencies, and local governments helped people understand that retreating doesn't have to look like failure. It can be done intentionally and in a way that has multiple benefits for people and the natural and built environments.


These conversations can be difficult and frightening to communities, especially those that are likely to be disproportionately affected and potentially displaced by sea level rise and climate change impacts. Some interviewees spoke about the importance of having regional conversations that are informed and cautious, but not too cautious so as to overlook or fail to address risks. Some spoke about how the Bay Area is politically progressive but tends to be insular and slow to change. Given that climate change is moving faster than the regulatory and physical changes in the Bay Area, many observed this as a vulnerability. Others touted the participation of international design teams in the Challenge as invaluable because they infused new ideas and perspectives into the Bay Area.

Overall, the design teams' ability to package information and data beautifully and to develop strong narratives captured the imagination and attention of the public, policy makers, and planners and highlighted the value of seeing the bigger picture. The Challenge validated and encouraged creative and accelerated thinking about shoreline adaptation.

“We can design coastlines and resilient landscapes differently, and design can play a leadership role to formulate and develop strong narratives for projects needed to meet the challenges of the 21st century.”

The Challenge created opportunity to plan for the long-term.

The design teams proposed forward thinking ideas for how to solve this set of interrelated problems for the long-term. The Challenge introduced a ground-floor, pre-project development process that engaged communities in preliminary planning activities which isn't the norm. In other words, there was an open invitation for the communities to envision and think about new approaches for the long-term before projects were already underway. A key theme that emerged from the interviews is that creating the motivation to act urgently on



long-term efforts is difficult, making it essential to engage the community early and often. In addition, in some cases, the designs were conceptual and high level, which created excitement and energy on one hand and left questions about the next steps toward implementation on the other.

Resilience depends on integrating social equity, ecosystems, and the built environment to manage sea level rise, transportation, housing, the environment, and other vulnerabilities.


Interviewees said that the Challenge instigated a wider circle of dialogue about the issues and helped promote a better understanding of the interconnection and diversity of challenges facing the region. By bringing local, county, and regional entities together to talk about overarching issues, it illustrated how resilience as a frame can connect climate action, hazard mitigation, infrastructure, housing, health, and sustainability across the region. Many interview participants expressed that one of the deepest learnings from the Challenge was that in order to move toward regional resilience, stakeholders are going to have to find a new way of working together, acknowledging that resilience is multi-layered and inseparable from social equity. A key theme that emerged in many of the designs was that transportation corridors are interwoven with shorelines and that transportation posed a significant barrier that needed to be confronted in the design process. This and other themes brought to light that to achieve resilience, the region will have to solve multiple problems at the same time, requiring a holistic planning approach that must include those communities that are most vulnerable to the effects of sea level rise.

Lessons Learned for Future Challenges

Social equity is key, and relationship-building with communities must start day one.

A strong recurring theme from the interviews was that community engagement should start at the inception of the process so communities could identify priorities and challenges, and then designers could work from that foundation *with* communities. Many interviewees asserted that communities need to drive priorities, which could have been accomplished more aptly if the teams had been matched to sites earlier in the process. This would have allowed design teams more time to build relationships and trust with communities. Interviewees suggested incorporating experiential, interactive “pop-ups” in the research phase to garner interest and direct engagement.

Many would like to see more social equity and community empowerment incorporated into future processes. The Challenge held a one-day equity training for international that was helpful but insufficient to understand the complex, ongoing social challenges Bay Area



communities face, particularly related to housing, affordability, poverty, and environmental justice issues. Community and environmental justice organizations (“*the front line*”) had limited capacity and struggled to get involved. At the few sites where community representatives participated in all of the design team meetings, interviewees representing the community and design teams reported that contributions were invaluable. One respondent suggested that the Bay Area lacks best practices in community engagement, and as a result, there is a legacy of communities feeling left out or marginalized. This inherent mistrust was present and reinforced by the Challenge in some cases. Others suggested that when thinking about capacity building, it’s not just about training the community, but also training decision-makers to work more effectively with communities. Another said that communities need to be provided the appropriate resources to participate and emphasized,

“Just as the physical components of the project take money to advance, the social aspects of the project take dedicated funding streams to advance as well.”

