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from Joshua Stanbro

Ola

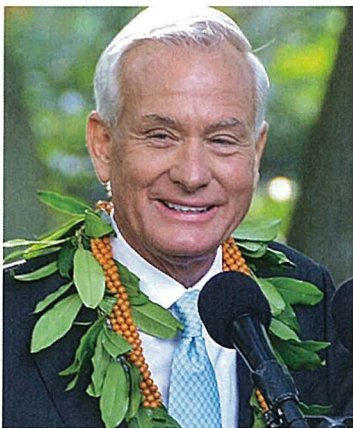
O'AHU RESILIENCE STRATEGY

Brief



Being Mayor of the City and County of Honolulu has been the greatest professional honor and joy of my life. I take great pride in our efforts to build a dense, vibrant city of the future in Honolulu's urban center while protecting and preserving our rural communities and agricultural heritage. We can hike in a rainforest in the morning, take a meeting in the city's financial and business center, and watch a sunset or take a swim at a world-class beach at day's end.

But we are quickly learning that none of these gifts are guaranteed to us. Honolulu faces profound challenges that are quietly eroding our island quality of life. A changing climate has started to dry our rainforest, we've lost a quarter of our beaches, and economic and demographic pressures are stressing community bonds.



We also realize that following a year of storms, flooding, and disaster statewide there are more on the horizon, and that our physical and social infrastructure are going to be tested not only over the next two years of my administration but for many decades beyond.

That's why I'm proud to release O'ahu's first Resilience Strategy at this particular moment in time. As Mayor, I know how critical it is for local government to step up and be responsible where our current federal administration has abdicated leadership on both economic equity and climate resili-

ence issues. In fact, you'll find in this Strategy that we directly tie our success on the world's most isolated island to the global community through the Paris climate agreement and the UN sustainable development goals.

We are entering a different era, and you'll find this Strategy is different as well.

First, it was shaped by residents and stakeholders from outside the City through a deeply participatory process. I'm very proud that our administration was awarded the 2018 Public Education and Outreach Award by the Hawai'i Chapter of the American Planning Association for the innovative ways this Strategy engaged the public. I want to also thank the Resilience Strategy Steering Committee who have invested in our shared success.

Second, as you read this document you'll realize that we have intentionally steered away from vague language and general vision statements to focus attention on 44 discrete policies and projects that are measurable and meaningful. We know that time is short, and it is time for action.

As Nainoa Thompson, Native Hawaiian navigator and President of the Polynesian Voyaging Society, said at our kickoff for the Resilience Strategy Steering Committee just over a year ago, during these unprecedented times "it is more risky to remain tied at the dock than to sail." With the launch of this Resilience Strategy, we ask that you voyage with us as a community to create a more resilient and secure future for our island.

He wa'a he moku. He moku he wa'a.*

**A canoe is an island. An island is a canoe.*

A handwritten signature in black ink, which appears to read "Kirk Caldwell".

Kirk Caldwell
Mayor
City and County of Honolulu

O'ahu Resilience Strategy Steering Committee

While this Resilience Strategy was informed by the community at large, and the Resilience Actions were created and prioritized by working groups comprised of more than 80 diverse members, the following 21 leaders from the business and non-profit community helped inform the Resilience Strategy process from day one. The Resilience Strategy Steering Committee provided initial guidance, reviewed progress, and ultimately approved this Strategy. Resilience for O'ahu cannot be achieved by the City acting alone. We appreciate their mana'o and service.



Chair,
Roy K. Amemiya, Jr.
City and County
of Honolulu



Scott Glenn
Office of Environmental
Quality Control, Depart-
ment of Health, State
of Hawai'i



John Leong
Kupu and Pono Pacific



Cindy Adams
Aloha United Way



Jan Harada
HT Hayashi Foundation



**Sherry
Menor-McNamara**
Chamber of Commerce
Hawai'i



Lorraine Akiba
LHA Ventures



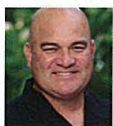
Tim Johns
Zephyr Insurance
Company, Inc.



