BEFORE

DISASTER

The Need to Build Equitable, Community-Driven Social Infrastructure

APEN
ASIAN PACIFIC ENVIRONMENTAL NETWORK

SEIU California
Stronger Together

seiu 2015
California's Long Term Caregivers

BLUEGREEN ALLIANCE

ACKNOWLEDGMENTS

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REPORT SPONSORED BY

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ABOUT THE REPORT

Asian Pacific Environmental Network (APEN) *is an environmental justice organization with deep roots in California's Asian immigrant and refugee communities. Since 1993, we've built a membership base of Laotian refugees in Richmond and Chinese immigrants in Oakland. Together, we've fought and won campaigns to make our communities healthier, just places where people can thrive.*

We believe that all people have a right to a clean and healthy environment in which their communities can live, work, learn, play, and thrive. Toward this vision, APEN brings together a collective voice to develop an alternative agenda for environmental, social, and economic justice.

Through building an organized movement, we strive to bring fundamental changes to economic and social institutions that will prioritize public good over profits and promote the right of every person to a decent, safe, affordable quality of life, and the right to participate in decisions affecting our lives. APEN holds this vision of environmental justice for all people.

SEIU California *provides a political and legislative voice for 700,000 workers in California, including home care providers, education workers, city, county, and state workers, nurses and other health care workers, janitors, security officers, airport workers, college professors, and more. Our mission is to set statewide priorities and exercise power to increase racial and economic fairness for working people, ensure high-quality services and create a well-funded, equitable, just and prosperous California. About 40 percent of SEIU members and their families live in communities identified as disproportionately impacted by the impacts of climate change and environmental injustice compared to just 25 percent of Californians overall.*

SEIU Local 2015 represents more than 385,000 home care, skilled nursing facility, and assisted living center workers, of every race, faith, and ethnicity, united in our commitment to caring for California's vulnerable seniors and people with disabilities. We are essential workers and first responders in crises that impact our clients' health and well-being.

The BlueGreen Alliance *unites 13 of America's largest and most influential labor unions and environmental organizations to solve the climate crisis in ways that create and maintain family-sustaining jobs, protect the health of workers and communities, and build a stronger, fairer economy. It is critical that working and poor people are front and center as we create a new economy — one that values our work, our families, our communities, and our environment. It is with that imperative that we respond to the climate crisis on the scale that science demands, while simultaneously addressing inequality in all its forms.*

FORWARD: ADVANCING JUST RECOVERY IN A TIME OF CRISIS

Crisis is a threat multiplier for inequality. Whether it's a global pandemic, mass power shutoffs, or devastating wildfires, the impacts and risks are dramatically different depending on who you are and where you live — whether you have a good job, access to health care, stable housing, and paid sick leave.

The coronavirus pandemic has laid bare the deep inequalities produced by the current political and economic systems, and foreshadows the devastating global impact and disruptions that we will all face as climate disasters intensify. Working-class communities of color, specifically Latinx, Black, Asian, Pacific Islander, and Indigenous communities, are being hit hardest by COVID-19. The collapsing global economy alongside decades of disinvestment have also weakened the ability of the public sector to provide the public health and social services these communities depend upon. At the same time, big polluters are destabilizing our climate and creating the conditions for worsening disasters like wildfires and extreme heat.

Communities and workers on the frontlines of the struggle against climate change have long endured economic instability and worse health outcomes from living in close proximity to oil refineries, oil and gas wells, and dirty power plants. The COVID-19 pandemic and concurrent climate disasters have not only revealed these existing disparities, but are further widening the gap as well.

Right now, we have an opportunity to dramatically change course — to come out of these crises stronger, more resilient, and better prepared to face the coming storms together — by creating state policies to propel a just recovery that addresses these disparities.

We must be intentional about supporting the communities hardest hit by the pandemic. We must make sure that our policies not only help communities respond to the current moment, but also build resilience for the future. This intention is reflected in our collaboration with SEIU California and SEIU Local 2015, who represent workers performing vital services and whose members mirror the diversity of our communities.

Now more than ever, state leaders need to make sure that everyone has a stable home to shelter in, hot water and electricity, the ability to vote safely, environmental health protections, and increased opportunities for economic security through family-sustaining union jobs. As organizations committed to advancing environmental and economic justice and racial equity, APEN, BGA, and SEIU seek to support communities to address ongoing systemic crises, to rebound from disasters, and to achieve a just transition that transforms harmful systems and creates opportunities to thrive. Our vision for just recovery is part of a necessary transition away from an extractive fossil fuel economy and toward a regenerative economy that centers local solutions that strengthen community resilience, improve air quality, and nurture collective models of local ownership and governance in working-class communities of color.

Building resilience to climate disaster requires more than strengthening built infrastructure and protecting natural resources; it must also bolster the social and economic infrastructure of our communities. This pandemic has shown us that without strategies to simultaneously deliver economic relief and social supports alongside environmental protection, climate adaptation efforts will not meaningfully and effectively address the needs of communities as they face crisis.

Traditional models of disaster planning have proven deeply inadequate: They are coordinated through militarized entities like local sheriff's departments and rely upon protocols like

evacuating to faraway and unfamiliar sites, sharing emergency alerts in only one or two languages, and requiring people to present identification to access services, thus shutting out many from the support they need.

Through the pandemic, wildfires, and heat waves, we've seen new models of crisis response emerge. In some places, neighbors have formed mutual aid networks to share their resources with one another, schools are providing food to tens of thousands of families each day, and libraries were turned into cooling centers during extreme heat waves. What these approaches have in common is that they are rooted in the existing social and public infrastructure of communities.

What would it look like to scale up solutions like this? What would be possible if community centers, schools, health clinics, and libraries had resources, staffing, and training required to serve as neighborhood-based resilience hubs? What if home care workers, who already provide critical support to our elders and people with disabilities, were part of a network that had the training and resources needed to support people through power shutoffs, wildfires, and heat waves?

This report highlights opportunities to reimagine how we respond to crisis. We offer recommendations to scale these community-driven models that simultaneously address current conditions alongside the climate crisis, giving us our best chance of weathering the storms we're facing today, and stabilizing our communities for the long haul. The vital role of the public sector and the voice of workers, such as SEIU members, has never been more clear.

This is our moment to collectively rewrite the story of what our world will become and what is possible when we invest in communities. This report offers a glimpse at the ways we begin to rewrite this story.

Miya Yoshitani, *Executive Director*
Asian Pacific Environmental Network

EXECUTIVE SUMMARY

OVERVIEW

In this current moment, California has been hit hard by wildfires, record high temperatures, and power blackouts, all in the midst of a pandemic. It is clear that communities across California are not prepared to respond to increasingly frequent and severe climate disasters. Recent emergencies, including wildfires, power shutoffs, drought, heat waves, and the COVID-19 pandemic, reveal systemic weaknesses in the social safety net that endanger vulnerable populations and particularly harm working-class communities of color who are most impacted by systemic racism and economic injustice. However, these emergencies have yet to catalyze the large-scale action needed to adequately protect communities throughout the state, especially for communities who already bear a disproportionate burden of the impacts of climate pollution from the fossil fuel economy.

The time has come for California to make long-term and deep investments in the resilience of the communities with the least material resources. These commitments take leadership. With tight budgets and poor fiscal forecasts, there will be pressure to revert to austerity, cut public expenditures, and recreate the conditions that have so severely weakened the safety net. Instead, the state must do exactly the opposite: ensure a just recovery through ambitious investments in people and communities to directly repair the historic legacy of racial, economic, and environmental injustice.

Although resources should come from the state level, communities should guide locally tailored solutions. State policy should enable community-driven resilience strategies that can be achieved at scale. Resilience Hubs and fostering In-Home Resilience are two scalable models that are grounded in a community-level approach. City and county government policies and programs, as well as the public sector workforce, have a major role to play in equitably allocating resources, providing needed services, and facilitating local resilience networks.

This report offers recommendations on initial steps to build resilient communities throughout California. If taken, these steps would represent an unprecedented effort to close the climate gap and invest in social infrastructure for climate resilience. The urgent need to bolster community resilience should be viewed as an opportunity to rethink the political, social, and economic structures needed to safeguard all California residents.

KEY FINDINGS

1. Communities need additional resources to address the disparate impacts of climate change.

Climate disasters disproportionately impact working-class communities of color by exacerbating existing racial, socioeconomic, and health disparities. Inadequate planning and systemic underinvestment in these communities leave California ill prepared to protect its most vulnerable populations (e.g., elderly, young children, working-class communities of color, people who are disabled, outdoor workers, rural communities, immigrants and refugees, and Indigenous people). Traditional service delivery models do not address the unique barriers that these populations face, such as social isolation, dependence on public transit, limited English proficiency, reliance on medical equipment, and insecure housing. Cities and counties have not had the resources to invest in the workforce and services that support these populations and build resilient communities. As a result, the communities hit hardest by climate change have the least capacity to respond.

2. Networks of Resilience Hubs can comprehensively deliver local programs and public services to meet community-identified resilience needs.

When combined in a network, city and county governments can leverage Resilience Hubs to cohesively deliver resilience services and resources at the community level. Resilience Hubs are physical institutions that offer space for community members to gather, organize, and access resilience-building social services on a daily basis, and provide response and recovery services in disaster situations (e.g., wildfires, heat waves, and power outages). These Hubs build on existing community and public institutions to provide critical services that meet community-identified needs. In the event of disaster, they can be used to coordinate emergency response and recovery efforts. As a part of a larger workforce development strategy, investments in Resilience Hubs can create family-sustaining union jobs for workers in the communities served.

3. Home care workers are the frontline of In-Home Resilience.

Home care workers already have unique skills to assist vulnerable groups and are the first points of contact with their clients in emergencies. A well-trained and empowered home care workforce can play a key role in disaster preparedness and response and bolster In-Home Resilience for the people they serve. However, poor job quality and lack of upward mobility has led to a severe statewide shortage of home care workers, even as the projected need increases and their value as essential workers is recognized.

4. A robust public sector is key to building social cohesion.

Resilience requires bringing services to the community. However, service delivery is impossible without a robust public sector workforce capable of meeting the needs of vulnerable populations. Adequately resourced public sector institutions and workers are the "social infrastructure" upon which resilient communities depend.

5. COVID-19 highlights the need for comprehensive community resilience.

The COVID-19 pandemic demonstrates how disasters exacerbate existing inequalities and disproportionately harm the most vulnerable. The value of essential workers such as those in health care, home care, and the public sector has never been more clear. Community resilience measures outlined in this report would also address community vulnerability to non-climate disasters like pandemics.

KEY RECOMMENDATIONS

1. Fund Resilience Hub Development

To meet the scope of the problem, the state should lead funding efforts to support the development of Resilience Hubs, starting in communities with the highest need. This will require a comprehensive analysis of the size, duration, and targeting of investment needed, as well as dedicated state-level funding streams.