Structure and short timeline did not support meaningful engagement.

Interviewees overwhelmingly agreed that time with the community was too short. Many front-line communities cannot respond with urgency. It takes many weeks or months to make a meaningful connection and to realize authentic community engagement. Since there was not enough time for communities to participate, many voices that could have been involved were excluded. In addition, community learning about these complex issues takes longer than the ambitious Challenge timeline could support.

Some design team members experienced frustration that they did not have time to conduct more meaningful outreach. Others felt too much of their time and resources was spent on community outreach and engagement tasks that should not have been their responsibility.

Academic partnership provides insights and builds capacity for the future.

Interviewees believe that integrating university students into the Challenge created the potential to increase the region’s overall capacity to integrate the concepts learned moving forward. The California College of the Arts and the University of California, Berkeley, were part of the All Bay Collective. UC Berkeley held eleven studios with students during the Challenge. The University of California, Davis, a key partner for Public Sediment, University of Pennsylvania, a partner for Bionic, and Stanford University all participated in the Challenge. The research informed the final design opportunities and enhanced the Bay Area’s collective knowledge base about regional resilience.

Team guidance, collaboration, and composition.

Scope of some projects was too broad.

Several interviewees expressed that design teams weren't encouraged to focus on specific project components. Broader, comprehensive planning concepts are more abstract and difficult to advance into implementation, which has left questions about concrete next steps.

Allow for regional strategies or team learning across sites.

Some felt it was a missed opportunity that the design teams were not encouraged to collaborate with each other. Even though the firms may have been in competition, it could have been beneficial to have a pre-competitive space for teams to work together to coordinate project elements across the region. A few teams proposed design opportunities that addressed the entire Bay Area, but teams eventually focused on their particular site.

Exercise greater flexibility in design team and advisory committee composition.


Some recommended considering how design team leads shape the outcome. For example, a landscape architecture firm in the lead may steer towards a different product than a biologist or engineer in the lead. A few interviewees recommended that diverse, multidisciplinary team composition may be more suitable to address a multidisciplinary problem like climate adaptation. (Note, the Challenge required each team to be interdisciplinary.)

Interviewees shared different opinions about the benefits of teams led by international design teams compared to those led by Bay Area design teams. International teams offered new perspectives and ideas. Yet, local knowledge can help expedite the process and build community trust.

Some interview participants suggested that the Research Advisory Committee should include more diverse interests, especially related to social equity and community engagement.

Consider the region's uniqueness for designing a Challenge process. Learn from both New York and Bay Area Challenges.

Several similarities exist between the Rebuild by Design Hurricane Sandy Challenge and the Resilient by Design Bay Area Challenge, such as a focus on engaging the community and diverse perspectives in the pre-planning design phase of the Challenge. However, there are notable differences between the Challenges. Rebuild was prompted by a disaster and the impacts resulting from Hurricane Sandy. Additionally, there was funding in place for project implementation to address those impacts. As a result, Rebuild focused on designing implementable projects.



The Bay Area's focus on proactively building resilience meant that there was inherent uncertainty in defining the problem. The design teams needed to predict how potential future hazards and storm events might interact. Additionally, implementation funding for the designs had not been secured in advance of the Challenge.

Opportunities for Advancing Design Elements

Connect regional resiliency with local issues.

Regardless of what project designs ultimately move forward after the competition, interviewees emphasized the importance of continuing community engagement and promoting large regional conversation among stakeholders about resilience. Interviewees view both maintaining the momentum and sense of urgency created by the Challenge to be essential. It is equally critical to help communities and local agencies deepen their understanding of how these multi-system problems (i.e., how climate change, displacement/gentrification, and infrastructure issues) affect one another and to explore how sea level rise and climate adaptation can be better integrated into existing, local planning efforts.