Linda Schatz
Schatz Collaborative



Rick Blangiardi
Hawai'i News Now,
KGMB, & KHNL



Micah A. Kāne
Hawai'i Community
Foundation



**Dr. Patrick K.
Sullivan**
Oceanit



Celeste Connors
Hawai'i Green Growth



Dr. Karl Kim
National Disaster
Preparedness Training
Center



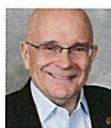
Nainoa Thompson
Polynesian Voyaging
Society



Kyle Chock
Hawai'i Regional
Council
of Carpenters



Dr. David Lassner
University of Hawai'i
System



**Dr. Richard R.
Vuylsteke**
East-West Center



Captain Barry Choy
National Oceanic and
Atmospheric
Administration



Constance H. Lau
Hawaiian Electric
Industries, Inc.



Elisa Yadao
Hawai'i Medical Service
Association



Executive Summary

A thousand years ago, voyaging canoes arrived on our island and fostered a culture where no person or group should gain too much at the expense of our ‘āina or people.

Photo by Nā‘ālehu Anthony

Since then, each wave of immigrants has brought their own cultural gifts to add. On a small island our shared value of community—where each individual gives a little so that the group ultimately benefits together—has always defined who we are. This core value provides a strong foundation for O‘ahu to survive, adapt, and thrive in a challenging future—but only if we empower our values with action.

Recently, the gap between rich and poor has grown, the scale of tourism has reached into neighborhoods and secluded areas, and natural disasters have pushed communities to the brink. Forty-five percent of O‘ahu residents live in a household where someone is contemplating leaving, and 78 percent of residents believe that climate change is going to impact them personally. Our modern voyaging canoe Hōkūle‘a left O‘ahu to circle the globe with a call to restore our central value of mālama ‘āina: stating unequivocally that our ability to continue to thrive on island Earth together is rooted in local communities

turning towards a truly sustainable future.

With this O‘ahu Resilience Strategy, the City and County of Honolulu picks up the torch from the Mālama Honua sail. The 44 actions within directly address the challenge of long-term affordability and the impacts of a climate crisis that is already driving islanders from their homes. Implementing this Strategy will make us economically more self-sufficient and safer as island people.

This Strategy was not the work product of one; it is a gut-check from thousands of residents who want to see action to protect the island they love. The good news is that with leadership and upfront investment, a higher quality of life will result for all O‘ahu residents. A healthy community pulls together in times of challenge, and we look forward to working alongside individuals, non-profits, businesses, and neighborhood organizations to steer O‘ahu’s course back to a thriving and equitable future.



PILLAR I.

Remaining Rooted

Ensuring an Affordable Future for Our Island

Our place-based culture has the highest quality of life—and highest cost of living—in the nation. The City will invest in long-term solutions that increase self-sufficiency, reduce out-of-pocket expenses, and assure our community stay intact.



PILLAR II.

Bouncing Forward

Fostering Resilience in the Face of Natural Disasters

The threats from hurricanes, flooding, and extreme weather are on the rise. The City will work with individuals, neighborhoods, and institutions to be prepared to absorb these blows and rebound in ways that put our entire community on stronger footing for each successive event.



PILLAR III.

Climate Security

Tackling Climate Change by Reducing Emissions and Adapting to Impacts

The climate crisis is the biggest challenge humanity has ever faced, and as an island society we are facing the impacts first. The City must transition to a 100 percent clean energy economy as rapidly as possible and begin changing policies and our infrastructure to protect lives and property that are increasingly in harm's way.



PILLAR IV.