2. Establish Resilience Hub Networks

City and county government departments should facilitate local networks of Resilience Hubs. Hubs offer additional sites for public service delivery that local governments can use to expand public health and social services. A well-coordinated network can implement community resilience solutions on a regional scale, share best practices, and offer complementary services. Resilience Hub networks should develop processes for allocating

resources and coordinating across Hubs. A regionally integrated and collaborative planning approach to community resilience would engage all stakeholders and produce more equitable outcomes.

3. Invest in the Care Workforce

We need an empowered home care workforce to assist and support some of the state's most vulnerable residents. California should implement strategies to turn these difficult low-wage jobs into high road careers by increasing job quality, worker rights to unions, and creating skill-based career ladders through resilience and emergency response training and certifications.

4. Rebuild the Public Sector Workforce

A robust public sector would have the capacity to bring resilience-building services to the community. Local governments should improve hiring practices to quickly fill vacant positions, as well as expand staffing across key departments — public health, human services, public works, parks and recreation, and sustainability, among others — to achieve climate and resilience goals. We need to invest in the public sector to prepare for and respond to disasters — whether it's a pandemic or climate-related event — and to make sure our communities thrive in the low-carbon future.

5. Improve Emergency Response Coordination to Protect Vulnerable Communities

Toward the vision of a just recovery, the state must target resources to the most vulnerable communities, particularly working-class communities of color who are disproportionately impacted by systemic racism and historic economic disinvestment. As outlined in SB 160 (Jackson; 2019), clear guidance to counties is needed to foster cultural competence and meaningful collaboration with the community residents and advocates. The state needs to follow through on developing a comprehensive strategy for protecting medically vulnerable populations in the event of Public Safety Power Shutoffs. The state should also increase funding for initiatives to improve disaster preparedness and emergency response efforts for California's diverse and vulnerable populations, such as Listos California.

INTRODUCTION

Communities across California are feeling the impacts of climate change right now. Increasingly destructive wildfires burn at an unprecedented rate. Sea level rise threatens many coastal communities. Beyond headline-grabbing weather events, incremental climate impacts quietly threaten many of our most vulnerable populations and are profoundly affecting the way we live. Though their full impact is immeasurable, these events have had quantifiably devastating effects.

Since 2000, California has suffered 27 disasters where overall damages cost more than $1 billion. These 27 events had a total cost of more than $176.5 billion and resulted in a combined 686 deaths.[1] In 2006, a deadly heat wave caused more than 16,000 hospitalizations and 147 deaths, with some fatality estimates two to three times higher.[2] From 2012 to 2016, California experienced one of its deepest and longest droughts in history, costing approximately $3.8 billion for 2014–2016 alone.[3] 2014 and 2015 were the hottest years in California recorded history, and July 2018 was the state's hottest month on record.[4,5] The increasing frequency and severity of these climate events call for immediate and urgent actions to protect our communities.

California has recognized the need to simultaneously address climate mitigation and greenhouse gas reduction alongside proactively promoting *climate resilience.* The California Office of Planning and Research (OPR) defines resilience as "the capacity of any entity — an individual, a community, an organization, or a natural system — to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience." OPR identifies three elements of a resilient California: 1) built infrastructure systems; 2) people and communities; and 3) natural systems.[6] Although the concept of resilience is widely used in the context of built infrastructure and ecology, much less has been done to foster resilience for people and communities.

This report fills a critical gap in the climate resilience policy literature by analyzing two models for building community resilience: Resilience Hubs and In-Home Resilience. These models attempt to bridge the divide between community-driven governance and state-level planning. In doing so, they recognize two key challenges:

1. Resilience must be built at the local level, yet **working-class communities of color lack the resources to fund investments at scale.**

2. State intervention and resources are necessary to achieve the scale needed to protect all California communities, but **community resilience cannot be achieved solely by programs administered at the state level.**

To overcome these challenges, local governments and community leaders must both play key roles in community resilience. This will require substantial investment in the public sector workforce that delivers resilience-building social services. It also calls for innovative governance models that allow for community-led decision-making. Local governments are well positioned to effectively facilitate community resilience efforts, and will have

[1] NOAA National Centers for Environmental Information (NCEI). 2020. *U.S. Billion-Dollar Weather and Climate Disasters.*

[2] Ostro B. D., L. A. Roth, R. S. Green, and R. Basu. 2009. Estimating the mortality effect of the July 2006 California heat wave. *Environmental Research* 109(5): 614–619.

[3] Lund, J., J. Medellin-Azuara, J. Durand, and K. Stone. 2018. Lessons from California's 2012–2016 Drought. *Journal of Water Resources Planning and Management* 144(10): 04018067.

[4] Rice, D. 2018. California had its hottest month on record. Death Valley had world's hottest month ever. *USA Today.* Aug. 8.

[5] Hanak, E., J. Mount, and C. Chappelle. 2016. *California's Latest Drought.* Public Policy Institute of California.

[6] Governor's Office of Planning and Research (OPR). 2018. *Planning and Investing for a Resilient California: A Guidebook for State Agencies.*

the most success if they use culturally competent outreach with extensive community engagement.

Although community members have a deep knowledge of community needs and vulnerabilities to climate change, policymakers have long overlooked community resilience interventions. As identified by the Asian Pacific Environmental Network's (APEN) *Mapping Resilience* report, one reason for the relative lack of attention to community resilience is that "there are few robust frameworks that account for and display the multiple and interacting factors contributing to differences in vulnerability across populations and places."[7] This gap in tools to measure and display factors contributing to climate vulnerability leads to negligence in policy, where it is often the case that "what gets measured gets managed." For the same reason, resilience efforts often focus on improving hard infrastructure — roads, bridges, and other physical infrastructure — to the detriment of social infrastructure, the services and facilities that secure the economic, health, cultural, and social well-being of the community.

Without well-understood measures of community resilience, policymakers cannot confront the trade-offs in different policy solutions. Instead, policies will tend to focus on more easily quantifiable climate goals, relegating resilience as only a co-benefit of other climate actions. The Mapping Resilience report offers the first crucial step in addressing this gap by conducting a comprehensive review of existing mapping tools.

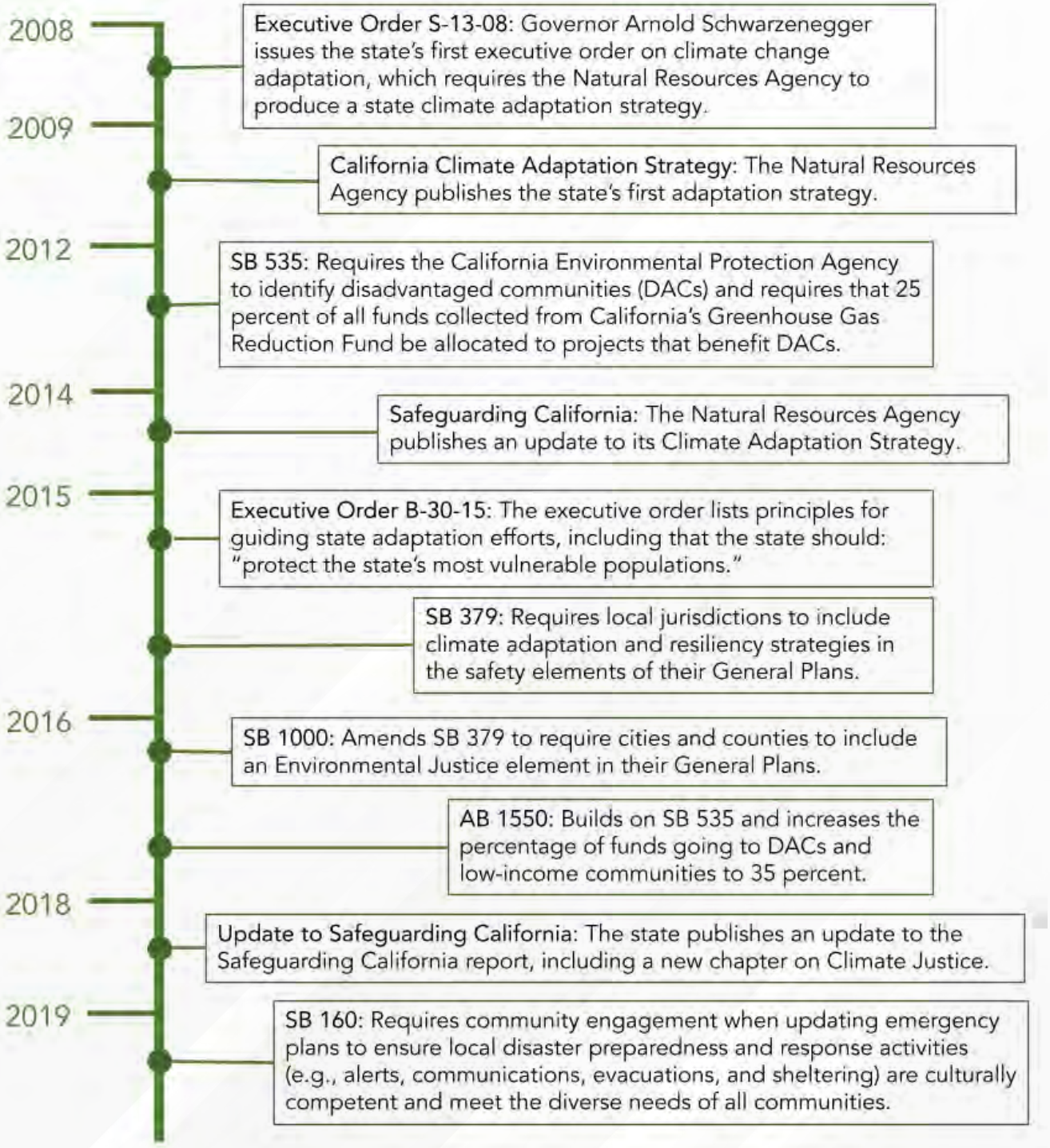
This report provides another step toward the development of a policy framework for community resilience by building out models for Resilience Hubs and In-Home Resilience. Together, these constitute a pathway forward for building community resilience in California.

RESILIENCE IN CALIFORNIA

California has been a global leader in bold climate action. In addition to policies aimed at climate mitigation, the state has taken proactive steps to promote climate adaptation and resilience. These approaches are meant to be coordinated and complementary, reducing the magnitude of climate change while simultaneously preparing for its impacts.[8] As the effects of climate change have become increasingly apparent, the state has responded with legislative action to plan and implement strategies that protect communities, ecosystems, and infrastructure. Not only do these actions support all Californians, they demonstrate a growing recognition that certain communities and populations are especially vulnerable to climate impacts.