Challenges / hurdles to implementation.

Funding will be the biggest challenge.

Maintaining momentum for these big visions will be difficult with so many competing efforts and without funding. Many interviewees underlined that funding is the most essential key to transition these projects from good ideas to actual solutions that address the region's most pressing resiliency challenges.

“Money is the best mandate to align multiple interests and manage differences.”

Implementation may take major multi-jurisdictional coordination and/or modification.

Even if project elements are local in nature, these planning decisions require investment and buy-in beyond local jurisdictions to be successful. Ensuring long-term political will is particularly challenging when most cities are politically-driven on shorter timeframes and resilience necessitates a multi-decadal planning horizon.

Interviewees acknowledged that local, state, and regional agencies need to be deeply engaged. However, interviewees differed on who should lead. Some recommended that a state or regional entity should lead implementation and coordinate planning efforts for the Bay Area. Others cautioned that the local communities need to first establish political will and support for regional planning.



All the designs lacked an articulation of the first steps for how to start down the path towards implementing the bigger vision.

Some interviewees suggested that there's a break between the "now" and the big vision. Local jurisdictions, in particular, need a clearer roadmap for how to move towards implementation. Otherwise, achieving resilience is likely to be side-lined by more immediate priorities.

Residual distrust and dissatisfaction remain from the Challenge.

As discussed earlier in the report, stakeholders had different experiences with the Challenge. Interviewees agreed that because the timeline was short, several community members felt excluded and negatively about the Challenge. Those experiences may cause some stakeholders to disengage or could create a barrier to project implementation. In some cases, stakeholders may not support all design elements. Ongoing community engagement will be essential to address these potential barriers.

What's Needed Going Forward

We're not finished. There's lots of work to do. Develop mechanisms to advance elements of the design.

Many interviewees asserted that Resilient by Design as an organizational entity has a critical future role to play to build upon the momentum of the Challenge. Many interviewees stated that within the next 3-5 years, Resilient by Design should provide technical support, fundraising, regional coordination, and advocacy for projects. Many conveyed that Resilient by Design should push implementation of what was learned from the nine final designs by evaluating ideas that have stakeholder support and running them through regulatory, political, and financial tests. Several design teams developed a phased approach, pilot projects, and, in some cases, a process for implementation that can help prioritize near, mid, and long-term steps. In addition to advancing project elements and pursuing funding, interviewees said Resilient by Design should continue to address the long-term regional resilience needs. The organization can help build the region's capacity to address its multi-layered challenges by sharing lessons learned from the Challenge and by creating a regional forum to share knowledge and to collectively pursue funding for implementation.

Several noted that some design elements are expensive and require institutional change and the creation of new policy or funding mechanisms for implementation. There was an urging among interviewees that the region shouldn't let regulatory constraints impede progress towards implementing the best ideas that came from the Challenge.



“It is essential to think about the Bay Area 80-to-100 years from now. We need to take the best ideas, ask if this is what we want, and then make them happen.”

Build on existing initiatives and relationships.

Interviewees suggested that leveraging the commitments of policy groups such as Bay Area Regional Collaborative and SPUR that are already on board with the Challenge’s vision and mission is vital. Likewise, starting with existing resilience initiatives and planning efforts could help mainstream resilience considerations into general plan updates, infrastructure maintenance, and capital improvement projects. Interviewees would like to see Resilient by Design participate in initiatives to ensure that resilience and collaboration are at the forefront of these discussions.

Maintain / update and make accessible resiliency-related information.

Some interview participants highlighted the need to continue to update regional data analyses such as sophisticated mapping and other tools that can be shared and used broadly across the region. They also specified the importance of tracking resilience-related projects and initiatives.


Roadmap of first elements to advance.