Community Cohesion

Leveraging the Strength and Leadership of Local Communities

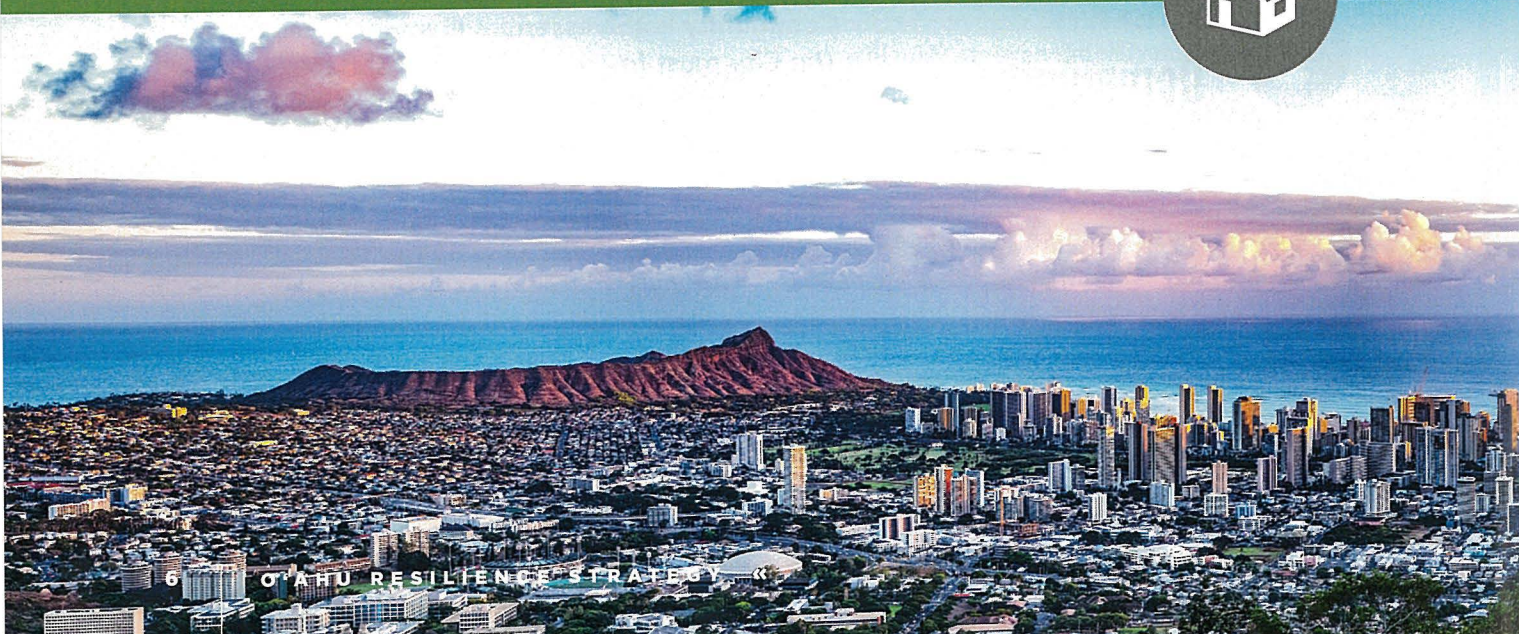
Community is the essential element of resilience. The City must foster connectivity and collaboration to ensure that when we are presented with economic and environmental challenges, we will come together stronger and tighter as one island 'ohana that cares for all.

Remaining Rooted

Ensuring an Affordable Future for Our Island

► Building resilience on O‘ahu is directly related to maintaining continuity of our community. For the first time since statehood both the entire state and O‘ahu’s populations declined for two consecutive years. This outmigration of local families and Honolulu’s struggle with homelessness are directly tied to affordability and opportunity. In fact, the cost of living in Honolulu is 24.4 percent above the national average.

While Honolulu’s unemployment rate remains low, a 2017 study by the United Way found that 46 percent of employed households are asset limited and income constrained, meaning they may hold multiple jobs to make ends meet, but still live paycheck to paycheck. The bottom line is that O‘ahu’s families are stretched thin—both in terms of finances and the ability to spend time together.