[7] Raval A., T. Chen, and P. Shah. 2019. *Mapping Resilience: A Blueprint for Thriving in the Face of Climate Disasters.* Asian Pacific Environmental Network (APEN).
[8] California Natural Resources Agency. 2018. *Safeguarding California Plan: 2018 Update.*

The following timeline highlights California's major achievements and milestones in climate adaptation and resilience.



KEY TERMS AND DEFINITIONS

Community resilience is a relatively new concept in the policy arena. Because it is not widely understood, it is important to differentiate it from a number of closely related terms. This report will also employ a variety of concepts from the policy arena, academic literature, and lived experiences of community residents related to community resilience and climate vulnerability.

Climate Adaptation vs. Resilience

Adaptation and resilience are often mentioned together and occasionally used interchangeably. OPR distinguishes between them: Adaptation is an action or set of actions, and resilience is a desired outcome.[9] In this way, adaptation efforts that respond to climate change can contribute to resilience, but they are not exhaustive. As this report outlines, there are many factors that contribute to resilience beyond those that adjust to a changing environment.

ADAPTATION is the process of responding to the impending or inevitable consequences of the climate disruption already set in motion that, due to lag effect, cannot be avoided or reversed.

RESILIENCE is the capacity of a system (whether a community or an economy) to maintain 1) an intact core identity in the face of change; and 2) a state of dynamic balance within which change can be avoided or recovered from without a fundamental transition to a new form. Resilience can bridge mitigation and adaptation, and economy and ecology, and can help us create more social cohesion, inclusion, power, and participation and more holistic and systemic interventions.

[Definitions from *Mapping Resilience*]

A Deeper Dive: Community Resilience

Although resilience is an important concept for considering hard infrastructure and natural systems, this report is primarily concerned with community resilience.

COMMUNITY RESILIENCE is the ability of communities to withstand, recover, and learn from climate impacts to strengthen future response and recovery efforts. Importantly, resilience is not just about responding to disasters and major shocks; it also addresses the daily stressors that are exacerbated by a disaster event. Resilience requires strengthening communities before, during, and after an event so that communities do not merely recover from climate shocks, but have opportunities to grow and thrive in the transition.

[Definition adapted from *Mapping Resilience*]

Key concepts for community resilience include:

- **SOCIAL INFRASTRUCTURE,** which refers to the services required to promote the economic, health, cultural, and social well-being of the community, and the physical infrastructure that supports those services.[10]

  [Definition adapted from Baussan (2015)]

- **SOCIAL COHESION,** which refers to the ongoing process of developing well-being, sense of belonging, and voluntary social participation of the members of society, while developing communities that tolerate and promote a multiplicity of values and cultures, and granting at the same time equal rights and opportunities in society.[11]

  [Definition from Fonseca et al. (2019)]

[9] OPR. 2018. *Planning and Investing for a Resilient California.*

[10] Baussan, D. 2015. *Social Cohesion: The Secret Weapon in the Fight for Equitable Climate Resilience.* Center for American Progress.

[11] Fonseca, X., S. Lukosch, and F. Brazier. 2019. Social cohesion revisited: A new definition and how to characterize it. Innovation: *The European Journal of Social Science Research,* 32(2): 231–253.

Closing the Climate Gap

Climate change does not impact everyone equally. Even within regions that are equally exposed to climate change, different groups may have greater risks and less resources to cope with and adapt to climate impacts and extreme events. The socioeconomic and physiological characteristics that increase risk and sensitivity contribute to a population's vulnerability.

VULNERABLE POPULATIONS are the communities most impacted by climate change and climate disasters, including public transit-dependent populations such as the elderly, young children, people who are disabled, outdoor workers, working-class communities of color, immigrants and refugees, Indigenous people, and rural communities.

Vulnerability is not distributed equally or randomly across communities. Climate change exacerbates existing inequities in health, housing, economic opportunity, transportation, and social services. These inequities are not inherent, but rather the result of a long history of systemic marginalization and underinvestment in working-class communities of color.

THE CLIMATE GAP describes the disproportionate and unequal implications that climate change and climate mitigation has on working-class communities of color.

[Definition from Mapping Resilience]

CLIMATE JUSTICE is an approach that puts the working-class communities of color that have experienced the most harm from living alongside major pollution sources at the center of decision-making processes to address climate change and transition away from fossil fuels.

Climate justice requires that policymakers acknowledge the expertise of frontline communities in creating solutions to protect and preserve our air, water, land, and people. Climate justice requires that policymakers engage and assist frontline communities in developing the technologies, policies, professions, services, and projects needed to address the causes and impacts of climate change, and heal from historical injustices.

RESILIENCE IS BUILT BEFORE DISASTER

This report develops and evaluates policy models using four resilience principles meant to enhance equitable climate resilience. In addition to these resilience principles, the following concept underlies this entire report: ***Resilience is built before disaster.*** Too often policymakers take a reactive approach, attempting to transfer mass resources, expand the workforce, or establish emergency protocols only in response to a crisis. These actions come too late to maximize resilience; at best they assist in recovery. Communities must build resilience ahead of time so that when disaster hits, they have the capacity to withstand, recover, and learn from it.

Resilience Principles

1. **Build community and public institutions.** Solutions should recognize synergistic roles for the public sector and community-based organizations, braiding services in ways that simultaneously enhance the capacity of both.

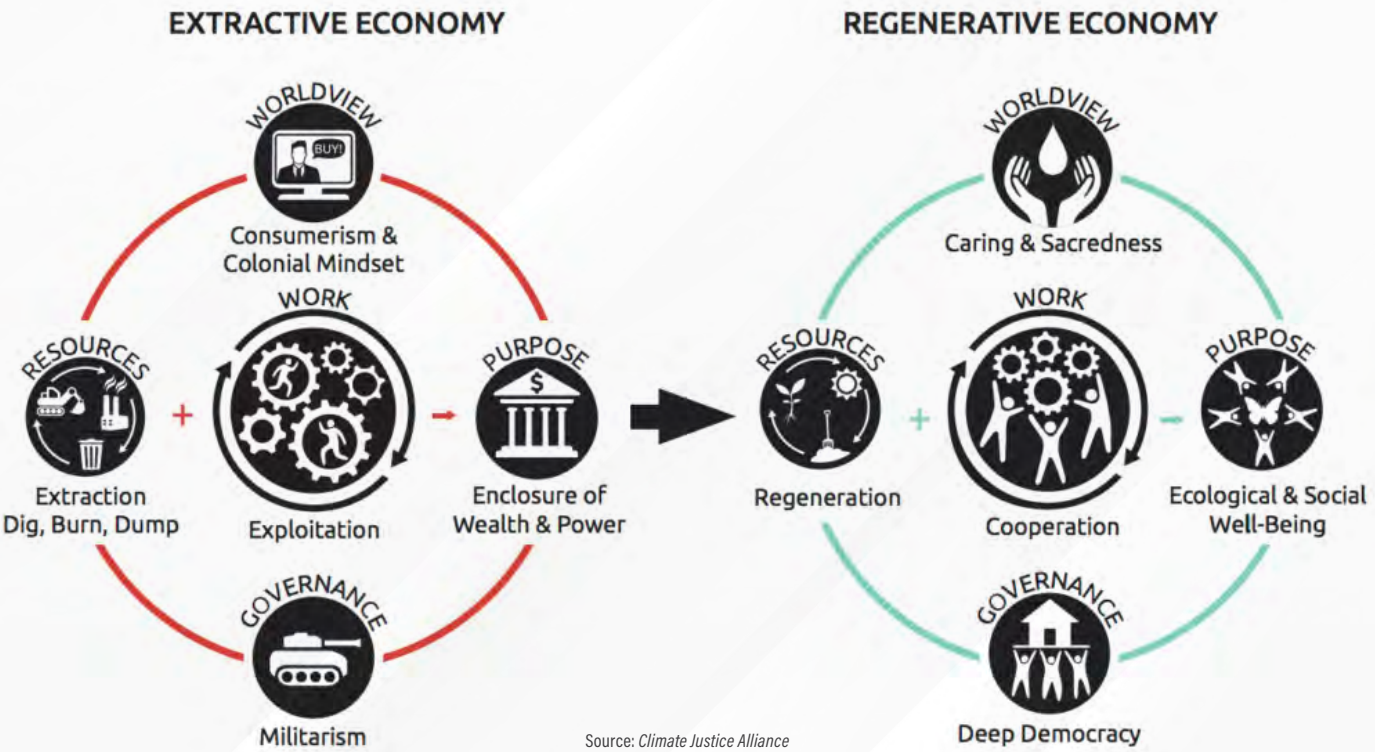
2. **Target solutions to the communities with the least material resources.** Policies should *directly* and *meaningfully* benefit communities while recognizing the multiple and interacting factors that contribute to climate vulnerability.

3. **Create equitable economic development through high road jobs.** High road jobs provide skills-based career ladders and family-supporting compensation in occupations that increase resilience and are open to those who have been historically marginalized, disadvantaged, and/or denied opportunity; in addition, high road jobs provide workers the opportunity to act collectively to influence their work conditions and their society.

4. **Promote democratic and community-led planning, implementation, and governance.** Solutions must be informed by community-identified needs and implemented alongside residents and community leaders.

Community resilience is a response to the crisis of climate change, which is causing a societal transition that is already impacting workers and communities. Labor and community leaders have long recognized that this transition was coming. The **Just Transition** framework was first forged by trade union leaders who understood the implications of climate change and sought to provide economic justice to workers displaced by environmental protection policies. Today, just transition means protecting workers who are impacted by the decline of the fossil fuel industry.[12]

The Just Transition framework developed by the Climate Justice Alliance, a national collective of environmental justice and grassroots groups, outlines a set of just transition strategies broadly intending to move away from an extractive economy and toward a regenerative economy.



Source: *Climate Justice Alliance*

[12] Labor Network for Sustainability, Strategic Practice: Grassroots Policy Project. 2016. *"Just Transition" — Just What Is It?*

INTRODUCTION

The National Economic Transition (NET) platform, which was developed by local, tribal, and labor leaders living and working in coal communities, along with nonprofit sector partners, outlines a framework for an ambitious national transition program that supports the people and places hit hardest by the changing coal economy. These same principles hold for all regions and communities traditionally dependent on fossil fuel industries. Many of these same policies were outlined by Tthe BlueGreen Alliance alsoin its calls for "Fairness for Workers and Communities" in its *Solidarity for Climate Action* platform.[13]

An extractive economy is an economy that relies on the extraction of labor, of natural resources, of culture, and of community. Theis vision for a just transition includes efforts to create and maintain quality, family-sustaining jobs and transition to a regenerative economy that advances ecological resilience, reduces resource consumption, restores biodiversity and traditional ways of life, and promotes collective well-being based on living in balance with natural systems. Managed decline of fossil fuels is a key part of shifting away from an extractive economy. Complementarily, community resilience is a critical building block in a regenerative economy. Building resilience to disasters is not just about bracing for the devastating impacts of climate change. It is about building power to create the high-quality jobs, wealth-building opportunities, community ownership models, democratic institutions, and resilient communities that form the foundation of a regenerative economy.