Interview participants agreed that developing a framework to guide implementation is essential. The framework should identify a specific list of elements or project opportunities that are timely and have potential to secure funding and create a guide that extracts lessons learned and strategies from the projects. The guide should be geared toward a broad array of professionals (e.g., designers, planners, community leaders, etc.), and Resilient by Design can support jurisdictions working to implement the framework elsewhere.

Public engagement and communication.

Circle back to design areas in the very near future and build on the Challenge’s momentum.

Interviewees overwhelmingly suggested that in any follow-up to the Challenge, fostering inclusive models of community-driven planning and action for resilience will be essential. Resilience by Design may convene meetings for each site but has yet to determine the timeline for those meetings. Several interviewees expressed a sense of urgency to re-engage with communities as soon as possible to maintain relationships and continue to build trust. Several interviewees encouraged Resilient by Design to acknowledge shortcomings of community engagement and share concerns expressed by some stakeholders and lessons learned about engagement in the Challenge. Interviewees suggest that Resilient by Design could help facilitate healing to the extent that communities are willing to invite the organization to have these conversations. More work with communities to develop the actions they would like Resilient by Design to take going forward could go a long way in



building trust. Interviewees recommend that in this process, communities could define what resilience means to them, articulate priority issues, and identify actions that those communities could champion.

“We have to talk about our collective good and what kind of community we want to live in. It is essential for us to craft a shared narrative.”

Timing is important. Pace engagement with project advancements.

Interviewees suggested the value of pairing the level of community engagement with the pace of project development and initiating substantial community engagement when funding mechanisms are in place to ensure project advancement. One interviewee observed that, on the one hand, mounting a big effort to get a wide range of people involved very early on when there is no clear funding or path forward can be frustrating for all involved. On the other, without that involvement, the effort can be derailed by coming off as an outside effort or something that just serves particular interests.

Scale up lessons learned for community relations to the regional scale.

Interviewees recommended that Resilient by Design and others consider the People's Plan in Marin City as an example methodology for engaging the community throughout the region where projects are community-defined and driven.

Build enthusiasm and capacity for young people.

Interviewees would like the Bay Area to continue to inspire and engage young people to address regional resilience. Looking at areas to engage young people and students as a complementary component of building local and regional capacity provides a valuable opportunity, according to interviewees, particularly because the work of resilience is long term and will require the engagement and action of future generations.

Invest in both broad and focused education efforts to raise awareness and understanding.

Interviewees recommended taking a longer view toward resilience and planning and investing in building the capacity of key stakeholders, like decision-makers and future local champions. Providing relevant training and building a network for collaboration on resilience planning and implementation across the region could prove vital. Many suggested the importance of continuing to raise awareness by maintaining and expanding media presence, including ensuring that web-based information is accessible and engaging. Sharing successes and progress from elsewhere, such as which project elements Rebuild by Design is implementing, could help build capacity and awareness about the importance of building resilience in the Bay Area. Interviewees would like to engage the region in evaluating successes from resilience plans from other locations across the country.

Build organizational governance and institutionalize political will.

Interviewees talked about supporting capacity building of local and regional champions. Interviewees see a need to assist local jurisdictions in developing the expertise and understanding of their climate vulnerabilities which will assist them in prioritizing resilience and in making well informed, good decisions about implementation. Even when local agencies, regional entities, communities, and other stakeholders are aligned, they require an organizational governance structure for implementation. State agency participation is essential, as they often have funding necessary for regional projects. Additionally, interviewees highlighted that state agencies need to be involved to coordinate permitting.

Institutionalize a new norm.

Interviewees observed that modifying infrastructure will not achieve regional resilience on its own. There is no way to protect everyone along the shoreline. The region will need to have a difficult conversation that includes retreat. All these individual communities and organizations, an “ecosystem of people,” who think and behave differently will need to develop solutions together. Interviewees emphasized that changes will need to be realized to adapt institutional systems to respond to local and regional resilience challenges facing the Bay Area. Many interviewees underscored that for institutional system to effectively address resilience, these systems must acknowledge the inseparability of social equity and climate resilience.