It also means our families are highly vulnerable to shocks in the economy or natural environment, with little or no safety net to help them through emergencies. O'ahu residents identified cost of living as the number one vulnerability and "stress" undermining long-term resilience in our community.

The prime driver of the high cost of living is Honolulu's sky-high housing costs. While there are many reasons for the high price of housing, a few key drivers include limited supply; strong demand from real estate purchases from buyers outside of O'ahu; high City and state regulatory bars for residential developments and permits; high costs for imported building materials; and other factors such as the impact of parking costs on housing prices and high energy costs. Another major factor is the recent explosion of short-term vacation rentals. Not only has this trend reduced our local housing, it has also driven up the price of housing.

O'ahu also suffers from a lack of affordable housing inventory. As of 2017, O'ahu was short some 24,000 housing units overall, and 75 percent of those were needed in the "affordable" housing category. While the City will continue to address homelessness and pursue innovative new policies like building hygiene centers and implementing "lift zones" in conjunction with the Hawai'i Police Department, long-term resilience requires that affordable housing stock be available to our residents—a prime focus of the following Resilience Actions.

Along with housing, O'ahu residents also spend more for transportation and utilities than the national average. O'ahu has a unique opportunity to open up an innovation economy that drives down energy costs and incubates solutions that create employment and exports technology to the rest of the globe. Leveraging established partners in the field, the City can foster an energy innovation economy that provides an alternative to the two dominant economic engines—tourism and military spending—that keep O'ahu vulnerable and dependent on external factors. ●

In response to these challenges, the City and an array of implementing partners will take the following actions:

GOAL 1

Supporting Affordable Housing Development

- Action 1** Reduce Empty Homes and Increase Affordable Housing Funding
- Action 2** Return Illegal Vacation Rental Units to Local Housing
- Action 3** Develop Alternative, Affordable Housing Options for O'ahu Residents
- Action 4** Expand Affordable Housing Funding by Implementing Progressive Property Taxes
- Action 5** Implement a Guaranteed Security Program to Support Local Home Ownership

GOAL 2

Reducing Additional Cost Burdens

- Action 6** Expand Housing and Energy Transformation by Accelerating the Permitting Process
- Action 7** Reduce Utility Costs for Residents through Transparency and Disclosure
- Action 8** Increase Housing Affordability by Reducing Parking Requirements

GOAL 3

Improving Economic Opportunity

- Action 9** Foster an Innovation Economy through the City's Office of Economic Development
- Action 10** Promote New Agricultural Models for Economic and Food Security

Bouncing Forward

Fostering Resilience in the Face of Natural Disasters

► **O‘ahu faces incredibly unique challenges** when it comes to natural disasters. Take into consideration that we are one of the most isolated places on Earth. In the event of a natural disaster, disruptions to air or shipping lines could lead to significant delays in emergency response and the delivery of food (up to 90 percent of which is imported), medicine, and other critical supplies. Honolulu’s island infrastructure is also extremely vulnerable, with many roadways, bridges and facilities located in coastal and flood-prone areas. What’s more, many of O‘ahu’s communities are linked by a single roadway—and a flood or storm could sever roadways and completely cut off communities.



On top of these geographic and physical vulnerabilities, climate change is a threat multiplier. In recent decades, coastal communities like O‘ahu have accounted for the majority of U.S. annual disaster losses.

Sixty percent of O‘ahu’s critical infrastructure and two-thirds of our population are located within a mile of the coast. In Hawai‘i, climate change has already caused more frequent and powerful hurricanes and tropical storms, intense rainfall, and flood events, a trend which will continue and worsen in the future.