Resilience Happens at the Community Level

Community means many things to many people. It is a multidimensional term that requires consideration of both people and place. Communities have a "sense of place" that can be shaped by geographical boundaries, political jurisdictions, and special manmade or natural features. They also have a social dimension, comprised by groups of people who have common historical ties, share similar values, and meet each other's needs.[14]

Despite the fluid and imprecise definition of communities, social resilience is best understood at the community level. Communities are at the intersection of micro-individual-household and macro-national-global levels.[15] Resilience cannot be understood at the individual level, but instead must be measured by the strength of the networks and resources that exist between groups of people. Resilience requires the capacity to collectively identify problems, make decisions, and deploy resources to act on them. This self-organization happens at the community level when individuals have the opportunity to interact within the social, cultural, economic, spiritual, and political institutions that bond them together.

Although resilience should be understood at the community level, it also needs to be delivered at scale. This scale can only be achieved through leadership and resources at the state level. However, the state is too removed from community-level decision-making to be an effective administrative body for community resilience efforts. Instead, general purpose governments (e.g., city, county) are best positioned to serve in this role, as they are already responsible for delivering the resources and services that promote community resilience and social welfare. Through facilitation at the city and county level and funding at the state level, community-driven resilience solutions can be scaled up to resource community planning and programming statewide.

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[13] BlueGreen Alliance. 2019. *Solidarity for Climate Action.*

[14] United States Environmental Protection Agency (U.S. EPA). 2002. *Community Culture and the Environment: A Guide to Understanding a Sense of Place.*

[15] Kais, S. M. and M. S. Islam. 2016. Community Capitals as Community Resilience to Climate Change: Conceptual Connections. *International Journal of Environmental Research and Public Health* 13(12): 1211.

This report proposes a framework for community resilience strategies consisting of two conceptual models that can be scaled in this way: Resilience Hubs and In-Home Resilience. Resilience Hubs include the physical institutions that offer space for community members to gather, organize, and access resilience-building social services. In-Home Resilience considers the embedded systems that enhance resilience for people in their own homes. This dual approach to resilience attempts to capture the need for both centralized spaces and distributed systems that promote resilience within a community.

Other Resilience Measures

Community resilience requires a comprehensive approach. In an attempt to limit the size and scope of this report, significant features of community resilience are not given their due attention and emphasis. Instead, this report focuses on models for Resilience Hubs and In-Home Resilience because of their potential as community-driven solutions that can be scaled to a statewide level. However, it would be remiss to omit mention of some other key resilience public policy solutions, including:

Energy Efficiency and Weatherization Programs

Low-income people are especially threatened by climate impacts in part due to inadequate housing conditions such as leaky windows, poor insulation, substandard ventilation systems, and household hazards like mold and lead paint. They are also much more likely to face energy burdens from high utility costs. Energy efficiency and weatherization programs can protect families from these effects and provide beneficiaries with safer, stronger, and more affordable homes. If structured the right way, these programs can also offer high road job opportunities.[16] Energy efficiency programs that create healthy living conditions for working-class communities of color are a key component of building resilience. They not only mitigate and reduce emissions, but also protect people from extreme heat, wildfire smoke, and the other health impacts of climate change.

Distributed Clean Energy Systems

Wildfires, power shutoffs, and other climate disasters threaten the reliability of the energy grid for all California residents. Distributed clean energy systems (e.g., rooftop solar, storage, demand response, microgrids) are a powerful tool for reducing harm from fossil fuel pollution and power outages while at the same time improving air quality and offering economic savings. This infrastructure is especially important for medically dependent populations, working-class communities of color, and public and community facilities.[17]

Housing Security Measures

People cannot be resilient in their homes if they do not have stable, affordable, and high-quality houses to live in. Climate change can exacerbate existing housing insecurity through climate gentrification, where affluent residents move to areas protected from climate impacts and force low-income residents into areas at higher risk.[18] High-quality housing keeps residents safe in a variety of emergency and climate-related events, including disease, poor air quality, high heat events, and storms. Policymakers should consider a wide variety of anti-displacement and community development measures such as rent control, just cause, and the creation and expansion of community land trusts.

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[16] See Training for the Future: Workforce Development for a 21st-Century — Utility Los Angeles' Utility Pre-Craft Trainee Program for one example from the Utility Pre-Craft Trainee (UPCT) program, and UpLiftCA for a profile of a participant in GRID Alternative's training program.

[17] See Vote Solar's *Resilient Clean Energy for California: Protecting Vulnerable Communities, Critical Facilities, and the California Economy with Solar + Storage* for more information on the benefits of distributed solar and storage.

[18] Keenan, J., T. Hill, and A. Gumber. 2018. Climate Gentrification: From Theory to Empiricism in Miami-Dade County, Florida. *Environmental Research Letters* 13: 054001.

RESILIENCE HUBS

Communities experience climate impacts in different ways. A community's geography and biophysical setting will influence its exposure to risks and hazards: coastal areas face storm surges and sea level rise; other communities live in very high fire severity zones. In addition to exposure risks, the community's existing resources — its economic, social, and cultural capital — fundamentally affect its ability to respond to and withstand a disruption event.[19] These community assets also vary widely based on a range of interacting factors, leading some to be more vulnerable to hazards than others despite having the same exposure.

While resilience planning and policy must happen at the federal, state, county, and city levels, it manifests at the community level. No one-size-fits-all model will work everywhere; each community has unique vulnerabilities and needs. Resilience investments should be targeted locally and deliver direct and meaningful benefits to communities. However, the communities who could benefit most from resilience do not have the resources to fund their own investments. To equitably allocate and prioritize resources, there has to be coordination at the city, county, and state levels. Benefits should be facilitated by local government policy to reach communities directly and meet community-identified needs.[20]

Resilience Hubs have emerged as one effective way to deliver benefits that strengthen communities before, during, and after disaster. When planned intentionally, Resilience Hubs can form a network of community-driven resources that work with other community and public entities to increase resilience and coordinate emergency response.

RESILIENCE HUBS are physical spaces that provide resources and capacity to promote social cohesion and everyday resilience (e.g., economic, health, environmental), as well as disaster preparedness, response, and recovery.

While the term Resilience Hub may be new, the basic concept is not. Community leaders and local governments have long provided programs and services through trusted community centers, schools, libraries, parks and recreation centers, churches, and mutual aid networks. Creating a Resilience Hub does not mean reinventing those spaces, but instead updating existing community resources to ensure resilience during and after extreme climate events.

RESILIENCE IN ALL CONDITIONS

Resilience Hubs serve communities in three operational modes:

Resilience Hubs must have the ability to meet the daily needs identified by the community and provide critical services during and after a disruption. In the event of a disaster, Hubs transform into centers that facilitate response and recovery efforts. Importantly, they differ from emergency operation centers because they do not only activate when there is a major incident.

[19] Kais, S. M. and M. S. Islam. 2016. *Community Capitals.*

[20] Mohnot, S., J. Bishop, and A. Sanchez. 2019. *Making Equity Real in Climate Adaptation and Community Resilience Policies and Program.* The Greenlining Institute.

RESILIENCE HUBS

During normal operations, Hubs foster social cohesion and address community stressors through organizing, civic engagement, outreach, education, training, and connections to social and environmental services and programs. Ideally, Hubs should be fortified and upgraded to improve their capacity to offer critical services in all conditions.[21]

Resilience Hubs will have different resources and services as determined by specific community needs. These may include:

- Access to electricity, heating, and cooling
- Food, water, basic health and medical supplies, and sometimes shelter
- Information, communication infrastructure, and a trusted set of Hub managers
- Coordination with partner groups, local governments, and other public entities

Resilience Hubs should...

✔ Leverage established and trusted community and public facilities.

✔ Foster community governance and collaboration.

✔ Integrate workforce development strategies to create high road jobs.

✔ Target benefits to priority communities and meaningfully address their needs.

Resilience Hubs provide...

❍ **Programming and Services** that build relationships, promote community preparedness, and improve residents' health and well-being

❍ **Resilient Structure that is** earthquake-resistant and allows the facility to meet its operational goals in all conditions.

❍ **Resilient Power** that harnesses renewable energy, ensures reliable backup power to the facility during a hazard, and improves the cost-effectiveness and sustainability of operations in all three operating modes.

❍ **Resilient Communications** to communicate within and outside the service area during disruptions and throughout recovery.

❍ **Resilient Operations** that ensure the proper personnel and processes are in place to operate the facility in all conditions.

[21] Baja, K. 2019. *Guide to Developing Resilience Hubs.* The Urban Sustainability Directors Network (USDN).

INSTITUTIONAL MODELS

Resilience Hubs have no singular institutional form. They may be developed in both public facilities (schools, civic centers, libraries) and community-based entities (churches, nonprofits, local businesses). Indeed, it is preferable that Hubs take a range of different forms and build from existing community and public institutions in order to meet diverse community needs.

Table 1 shows Resilience Hubs in a variety of institutional forms, each evaluated across our resilience principles. While by no means comprehensive, this indicates some of the trade-offs inherent in each setting. For example, public schools already have strong ties to the community, but they also typically have administrative and legal challenges that may make community access to a Hub on school grounds difficult to implement. Adding capacity to religious centers makes use of trusted community institutions that often already provide resilience services, but may not generate significant high road job opportunities.

Investments should aim to bolster existing assets in the short term while exploring the potential for larger infrastructure projects. The form each Hub takes will depend on the function it is meant to serve. Accordingly, costs will vary with size, complexity, and current assets. Some projects may only require $10,000 for emergency supplies. Others may have capital costs of $150,000–$250,000 for new systems such as solar power and storage. Constructing brand-new Hubs may cost tens of millions of dollars. Allocating investments in an equitable way will require extensive engagement between local government and community stakeholders.

CASE STUDY:
The POWER House Community Center

The POWER House is located directly in Baltimore's largest public housing community, Perkins Homes. It offers weekly programs for children and adults, including after-school programs, GED and ESOL classes, and job training. The center has cots, a grill, propane, water, and dry food, and there are kits for first-time mothers provided by Johns Hopkins. The Hub partnered with Power52 to install rooftop solar panels, and currently has up to 72 hours of solar battery storage.