Funding and financing.

To launch the next phase of planning and project implementation in multiple jurisdictions, interviewees identified the need for government and philanthropic funding. Interviewees suggested that Resilient by Design should identify and track existing and upcoming funding sources (e.g., Measure AA, State funding, and transportation funding). Some suggested that identifying legislative needs to enable funding for climate adaptation planning is important. Many interviewees asserted that Resilient by Design has a role to play in building collaborative capacity to strategically seek funding and coordinate multiple-jurisdictional grant applications, where appropriate. They noted that since it's harder for small organizations and individual jurisdictions to seek funding for single initiatives, the region will be far more successful through collective funding pursuits to advance multi-benefit projects across jurisdictions. Several interviewees asserted that it will be crucial to develop a resilient financing framework in conjunction with existing efforts, such as the Financing the Future Working Group. Some interviewees noted that it may be beneficial to identify potential funding areas for a pilot resilience special financing district, including technical assistance and other support as needed.

Structure recommendations.

Interviewees identified both needs and criteria when considering a future structure to support and advance the work of Resilient by Design. Many suggested that much of the work started by the Challenge would fade away without a champion and that the following components were crucial towards identifying an effective structure.

Existing Institutional Credibility is needed to achieve the goals, to be able to effectively convene stakeholders across jurisdictions, to communicate with a variety of audiences, and to influence local leaders. Building off existing institutions can accelerate that effort.

Ability to Support Multi-Benefit Projects is key to generating public support, tapping into diverse funding streams, and addressing vulnerabilities that exist at the interface between natural and urbanized areas.

Dedicated Staff are needed to carry out the work. Staff are needed to determine where focus is needed first, who needs to be at the table, and what resources are necessary to advance progress.

Diverse Advisory Board could oversee dedicated staff to ensure consistent messaging and to support continued partnerships among key players in the region and to focus on community engagement and strategic guidance on implementation efforts.

Fundraising is vital to success. Resources are necessary to support dedicated staff and advance fundraising and other elements of resilience in the region. The successor effort needs to be able to seek and receive public and private funding to support project implementation.

Nimbleness is necessary because the nature of the work requires a level of entrepreneurship to maintain momentum. Having the ability to flexibly respond to new information and support innovative solutions and events at the right time is critical to success.

Resilience Network / Hub

Finally, interviewees suggested that part of establishing a nimble structure that can endure in the long-term is for Resilience by Design to build upon its successes to become a hub or resilience network to:

- Be a focal point and central hub for implementing Challenge projects.
- Drive momentum and change by coordinating a regional dialogue and maintaining excitement about resilience.
- Identify and support champions to advance elements of designs as projects.
- Garner funding for projects that occur in multiple jurisdictions.
- Actively work with stakeholder coalitions to apply for grants.
- Cultivate private donors.
- Create shared approaches to projects and lessons learned.
- Create a unified voice for resilience.
- Serve as a connection to other global regions working on these climate change issues.



Conclusion

Interviewees identify the Challenge as the beginning. The region must continue the collaborative dialogues and relationships, innovative problem-solving, and pursuing and leveraging resources that invest in the future health of the Bay Area's human and natural communities. The ambitious and experimental nature of the Bay Area Challenge brought to bear both painful and aspiring lessons that inform how to carry forward the critical work of climate resiliency. The Bay Area, as a complex ecosystem of diverse people, environments, and infrastructure, has an opportunity to build upon the momentum of the Challenge to champion long-term, innovative solutions that benefit the entire region.