O‘ahu has not been truly tested by a hurricane in modern history, but one is certain to come. The 2015 and 2018 storm seasons brought multiple massive storms dangerously close to our island home. The reality is that when we are hit by even a Category 1 hurricane, up to 65 percent of our current residential housing stock is projected to be destroyed or severely damaged. The example of devastation wrecked by Hurricane Maria on our sister island of Puerto Rico—which lost 6 percent of its population to migration after the storm—served as a massive wake-up call for Hawai‘i residents. A report following Maria underscored how ill-prepared FEMA was to manage a crisis outside the continental U.S., and urged communities to be better prepared with their own supplies especially in remote or insular areas like O‘ahu. Our policies and programs to safeguard life and property have not kept up with the escalating risk, and a resilient path forward for our island requires new investments and approaches.

The actions in this pillar help O‘ahu communities prepare and become more resilient to natural disasters and external shocks by learning from past disasters, improving local infrastructure, and planning for recovery. We want to bounce back quickly, but we can also “bounce forward” in the wake of a disaster by building back smarter, stronger, and in more resilient locations so that we are better prepared for the next event. ●

As such, the following actions present measures to take before an event to reduce its impacts and consequences; establishing systems to be able to respond and support each other during and immediately following an event; as well as, having the long-view to ensure our recovery efforts following a significant event does not place us back into a vulnerable condition.

GOAL 1

Pre-Disaster Preparation

- Action 11** Protect Lives and Property by Updating Building Codes
- Action 12** Launch Residential Hurricane Retrofit Program to Strengthen Properties Vulnerable to Hurricanes
- Action 13** Increase Flood Insurance Affordability for O‘ahu Residents
- Action 14** Establish Future Conditions Climate Resilience Design Guidelines

GOAL 2

Effective Disaster Response

- Action 15** Develop a Network of Community Resilience Hubs
- Action 16** Establish an O‘ahu Emergency Food Supply and Storage Strategy
- Action 17** Ensure Access to Fuel Supplies to Aid Disaster Response and Recovery
- Action 18** Increase O‘ahu’s Preparedness Utilizing Scenario Modeling and Artificial Intelligence

GOAL 3

Successful Disaster Recovery

- Action 19** Develop and Implement a Long-Term Disaster Recovery Plan for O‘ahu

Climate Security

Tackling Climate Change by Reducing Emissions and Adapting to Impacts

► **As an isolated island** with a heavy reliance on imported fossil fuel, O‘ahu is on the climate change front line. Impacts from sea level rise, increased rainfall flooding, and extreme heat are happening in real time all around us. Recent king tide inundation, severe beach erosion along the North Shore and Ko‘olau Loa, and the April 2018 “rain bomb” flooding demonstrate the need to act. Bond rating agencies are now looking at how well municipalities understand their climate risk and are preparing for the future. The benefit is clear: the sooner we transition to a clean energy economy and design resilient infrastructure to lower our risk to life and property, the greater the cost savings to current and future generations. Climate change is the challenge of our time, but it also provides the opportunity to design for multiple benefits and improve our community conditions and quality of life while protecting the places that we love.



Photo by Rafael Bergstrom

The City has pledged to uphold the Paris climate agreement and drastically reduce our emissions in an effort to slow negative climate impacts and reduce the billions of dollars we export out of our local economy every year to pay for fossil fuels.

The Administration and City Council have established clear goals and commitments: 100 percent renewable City fleet by 2035; 100 percent renewable electricity by 2045; and carbon neutrality by 2045. The City is mid-way through the process of developing a detailed Climate Action Plan (CAP) that will provide a comprehensive roadmap to achieve these aggressive renewable energy, decarbonized transportation, and carbon neutrality goals. While we know that our current commitments and state law ensure that Honolulu will at minimum have a carbon neutral target by 2045, the CAP may recommend a path that allows us to accelerate this timeline.

The City has already started taking action toward our climate goals. We are changing our streetlights island-wide to high-efficiency LEDs, we're capturing our biogas from wastewater treatment, and we're building an all-electric rail system. In 2018, the City completed its first community greenhouse gas inventory and was selected to become a Bloomberg Philanthropies American Cities Climate Challenge awardee.