Table 1: Resilience Hub Models, by Type of Institution

Type of Institution	Role of Public Sector and Community	Population Served	Staffing Needs for Hub Operations	Governance Model	Example
Public					
New Resilience Hub	This entails public investment in the construction of a new Resilience Hub. Partnerships allow public and nonprofit agencies to operate out of a shared space, providing synergistic services at a "one-stop" location.	General public, but can focus services on vulnerable populations identified through community input.	New public sector jobs New job opportunities for community partners	As public facilities, these are owned and governed by the local government. However, there should be a substantial role for community stakeholders through the establishment of a Community Advisory Committee and/or community stakeholder seats on any governance board	Tuolumne County has plans to construct two new community Resilience Hubs. One Hub will partner with the Tuolumne Band of Me-Wuk Indians and be geared toward providing services to the youth, expanding economic development, education, and serving as a shelter or gathering space during an emergency. The other will focus more on senior services. These Hubs allow service agencies to share space and provide an array of new services in one central location, helping these communities overcome their geographic isolation
School	Opportunities to collaborate with communities, but with significant administrative and legal challenges to overcome.	General community, with special focus on youth.	New community volunteers Existing school staff, educators, and school administrators	Schools are anchor institutions that usually already have processes to coordinate with and gather input from the community. Protocols will have to be amended if community members are meant to use/access the Hub in the event of a crisis.	Some resilience networks have partnered with local schools to create community gardens, water conservation projects, and offer educational workshops.
Rec Center	Operated by local governments, with opportunities to collaborate with communities.	General public, while also serving as vital community hubs that provide a wide range of activities and services.	New public sector jobs Existing staff	Public facilities owned and governed by local government, with opportunities for community input.	In response to the COVID-19 crisis, the city of San Francisco converted its rec facilities to emergency child care centers for low-income families and children of frontline workers. If institutionalized, this provides one example of how rec centers could serve as formal Resilience Hubs.
Public Housing	Publicly owned, with some potential to partner with community organizations for services.	Creating a Hub in public housing, which largely houses low-income and vulnerable populations, has the benefit of providing services right where people live.	New community volunteers New public sector jobs (limited)	The Hub can implement models for co-governance with residents.	See POWER House case study insert below
Community-Owned					
Religious Center (church, temple, synagogue)	Trusted community institutions that can become an important contribution to a Hub network through coordination with public agencies.	General public, though many services are geared toward vulnerable groups.	New community volunteers	Potential for significant community role in governance.	The Empowerment Temple is an African Methodist Episcopal church in Baltimore with a congregation of more than 10,000 members. Through partnerships with the city of Baltimore's Resilience Hub program, the temple will provide support to up to 2,500 people from the neighborhood during weather and other hazard events. It also has plans to collaborate with Groundswell, a local nonprofit, to establish community solar and battery storage, which will deliver on-site green technology training and job opportunities while maintaining electric power in all conditions.
Food Bank	Nonprofits that often work closely with local government.	Directly serve housing and food insecure populations.	New community volunteers Existing staff	Typically has a board of directors, may have a role for community members.	In response to the COVID-19 crisis, the San Francisco-Marin Food Bank ramped up efforts to assist vulnerable groups overcome barriers to food access, including launching pop-up food pantries and home-delivering to the most vulnerable.
Community Center	Community institutions that vary in their coordination with public agencies.	General public, though many services are geared toward vulnerable groups.	Existing staff New on-site jobs	Potential for significant community role in governance.	See RYSE Center case study

COMMUNITY POWER-BUILDING

Community Engagement. Community engagement is a crucial component of developing and operating Resilience Hubs. In the development phase, community asset mapping with residents and local leaders can assist in identifying and assessing potential Hub sites. These community members will also be experts on local needs and vulnerabilities, which will ultimately determine what functions Hubs will need to be able to serve. Residents will also need to learn what resources and services are available through nearby Resilience Hubs. Ultimately, Hubs must be trusted community institutions, and trust must be earned and built during every step of the process.[22]

Community Ownership. This is not a scenario where "if you build it, they will come." Hubs will only benefit communities if the community itself has a real sense of ownership in its co-creation, operation, and governance. This could involve mechanisms for community ownership, participation in decision-making, and other innovative structures.[23]

WORKFORCE NEEDS

Staffing needs for Resilience Hubs will depend on their form and functions as determined by local community needs. They also depend on the existing infrastructure and services that are already being provided. Investments in Resilience Hubs will inevitably create job opportunities through staffing for operations, programs and services, and technical assistance. In addition, targeted investments in disadvantaged communities have a multiplier effect, resulting in broader economic development benefits in the surrounding community.[24] Beyond direct job creation at the Hub itself, an infusion of resources can uplift an entire community by supporting local businesses, increasing tax revenue, and inducing co-investments.

Operations

Most Resilience Hubs will need permanent staff to maintain, administer, and operate them. This could include Resilience Hub coordinators as well as administrative and finance roles.

Programs and Services

On a day-to-day basis, Resilience Hubs are committed to promoting community resilience through the provision of programs and social services. These will vary by Hub and community needs, but may include things like:

- Job training
- ESOL and other community education classes
- Emergency response and preparedness training
- Community health services
- After-school programs for children
- Recreational and social activities
- Community organizing
- Support center for social and environmental services

These programs and services should be performed in coordination with the public sector. As shown in Table 1 (above), Hubs located in publicly owned facilities will likely be staffed by public employees who deliver resilience programs. In other cases, Hubs with community members delivering programs and services should be

[22] The California Environmental Justice Alliance's *SB 1000 Toolkit* and Greenlining's *Making Equity Real* report are both invaluable resources for policymakers implementing equitable community engagement that promote principles of environmental justice.
[23] The California Environmental Justice Alliance's *SB 1000 Toolkit* and Greenlining's *Making Equity Real* report are both invaluable resources for policymakers implementing equitable community engagement that promote principles of environmental justice.
[24] An analysis of employment benefits from Greenhouse Gas Reduction Fund spending found that investments located in disadvantaged communities support more jobs than those located outside disadvantaged communities. See *Employment Benefits from California Climate Investments and Co-Investments* from the UCLA Luskin Center.

integrated with and work alongside the public sector workforce. Whether administered in a public sector or private sector setting, Resilience Hub programs should provide family-sustaining wages and benefits, career pathways, and the right to organize.

Table 2 shows how Resilience Hubs with various resilience goals will require different workforce and staffing needs.

Technical Assistance
Resilience Hubs may need skilled technical support to maintain and operate resilient energy and communications systems.

As part of a larger workforce investment strategy, investments in Resilience Hubs create economic and workforce opportunities through construction, infrastructure upgrades, solar energy and storage installation, and retrofitting. To the extent feasible, such jobs should be associated with local trade union programs that require local hiring and sourcing.

ENVISIONING RESILIENCE HUB SERVICE PLANNING

In a hypothetical scenario, a community identifies their local recreation center as the best site for a Resilience Hub. Through meetings, outreach events, and community asset mapping exercises, residents and community leaders determine their greatest needs. Together with local government officials and stakeholder groups, the community develops partnerships that use the rec center to deliver services and resources. The community's top priorities may include:

Improved Health Services
In partnership with the Department of Public Health, the rec center will repurpose unused space as a new field office for county public health workers. The county creates five new full-time positions for public health nurses, counselors, and community health workers.

Job Training
The rec center partners with the county and local labor unions currently representing EMTs and paramedics, to develop an emergency medical technician (EMT) training program targeted toward individuals from underserved communities. The rec center will host EMT certification classes to establish a pipeline for successful participants to jobs in the county's Emergency Medical Services Agency.

Energy Resilience
The rec facility partners with the local Building Trades Council and allied community organizations to invest in a rooftop solar and storage system. Local nonprofit and union partners work to ensure that local community residents with barriers to employment enroll in union pre-apprenticeship programs that provide career track jobs in the electrical, battery installation, and energy efficiency fields.

Table 2: Resilience Hub Workforce Needs, by Resilience Goals Institution

Resilience Goals	Population Served	Services	Potential Workforce Needs	Public Agency Partnerships
Senior Services	Seniors, disabled population	Meals-on-Wheels, Caregiver support, Transportation services, Disability resources	Registered Nurses, Case Managers, Recreational Staff, Building Attendants	Health and Human Services, Adult and Aging Services Division, Department of Public Health, In-Home Supportive Services
Public Health	General public	Community health services, Eligibility services, Emergency response and preparedness training	Public Health Nurses, Community Health Workers, Counselors, Social Workers, Emergency Responders	Department of Public Health, Office of Emergency Services, Health and Human Services
Youth Services	Children and youth	Mentorship, Child Care / Head Start, Job Training, Media & Art, After-School Programming	Educators, Recreational Staff, Child Care Workers	Family Services, Public School District, Parks and Recreation
Civic Engagement and Organizing	General public	Voter registration, Community organizing, ESOL classes, Civic events, Recreation	Educators, Recreational Staff, Organizers	Housing and Community Development, Race and Equity
Energy and Sustainability	General public	Energy and environmental services, Solar installation, Weatherization and energy efficiency services, Gardening	Energy Technicians, Engineers, Outdoor Educators, Gardeners	Office of Sustainability, Office of Public Works, Office of Community and Economic Development, Parks and Recreation

CASE STUDY:
RYSE Center and RYSE Commons

The RYSE Center is a youth-led community center in Richmond. Richmond, located in the San Francisco Bay Area, is one of California's most disadvantaged communities as measured by CalEnviroScreen 3.0. It contains numerous sources of environmental hazards, including port activities, major highways, and most significantly, the Chevron Refinery.

Powered by Youth

Since its opening in 2008, the RYSE Center has become a national model for youth civic engagement. The center is about more than offering youth programs; it is fundamentally about shifting power through youth leadership and youth organizing. Its founders did not envision a space for youth, but rather a space for youth liberation. The center's youth take the lead on key decisions: They interview new staff hires; participate in meetings with the city; and are treated as equals working in partnership with adult allies. This provides more than just a model for youth centers — it is a power-shifting form of governance driven by those most affected. Rather than passive recipients of services, they are active participants in their own empowerment.

Programs and Services

Programming at RYSE is determined by the lived experiences of their youth members, who are responsible for identifying and directing the activities and services they need to thrive. RYSE identifies four main program areas:

Education and Justice
Career mentorship, college prep, job readiness, Know Your Rights training, tutoring, and youth-driven policy advocacy.

Community Health
Counseling, safe spaces for LGBTQ+ youth, urban gardening, food justice, and restorative case management.

Youth Organizing
Youth interns develop leadership, community organizing, and public speaking skills to effect social change.

Media, Arts & Culture
Programs and workshops offer opportunities for training in music, video, performing arts, and visual arts.

RESILIENCE AT RYSE

RYSE is already a trusted space that provides critical resilience-building programs and services to the community. Yet in order for it to be resilient in all conditions, RYSE will need to upgrade its operations, infrastructure, and capacity.

Resilience in Progress

Together with the Asian Pacific Environmental Network (APEN), RYSE is taking the first steps toward becoming a Resilience Hub.

Power to the Frontlines

The Power to the Frontlines initiative empowers youth to play a central role in the design, planning, organization, and governance of RYSE as a Resilience Hub. A group of youth leaders participate in facilitated discussions to identify concerns in different emergency response scenarios and ultimately help develop the Hub according to specific needs in their community.