Appendix A: Interviewees

Ratna Amin, SPUR

Michael Barber, San Mateo County

Kevin Bayuk, Urban Permaculture Institute

Claire Bonham-Carter, AECOM (ABC Team Interview)

Matthjis Bouw, ONE Architecture

Josh Bradt, San Francisco Estuary Partnership

Dana Brechwald, Association of Bay Area Governments

Amanda Brown-Stevens, Resilient by Design

Nick Busalacchi, AECOM (ABC Team Interview)

Amy Chester, Resilient by Design

Adrian Covert, Bay Area Council

Jessica Davenport, State Coastal Conservancy

Stephen Engblom, AECOM (ABC Team Interview)

Vincent Gin, Santa Clara Valley Water District

Juliana Gonzalez, Watershed Project

Chris Guillard, CMG Landscape Architecture (ABC Team Interview)

Amy Hartman, Greenbelt Alliance

Sandra Hamlat, East Bay Regional Parks

Stefanie Hom, Metropolitan Transportation Commission

Supervisor John Gioia, Marin County

Patti D' Angelo Juachon, Marin Community Foundation

Marilyn Latta, State Coastal Conservancy

David Lewis, Save the Bay

Lindy Lowe, Port of San Francisco

Kelly Malinowski, State Coastal Conservancy

Kris May, Sylvestrum Climate Associates (ABC Team Interview)

Brad McCrea, Bay Conservation and Development Commission

Richard Mullane, Hassell Studio



Julie Noblitt, Acterra

Supervisor David Pine, San Mateo County

Marquita Price, East Oakland Collective

David Ralston, Bay Area Air Quality Management District

Bruce Riordan, Climate Readiness Institute

Robert Rogers, Marin County

Violet Saena, Acterra

Jeremy Alain Siegel, Bjarke Ingels Group

Zoe Siegel, Resilient by Design

George Smyth, AECOM (ABC Team Interview)

Renee Spenst, Ducks Unlimited

Mark Stacey, University of California, Berkeley

Cathy Simon, Perkins + Will

Laura Tam, SPUR

Pandora Thomas, Urban Permaculture Institute

Elizabeth Wampler, San Francisco Foundation

Gena Wirth, SCAPE

Appendix B: Interview Guide

Assessing RbD's Impact

What is the impact of the Bay Area Resilient by Design on the region?

Concretely and specifically, what is its greatest contribution to advancing resilience in the region? What deep learning have you observed (either individually, organizationally, regionally)?

What could RbD have done differently? What suggestions would you make?

Looking Forward

Focusing on the RbD project(s) that you are most familiar with, what opportunities do you see to take the project forward?

What is needed to move that project(s) to the next stage?

Concretely and specifically, what are they key next steps?

What are the most significant hurdles or challenges that you foresee in implementing the project? What strategies, tools, or resources could help overcome these challenges?

What can RbD concretely do to push forward project implementation?

Targeted Interview Questions

For local government, local nonprofit and community partners

What opportunities do you see for your community around the RbD project?

What is needed to help prepare your community to become more resilient? Concretely, what next steps would this entail?

For regional non-profit organizations, regional agencies, and business/foundation

What opportunities do you see for the broader region around the RbD project?

Broadly speaking, what is needed to prepare the region to become more resilient?

Concretely, what next steps would this entail?

How can RbD support and promote the many other efforts towards greater resiliency in the region?

For design team members

Broadly speaking, what is needed to prepare the region to become more resilient?

Concretely, what next steps would this entail?



Based on your experience/work on similar projects (or otherwise), what advice do you have about how RbD can support greater resiliency in the region?

For RbD Executive Board members (and Research Advisors?)

What is the structure we need in place to continue to advance the value that was provided by RbD, and to implement ideas and projects at the local and regional scale?

What role should RbD play in the medium-term future (1-3 years)?

Given this role, what structure should RbD adopt?

How do we ensure that the “assets” of the current RbD structure are leveraged as much as possible?

Additional Questions

How can we best demonstrate that we’ve “heard” the concerns from grassroots organizations and that we are committed to receiving them formally and incorporating them into lessons learned as we forge ahead in whatever way comes next?

What else would you like to add that we haven’t yet discussed about enhancing resiliency in the region and RbD’s role?