Honolulu is in position to be the most active, forward-thinking city in the nation on climate change. This pillar presents a two-pronged approach that tackles our climate change pollution and emissions while simultaneously increasing climate resilience for local communities. Both approaches will be formalized through a more detailed Climate Action Plan and a Climate Adaptation Strategy, respectively—yet we know there are early actions we can take now to ensure continued progress. A new carbon-free economy is coming and this Strategy begins to lay the groundwork for a fossil-fuel free future. ●

To keep up momentum and turn challenges into opportunities, we will:

GOAL 1

Clean Energy Economy

- Action 20** Reduce Taxpayer Expense and Increase Renewable Energy through a City-Wide Energy Performance Contract
- Action 21** Establish an Energy Benchmarking Standard for O'ahu Commercial Buildings
- Action 22** District Cooling: Tap the Ocean to Cool our Buildings
- Action 23** Expand Opportunities for Methane Capture and Re-Use

GOAL 2

Clean Ground Transportation

- Action 24** Expand Electric Vehicle Charging Infrastructure Island-Wide
- Action 25** Accelerate Carbon-Free New Mobility Options
- Action 26** Ensure Equal Access to Sustainable Transportation Options and Cost Savings
- Action 27** Transform the City's Public Fleet to 100 Percent Renewable Fuel by 2035