Community Solar

RYSE and APEN envision a community solar and storage system to power ongoing energy needs in all conditions and become a microgrid to power emergency response during disasters. Community-owned and youth-driven, this resilient energy system provides a model for what just transition looks like at the community level.

Recommendations for Additional Resilience Measures

The following recommendations represent a suite of best practices that RYSE may elect to include as a part of their Resilience Hub plan.

RESILIENCE THROUGH NETWORKS

The need to leverage and connect a mixture of community assets highlights a central concept of Resilience Hubs and community resilience generally: *Resources and services are most effective when part of a larger network.* While a stand-alone Resilience Hub can provide valuable resilience services, its impact will be much greater as one node in a network of Hubs. A Resilience Hub network is greater than the sum of its parts; expansive connections between Hubs create opportunities for coordination and collaboration that augments the individual efforts of any single Hub.

Cities and counties across the country have established Offices of Resilience to facilitate resilience efforts in urban centers. Elsewhere, regional coalitions have formed to support local resilience projects. Although these developments demonstrate a growing recognition of the need for resilience planning, they are largely a patchwork of locally driven efforts. As a result, some communities have established networks to facilitate resilience projects, while others remain disconnected.

This calls for the development of **Resilience Hub networks.** Rather than a top-down planning model, this presents an opportunity to create collaborative partnerships between community-based organizations and state and municipal governments. Intentional planning can ensure that all regions within the state are covered, while also bringing attention to areas that have so far lacked capacity for substantial investments in community resilience.

One key component of a regional resilience network is a central entity to facilitate and coordinate between local Resilience Hubs. Rather than creating an entirely new entity, cities and counties should expand capacity in existing departments to serve this role. Doing so would have two major advantages: 1) they could use the network of Hubs as new sites to deliver public sector social services, and 2) they could efficiently coordinate with other public agencies.
In this model, city and/or county departments would be responsible for:

- **Facilitating communication throughout the network.** Convene meetings, disseminate best practices, and promote information sharing between Resilience Hubs in the region.
- **Delivering public sector services.** Leverage networks to increase and improve social service delivery through the local portfolio of Hubs, making use of an expanded public sector workforce including social workers, public health nurses, eligibility workers, legal services, technical advisors, and community educators.
- **Coordinating with public agencies.** Serve as an intermediary between Hubs and public agencies at the state and municipal level (e.g., Cal OES, Departments of Public Health), especially during times of crisis.
- **Community engagement.** Partner with communities in this process, who should work alongside local governments and other stakeholder groups to develop improved and more equitable outcomes.

Although delivered at the city or county level, community resilience networks could be managed through integrated and collaborative regional plans. This approach to planning would bring together key stakeholders to ensure communication throughout a regional network and foster collaboration between regions and different levels of government. While this will

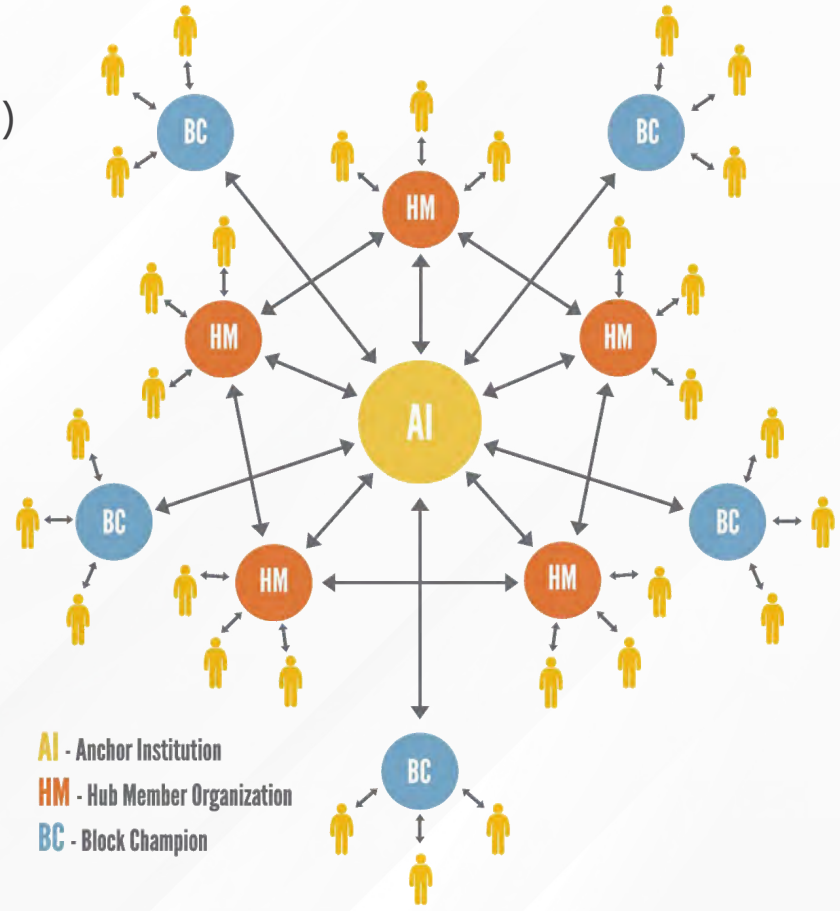
need to be developed further, it could be modeled after the Integrated Regional Water Management planning and decision-making process.[25]

In California, there are currently a number of regionally and locally organized resilience networks. The NorCal Resilience Network provides one model of a grassroots coalition that has stepped up to serve the role of regional resilience organizing in Northern California.

The Neighborhood Empowerment Network, established by the city of San Francisco, has developed an innovative neighborhood-level approach to resilience (see case study below).[26] The California Coastal Resilience Network promotes information sharing between California's coastal communities to support adaptation strategies. Rather than replacing these networks, cities and counties should find ways to integrate with existing regional resilience efforts.

CASE STUDY:
The Neighborhood Empowerment Network (NEN)

Through an iterative bottom-up planning process, NEN places resilience at the neighborhood level by engaging local stakeholders to create Resilience Action Plans and build networks of community0based organizations. In this model, an anchor institution serves as the central node connecting organizations that together form a "Hub." In turn, the Hub is connected to "block champions," individual leaders responsible for fostering resilience on a neighborhood block level and coordinating with the Hub in the event of a disruption. In this way, NEN is less about building resilient infrastructure, and more about strengthening the social fabric between residents and local community assets.



[25] CDM Smith. 2011. *Climate Change Handbook for Regional Water Planning.* California Department of Water Management.

[26] Neighborhood Empowerment Network. 2016. *The Empowered Communities Program: An Overview.*

RESILIENCE HUB RECOMMENDATIONS

Recommendation 1
Fund Resilience Hub Development

Funding is the biggest barrier to the development of Resilience Hubs. To meet the scope of need, it will not suffice to create one or two Hubs in each region. Ultimately, we will likely need hundreds of Resilience Hubs throughout California. The scale of this need demands a level of resources and funding that can only be met by the state.

The cost of each Hub will vary widely, depending on the needs and ambitions of the project. Project scope should be informed by community-driven planning and stakeholder needs and vulnerability assessments.

Components:

1. **Conduct Preliminary Cost Analysis**. Researchers should conduct a comprehensive cost analysis to evaluate the size of investment needed to develop Resilience Hubs that reach communities throughout the state.

2. **Develop Process to Target Areas Based on Need.** The state should develop a process to systematically implement a statewide approach to resilience that targets the most vulnerable communities. Following the recommendations outlined in Mapping Resilience, California policymakers need a centralized tool that holistically displays the data needed to identify the communities most vulnerable to climate change. This tool, complemented by community expertise, would allow policymakers to prioritize decision-making and target Resilience Hub investments in highest need areas.

3. **Identify State Funding Sources.** Resilience Hubs should be included as a fundamental element of the state's Climate Adaptation program and need a dedicated funding source within the state's climate investment program. Though private foundations may assist and local matching funds could be required, the state must take the lead on funding to ensure that working-class communities of color are prioritized.

Recommendation 2
Establish Resilience Hub Networks

Resilience Hubs are most effective when part of a larger network. To function effectively, networks must be coordinated and facilitated by a central entity. City and county governments are uniquely positioned to serve in this role as an intermediary between the state and local communities. They can also use the network of Resilience Hubs as sites for expanded social and health service delivery.

In addition, local governments can ensure equitable allocation of investments given budget constraints. Hubs may propose project costs that exceed funding provided by the state. Local governments should facilitate a collaborative planning process that engages a range of stakeholders to improve community resilience, implement community-driven solutions, and distribute resilience investments based on equity, efficiency, and effectiveness.

Components:

1. **Conduct Further Research on Governmental Structure.** Further research and expertise should be brought to the question of how the network facilitation role could be established within existing municipal government departments.

2. **Develop a Planning and Governance Model.** A collaborative approach to community resilience can improve outcomes by considering all interests, finding opportunities for multiple benefits, and ensuring a voice for trusted community leaders. The Integrated Regional Water Management planning process represents one such approach. The state should provide leadership in supporting the creation of processes for regional resilience planning.

IN-HOME RESILIENCE

Community resilience is fundamentally about the *capacity* of communities. It is not enough to have plans to infuse a community with resources and support in the event of a shock; those resources must already be in place so that the community can self-organize to recover and adapt to new conditions. These resources should promote residents' safety and well-being in general as well as increase the capacity to overcome adversity. As a result, resilience and disaster risk reduction models have moved away from a "predict and prevent" approach toward models that proactively build community capabilities. It is within this framework that we must consider ways to build In-Home Resilience.

While Resilience Hubs offer central physical locations that can provide vital services and resources, community resilience is not something that can be contained within scattered buildings. Even a robust network of Hubs cannot expect to serve every member of a community, especially in the event of disaster. There must be systems in place that expand community members' capabilities in ways that enhance resilience: learning to live with change and uncertainty; nurturing diversity; combining different kinds of knowledge; and creating opportunity for self-organization.[27]

IN-HOME RESILIENCE is a framework that incorporates a community's socially embedded systems, patterns, and practices that increase community members' capabilities and support new growth in response to crisis while staying in place.

In-Home Resilience requires a distributed approach to community resilience. In addition to the community institutions and assets that individuals can seek out, we must also consider the capacity of community members in their own homes. This framework offers an expanded view of *community capital*, community resources that are strategically invested in collective endeavors to address shared community objectives.[28] Beyond just economic resources, communities also have a variety of social, cultural, spiritual, and political resources.

The following sections first address In-Home Resilience factors that have received wide attention before turning to the under-recognized but essential role for home care workers and the public sector workforce in building community resilience.