GOAL 3

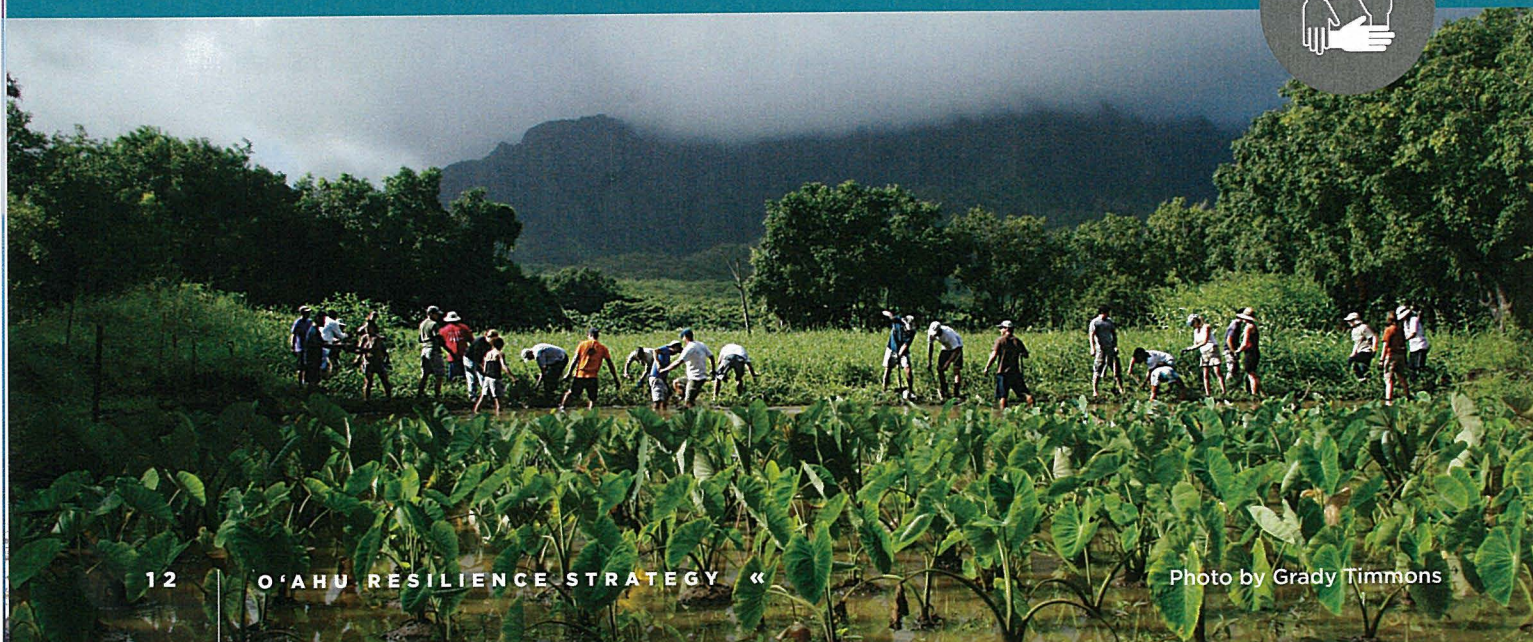
Climate Resilient Future

- Action 28** Chart a Climate Resilient Future by Creating and Implementing a Climate Adaptation Strategy
- Action 29** Protect Beaches and Public Safety with Revised Shoreline Management Rules
- Action 30** Protect Coastal Property and Beaches Through Innovation and Partnerships
- Action 31** Establish a Storm Water Enterprise Fund to Better Finance Storm Water Management
- Action 32** Deploy Sustainable Roof Systems to Manage Urban Heat and Rainfall
- Action 33** Keep O'ahu Cool by Maintaining and Enhancing the Community Forest
- Action 34** Minimize Economic and Property Risk within the Ala Wai Canal Watershed

Community Cohesion

Leveraging the Strength and Leadership of Local Communities

► **Community is the essential element of resilience.** We know this because in the wake of Hurricane Sandy and the Tōhoku Earthquake and Tsunami, the neighborhoods that “bounced back” the quickest from disaster had the most social connections. We know this because climate change solutions like solar panels and electric cars often spread to neighbors of early adopters. And we know this because it was community that came together and gave selflessly to create homes for 30 formerly homeless families at Kahauiki Village. Every pillar of this Resilience Strategy is held up by a tight-knit community.



This echoes what the Resilience Office heard as we traveled the island from neighborhood to neighborhood, listening to residents identify O‘ahu’s major resilience strengths and challenges.

There was resounding agreement that social cohesiveness is the greatest strength of our O‘ahu community and a deep source of pride for our island residents. This spirit of community is anchored deep in our island values, which was defined by the Working Group for this pillar as “caring for our land and natural resources, building strong communities, honoring our traditions, providing for our ‘ohana, and living a life of responsibility and culture of aloha.” To build resilience we need not all be emergency workers or clean energy innovators, we can simply get to know our neighbors on all four sides, volunteer regularly for a community non-profit, and throw a shaka when a stranger lets you merge in. That’s building resilience at the grassroots level.

Community connections with our family, neighbors, and friends are the invisible threads that weave the social fabric of O‘ahu together. These ties are a critical component of strong neighborhoods and thriving cities; well-connected communities are better positioned to respond to and bounce forward from times of shock and stress. The more we get to know one another, and the more connectivity we build, the better we are able to come together when a disaster hits. In order to fully empower community leadership to foster these connections, the City must be as open, transparent, and aligned as possible with other island-wide institutions, non-profit organizations, and individual groups of passionate community volunteers. Our big challenges can be met only if we all take the time to listen, weigh our collective strengths, and paddle in the same direction together. ●

The chief actions we will undertake as part of this Resilience Strategy include the following:

GOAL 1

Empower Grassroots Resilience Champions

- Action 35** Increase Coordination with Neighborhood Emergency Preparedness Groups
- Action 36** Increase City-Community Relationships through Volunteerism
- Action 37** Weave a Tighter Community With Neighborhood Gatherings
- Action 38** Empower Neighborhoods to Co-Design Safe and Complete Streets

GOAL 2

Communicate and Affirm Island Values

- Action 39** Celebrate O‘ahu’s Resilient Past and Future through Public Art
- Action 40** Lift Up Positive Examples of Island Values in Action
- Action 41** Launch a Place-Based Resilience Training Program for City Leadership
- Action 42** Foster Shared Understanding of Climate Change Island-Wide Through an Outreach Campaign

GOAL 3

Island-Wide Alignment

- Action 43** Ensure City Partnership in O‘ahu’s Collective Impact Resilience Efforts
- Action 44** Create a City-Community Liaison to Leverage Non-Profit and Volunteer Assets

Implementing Resilience for O‘ahu

Producing a strategy is not the end of thinking about resilience –it’s the beginning.

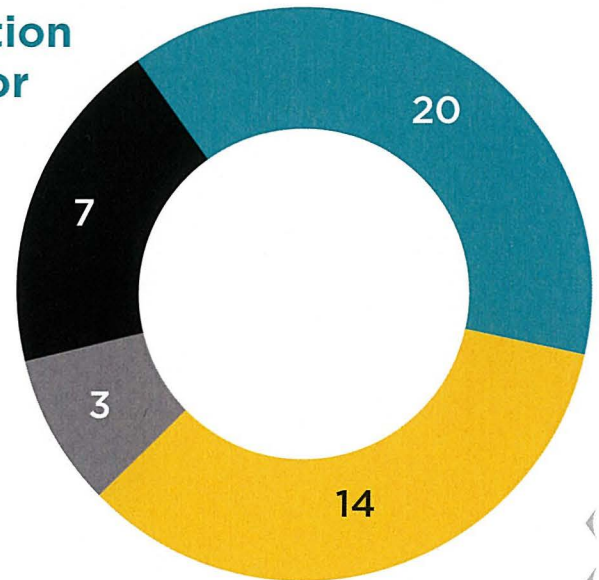
► The process of developing this Resilience Strategy involved several thousand community members and hundreds of government, business, academic, and nonprofit leaders who deeply care for our island community. It is clear that there is a growing sense of urgency around resilience issues and a recognition that action needs to begin immediately. In response, the working groups endorsed a range of actions from relatively simple and immediate tasks to long-term systemic actions that require more time and investment.



Our journey to resilience is similar to a long-distance canoe race. We need to come off the starting line quickly to get our community in strategic position, but we also need to shift our attention to the long haul—steering and tweaking our fundamental long-range systems to ensure we make it safely to shore. This Resilience Strategy lays out 44 discrete Resilience Actions that offer both immediate changes and long-term concepts that will help us paddle in synchronization. Each of them, however, will require a unique combination of cross-sector collaboration, political will, a focus on community benefit over individual gain, and—most crucially—financial resources.

Implementation Timeframe for Actions

Our portfolio of resilience actions span from quick tweaks to long-range system change goals. Far from a wish list, this is a thoughtful and balanced strategy of how to take action.



- Immediate (0-1 yrs)
- Short-term (1-2 yrs)
- Mid-term (2-5 yrs)
- Long-term (5+ yrs)

The single greatest implementation tool the City possesses is our operating and capital budget. It is often said, “show me your budget and I’ll tell you what you value.” As we face the critical resilience challenges of the 21st century, it is important that the allocation of financial resources, through our budget process, reflects the values of not only the Resilience Strategy, but also

other critical resilience planning documents such as the Development and Sustainable Communities Plans, Functional Plans, Hazard Mitigation Plan, and others. Going forward, our City must ensure that projects advance multiple benefits and are also designed to last in the face of rapid change.

The Key Components for Action:



New Policies



Budget Alignment



Resilient Projects



City-Community Partnerships

Ola

In Hawaiian, the word ola means well-being, living, thriving, and healthy—but it also connotes salvation, healing, and survival. The O‘ahu Resilience Strategy describes a clear vision for a thriving island community—even in the face of challenge and change. When all of us reclaim a shared responsibility for island resilience, we can look forward to ola loa: what Mary Kawena Pukui defined as a state of being “completely cured and recovered.”

Resilience

Our formal definition for “resilience” in the formation of this strategy is the ability to survive, adapt and thrive regardless of what shocks or stresses come our way.

Download the full O‘ahu Resilience Strategy at resilientoahu.org.

Photo by Rich Downs
Cover photo by Sean Marrs