VULNERABLE POPULATIONS REQUIRE SPECIAL ATTENTION

Community resources are neither equally distributed throughout a community nor are they accessible by all groups. This is especially true for those with ***access and functional needs*** **(AFN),** a term used by the California Governor's Office of Emergency Services (Cal OES) to describe those with needs that cannot be met by traditional emergency response and recovery efforts.[29] A comprehensive approach to community resilience must include strategies to promote the safety, security, and well-being of vulnerable populations before, during, and after disasters.

Climate change exacerbates inequalities in access to community capital. Although everyone in a community is affected during a climate event or disaster, some groups are especially vulnerable. For example, heat causes more deaths per year on average than any other weather events, yet

[27] Kais, S. M. and M. S. Islam. 2016. *Community Capitals.*

[28] Magis, K. 2010. Community Resilience: An Indicator of Social Sustainability. *Society & Natural Resources* 23(5): 401–416.

[29] Office of Access and Functional Needs. *Access & Functional Needs.* California Governor's Office of Emergency Services (Cal OES).

As defined by the state of California, **access and functional needs** refers to individuals who are or have:

- Physical, developmental or intellectual disabilities
- Chronic conditions or injuries
- Limited English proficiency
- Older adults
- Children
- Low income, homeless and/or transportation disadvantaged (i.e., dependent on public transit)
- Pregnant women

heat-related illnesses and deaths are generally preventable. Anyone can suffer from heat-related illness, but certain groups are at higher risk, such as the elderly, young children, people with pre-existing health conditions, outdoor workers, and the economically disadvantaged.[30]

California Communities Are Not Prepared to Protect Vulnerable Populations

As detailed in the California State Auditor's recent report, many communities are unprepared to protect their most vulnerable populations. In the three counties they reviewed, the report found that all three had failed to conduct assessments of the vulnerable populations in their communities, and did not have up-to-date plans for alerting and warning residents about dangers, evacuations, or where to shelter.[31]

Without careful consideration, adaptation measures may inadvertently exclude some community members or not fully meet the needs of others. For example, alert and warning systems can effectively disseminate information, but if they are not culturally sensitive or available in multiple languages they may not reach non-English-speaking populations. The APEN-led bill SB 160 (Jackson; 2019), which requires community engagement and cultural competency in emergency planning, is one example of a public policy solution that directly addresses these gaps.

Although SB 160 represents one positive step, recent events have demonstrated that significant inequities persist in how different populations experience disasters and response efforts. Farmworkers throughout the state are expected to work in hazardous conditions due to wildfire smoke; elderly residents were disproportionately among the victims of the 2017 Northern California wildfires;[32] medically vulnerable groups were uniquely endangered by Power Safety Public Shutoff (PSPS) events (see insert).[33]

FROM THE FRONTLINES: PUBLIC SAFETY POWER SHUTOFFS

In October 2019, as a preemptive measure to prevent wildfires, utilities cut power to hundreds of thousands of homes, causing millions of Californians to go without electricity for days at a time. For tens of thousands of people depending on electricity for medical needs, this was not a mere inconvenience; their health and safety was put at great risk. Home care workers all over the state went above and beyond the call.

[30] California Office of Environmental Health Hazard Assessment (OEHHA). 2019. *Heat-related mortality and morbidity.*

[31] Howle, E. 2019. *California Is Not Adequately Prepared to Protect Its Most Vulnerable Residents from Natural Disasters.* California State Auditor's Office.

[32] Lundstrom, M., D. Kasler, and R. Lillis. 2017. "'It's Just Luck — Kismet.' Why Some People Lived and Others Died in California Fires." *The Sacramento Bee.* Oct. 22.

[33] Somogyi, M. 2019. *Joint Local Governments' Response to PG&E's Presentations During the October 18, 2019 Emergency Meeting.* Goodin, MacBride, Squeri & Day, LLP.

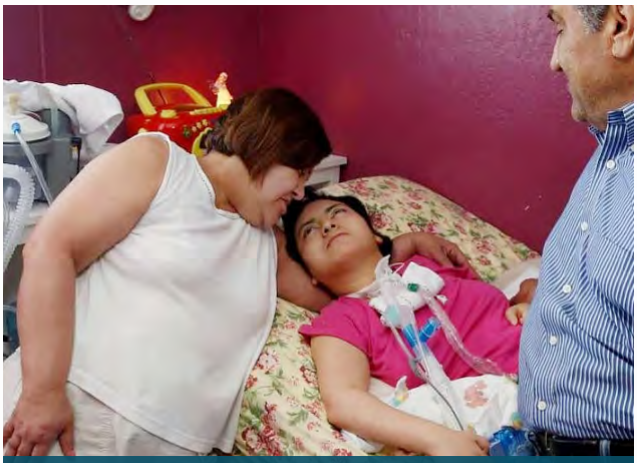
"Even though home care providers and their families were suffering during the shutoff, they really went above and beyond for their clients. One caregiver took hot water and blankets to a client, another stayed at the client's home the entire time, and one brought the client to stay at her own house. If it hadn't been for home care workers, people would have died.

"These climate-related disasters are going to get worse, and more remote areas of the country will be particularly hard hit. We need local governments, home care agencies, and health care facilities to put plans in place and prepare. For example, we need solar panels that can kick in during power outages, especially for nursing homes and hospitals. We need a system to track, contact, and quickly evacuate seniors and people with disabilities. We also need to increase the number of home care workers in our rural communities and improve their jobs so we can recruit and retain caregivers. With the aging population, home care workers are the first responders who will go out, check on people, and save lives."

Interview with Debra Bryant, IHSS provider and SEIU 2015 member [34]

Role of Public Agencies in Emergency Response

The government has a clear role in emergency response. In California, Cal OES is responsible for overseeing and coordinating emergency preparedness, response, and recovery within the state. On the municipal level, city and county governments have duties in coordinating local response activities, alerting and notifying residents,



In Concord, Calif., Massiel Lopez depends on electricity every day to power life-sustaining machinery.
Source: Paul Chinn/San Francisco Chronicle/ Polaris

Public Safety Power Shutoff (PSPS) Events

In September and October of 2019 utilities across California shut off power for over 2.5 million residents. While more affluent families may be inconvenienced by the food lost from insufficient refrigeration, air conditioning and heat failure, these can pose heavy burdens and sometimes dangerous threats to low-income residents. Loss of power especially endangers the elderly and individuals who are reliant on power for medical reasons. A joint letter from local governments to Pacific Gas & Electric (PG&E) identified significant failures during the PSPS events, including insufficient Community Resource Centers, inadequate notification systems for the AFN population, and lack of transportation for AFN customers. The PSPS events demonstrate a need for Resilience Hubs where people can go to see refuge and access resources, as well as improved in-home resilience so that residents can remain safe in their homes.

[34] Constible, J., B. Chang, C. Morganelli, and N, Blandon. 2020. *On the Frontlines: Climate Change Threatens the Health of America's Workers.* Natural Resource Defense Council (NRDC).

and working with community-based and private organizations. Significant measures are required to improve emergency preparedness and response at all levels, especially for vulnerable groups.

According to the State Auditor's report, Cal OES "has not done enough to fulfill its mission with respect to protecting these vulnerable populations." Specifically, the report found that Cal OES failed to provide guidance to local jurisdictions with strategies for assisting AFN individuals, and also did not issue after-action reports with lessons learned from natural disasters. Importantly, the report also recognized that Cal OES has not done enough to include AFN individuals in the development of its plans and guidance, instead relying on one person, the chief of its Office of Access and Functional Needs. This has led to inadequate and potentially dangerous outcomes, such as guidance that fails to offer strategies for alerting people with hearing impairments.[35]

Counties have also not done enough to assess vulnerable populations and ensure that assistance is available to those who need it. Investigative reports have found counties that had not updated in nearly a decade, and others that published emergency phone numbers that go to answering machines or messages that say the phone number is not valid.[36]

One reason for these shortcomings is because best practices would be costly to implement. Without prioritization at all levels of government, emergency service departments will not have the capacity to carry out the critical preparation and planning that are needed. The State Auditor's report calls for California to follow Texas and Florida by passing laws requiring the state's emergency management division to establish standards and periodically review local emergency management plans. A more robust public workforce of emergency service workers, as well as emergency responders in general, would allow local governments to develop and update these plans while ensuring they have the resources and capacity to implement them.

California has taken some proactive steps to improve its disaster preparedness and emergency response efforts to protect vulnerable communities, most notably through the Listos California campaign. Listos California invested $50 million to support California's diverse and vulnerable populations through a grassroots, people-centered approach that connects people to culturally and linguistically competent support. The campaign has already demonstrated significant impacts, especially in light of the COVID-19 pandemic. Listos California is reaching out to check in on elderly Californians and connect them with resources through the Social Bridging Project,[37] and partnering with Univision to run public service ads to the Spanish-speaking community,[38] in addition to the manifold services provided by community-based organizations that received Listos funding. The success of this campaign should motivate additional funding for this and similar resilience programs.

[35] Howle, E. 2019. *California Is Not Adequately Prepared.*

[36] Stock, S., J. Slowiczek, and J. Carroll. 2020. State Auditor: California Emergency Planning Falls Short. *NBC Bay Area.* March 20

[37] Office of the Governor. 2020. Governor Newsom Announces Initiatives to Support Older Californians During COVID-19 Pandemic. April 24.

[38] Boyd, S. 2020. Listos California on New Advertising Campaign with Trusted Partner Univision. California Governor's Office of Emergency Services (Cal OES).

HOME CARE WORKERS AS THE FRONTLINE OF IN-HOME RESILIENCE

There are a growing number of community-dwelling, often older, adults who have functional impairments that prevent them from leaving their homes. These homebound populations are an especially vulnerable subset of people with access and functional needs. A wide range of impairments can keep individuals confined to their home including physical disability, disease, medical vulnerability, and cognitive decline. The number of homebound individuals is larger than the nursing home population, yet homebound populations, and the workers who provide them with care, are often overlooked.[39]

Home care workers are personal care aides and home health aides. A majority of these workers are In-Home Supportive Services (IHSS) providers who provide services funded by Medi-Cal (a combination of county, state, and federal funds) and administered by local county governments. Due to the country's aging population, home care workers are projected to be one of the fastest growing occupations in the next 10 years.[40] Despite this growing need, there is a current shortage of home care workers in California. Low wages, and the physically and emotionally demanding nature of the work has led to high turnover, low quality of care, and an over-reliance on public programs and institutional long-term care facilities.[41] A majority of home care workers are women of color and the devaluation of their work is a direct consequence of structural racism that has marginalized this workforce for decades. Lack of upward mobility and opportunities for career advancement keep these workers stuck in dead-end, low-wage jobs.

"Our members are on the frontline every day and we deserve to be able to have the equipment that's going to make us safe and allow us to be able to take care of our clients."

Carmen Roberts, a home care provider for about 15 years, and a regional vice president within SEIU Local 2015 (photo courtesy of SEIU 2015)

Home care workers have not yet been recognized as the frontline of In-Home Resilience. Not only do home care workers have unique skills to assist those with access and functional needs, together they also constitute a network between the populations they serve and public and community agencies. Through their

[39] Ornstein K. A., B. Leff, K. E. Covinsky et al. 2015. Epidemiology of the Homebound Population in the United States. *JAMA Internal Medicine* 175(7): 1180–1186.

[40] United States Bureau of Labor Statistics. 2019. Fastest Growing Occupations. *Occupational Outlook Handbook.*

[41] Thomason, S. and A. Bernhardt. 2017. *California's Homecare Crisis: Raising Wages Is Key to the Solution.* UC Berkeley Labor Center.

work, home care workers already promote In-Home Resilience during normal conditions by improving quality of life for homebound populations, allowing those populations a degree of independence and the ability to remain in their communities. They also represent an untapped group of skilled workers who could play an increased role in the event of disaster.

To assist in the event of a shock or disruption, home care workers should be equipped with additional emergency response training and incorporated as essential components of disaster preparedness and recovery. This presents an opportunity to create skill-based career ladders within the field while empowering home care workers to take on valuable and highly needed responsibilities. By providing training opportunities to this workforce that is already closely tied to vulnerable populations, communities can increase their capacity by building off of existing networks and resources.

Strengthening the home care workforce in both number and capacity is vital to building community resilience. To do so, California must make investments to both grow this workforce and build the skills and capacity of workers. Policymakers should consider policy options to achieve those goals, including:

Improve Wages, Benefits, and Workers' Rights

Poor job quality is at the root of the shortage of home care workers. Median annual earnings for home care workers are less than half of median earnings for all workers, and home care workers are significantly less likely to have employer-provided health care.[42] The workforce is predominantly women of color, one-third immigrant, and averages 45 years of age.[43] We must lift up, honor, and retain the existing workforce and recruit new workers by improving job quality, training, and workers' rights or face a crisis of huge proportions.

> ***"Way back when I started, I was getting paid $3.90 an hour. That was before there was a union. At the time, I knew nothing about unions. I wasn't a fighter then. When I stopped working, I was making $13.85 an hour. When we unionized, we fought for paid training, paid time off, benefits, health insurance, and life insurance."***
>
> Survey of the Home Care Workforce, National Employment Law Project 2017 https://www.nelp.org/publication/surveying-the-home-care-workforce/

Provide Opportunities for Emergency Response and Resilience Certifications

As one of the first and main points of contact for vulnerable populations, home care workers already serve as the frontline of resilience and emergency first responders. Training home care workers in emergency response and resilience skills builds their capacity to more effectively meet the needs of their clients. In addition, developing skilled credentials for home care workers can create opportunities for career advancement. This could be part of a larger effort to develop a career ladder for home care workers with different levels of skills, training, and responsibilities.

[42] *Ibid*

[43] Spetz, J. 2019. *Home Health Aide and Personal Care Assistants: Scope of Practice Regulations and Their Impact on Care.* Healthforce Center at UCSF

Leverage Home Care Workers for Emergency Preparedness and Response
Because of their close contact with vulnerable community members, home care workers could play a key role in emergency planning and response. Some counties already use lists of IHSS recipients for outreach calls during disasters. However, concerns about state laws that protect sensitive health information prevent counties from providing IHSS information before disasters occur.[44] In addition, the sheer number of IHSS recipients makes it difficult to rapidly and comprehensively reach all workers in all necessary languages. One way to harness the home care worker network is to designate a central entity responsible for developing an emergency response plan for home care workers and recipients, and coordinating and communicating with workers before, during, and after an emergency. An existing public agency within local government would likely most effectively serve in this role, but so could a community organization or union (see SEIU's Union Resiliency Coordinators Program). Home care workers, trained in emergency response, would have clear channels to communicate and report on the status of their clients. In turn, this central entity would be able to keep track of who needs additional assistance and coordinate response and outreach. Such a network could function as a **Virtual Resilience Hub** in conjunction with a community resilience hub or as a stand-alone network.

CASE STUDY:
SEIU Union Resiliency Coordinators Program (URC)

SEIU 511 and 1199SEIU created the URC program in response to the devastating effects of Hurricane Sandy. The goal of the program was to empower frontline workers to improve preparedness for emergencies through their local union, at their workplaces, and in their communities.

More than 100 frontline workers were trained to work with local community leaders to ensure that policies and plans increase community resilience through training, occupational health and safety, and worker involvement.

[44] Howle, E. 2019. *California Is Not Adequately Prepared.*

IN-HOME RESILIENCE RECOMMENDATIONS

Recommendation 3
Invest in the Care Workforce

Home care workers are the frontline of community resilience for some of the most vulnerable populations. There is a severe shortage in the home care workforce, in part due to poor wages and lack of upward mobility. California should implement strategies and form stronger partnerships with care unions and client stakeholder groups to increase job quality and industry standards.

Components:

1. **Improve Wages and Benefits.** Low wages and poor benefits lead to high turnover and a diminishing supply of workers that cannot keep up with need. Through the IHSS program and strategic union partnerships, the state can lead efforts to create high road jobs within the home care workforce.
2. **Develop Career Ladders Through Resilience Training.** Certifications and training programs can create opportunities for upward mobility within the home care field. Resilience and emergency response training would teach valuable skills that would empower home care workers in their roles in disaster preparedness, response, and recovery.
3. **Fund a Home Care Network for Emergency Response.** Home care workers are uniquely positioned to assist vulnerable populations in emergencies. In coordination with a central public agency, a well-trained and compensated home care workforce could form a network of first-contact responders when disaster hits, and serve as a vital source of information about vulnerable residents, functioning as a Virtual Resilience Hub.

PUBLIC SECTOR - RESILIENCE SERVICES

In the status quo, people in need must go to the government for assistance. In a resilience framework, that service model is flipped: **Resilience requires bringing services to the community**. This resilience service model is not possible without a public sector with the capacity for proactive community outreach. With this in mind, expanding the public workforce is one way to improve the institutions crucial to maintaining the health, cultural, and social standards of a community. In other words, a robust public sector is key to building social cohesion.

In addition to the frontline home care workers that deliver in-home support services, public sector workers are critical to building community resilience. This includes those who provide community health services, and also those who perform the daily tasks necessary for social service delivery. Public health nurses and community health workers educate people about health issues, improve community health and safety, and increase access to care. Eligibility workers connect community members to services. Social workers provide employment counseling for workers in transition from incarceration or those moving from jobs in the extractive economy to low-carbon jobs. Public works employees improve public infrastructure; emergency services dispatchers receive and assist callers in crisis. Mental health counselors provide necessary treatments and interventions to vulnerable populations. Librarians and recreation center workers build social cohesion. Among many others, these roles deliver resilience services in normal conditions and become even more essential when disaster hits.

In addition, public employees are required by California Code to serve as disaster service workers in the event of a disaster.[45] A more robust public sector not only allows for higher-quality delivery of public services, but also creates a larger pool of emergency responders.

Public Sector Health Services

Public health is a critical metric of resilience: A healthier community is a more resilient community. The public sector is responsible for delivering a wide array of public health services. Budget cuts to public health agencies, high burnout rates for workers, and the unrecognized value of these services have led to an underfunded and inadequate public health workforce. Addressing the critical shortages in this workforce is an essential part of increasing community resilience.

Public Health Nurses

Public health nurses (PHNs) provide critical health services to vulnerable populations. Their interventions focus on population health, addressing the social and physical determinants of health as well as their distribution within a population. Fundamentally, their work is centered on improving the health of communities before crisis hits. Although PHNs are the largest group of health professionals within the public health workforce, there has been a continuous decline in PHNs, and a general decrease in the workforce capacity of public health agencies.[46] Best practices require a standard national public health nurse-to-population ratio of 1 : 5,000, and a lower ratio for communities with higher risks.[47] Achieving best practices would allow PHNs to

[45] California Government Code. Title 1, Division 4, Chapter 8, Section 3100-3109.

[46] American Public Health Association. 2013. *Strengthening Public Health Nursing in the United States.*

[47] Association of State and Territorial Directors of Nursing (ASTDN). 2008. *Report on a Public Health Nurse to Population Ratio.*

meet individual care needs, as well as address broader system-level factors that lead to health and well-being disparities.

Community Health Workers and Promotores

Community health workers and promotores (CHW/Ps) are frontline public health workers that serve as a bridge between communities and health systems. The defining feature of this workforce is their shared lived experience with the patients they serve, using a culturally competent approach that is grounded in their understanding of the community.[48] A report by the Centers for Disease Control and Prevention found improved health-related outcomes, particularly for groups experiencing racial health disparities, that can be attributed to various types of CHW/P programs.[49] Studies have also found that CHW/Ps can augment the efforts of other resilience measures.[50] However, CHW/Ps are a relatively new category of workers, and have not been formally incorporated in all health systems. As a result, they face a number of labor and employment challenges, including low wages, high turnover, and an overall lack of professional development and career pathways.

Behavioral Health Workers

In California, public behavioral and mental health services are available through county health departments. While access to behavioral health services have improved in recent decades, forecasts suggest the state will face substantial shortages in all behavioral health occupations relative to projected need.[51] A statewide poll found that access to mental health care is a top concern, indicating that people are struggling to get help right now.[52]

[48] Lloyd, J., R. Davis, and K. Moses. 2020. *Recognizing and Sustaining the Value of Community Health Workers and Promotores.* Center for Health Care Strategies.

[49] National Center for Chronic Disease Prevention and Health Promotion. 2014. *Policy Evidence Assessment Report: Community Health Worker Policy Components.* Centers for Disease Control and Prevention.

[50] Weatherization interventions combined with CHW/P education and outreach have been found to improve childhood asthma control. See Breysse, J. et al. 2014. Effect of Weatherization Combined with Community Health Worker In-Home Education on Asthma Control. *American Journal of Public Health,* 104(1): e57–e64.

[51] Coffman, J., T. Bates, I. Geyn, and J. Spetz. 2018. *California's Current and Future Behavioral Health Workforce.* Healthforce Center at UCSF.

[52] Hamel, L., B. Wu, M. Brodie, L. Aliferis, K. Stremikis, and E. Antebi. 2019. *The Health Care Priorities and Experiences of California Residents.* Kaiser Family Foundation and California Health Care Foundation.

CASE STUDY:
Public Workers in Oakland and Alameda County

Oakland is the county seat of Alameda County, one of the largest counties in California. While Oakland has been on the forefront of resilience planning, it is also burdened by a legacy of historical policy decisions and institutional discrimination that have disproportionately harmed low-income communities of color. Of the approximately 108 census tracts in Oakland, 25 are identified as disadvantaged communities.[53] These are predominantly concentrated in the low-lying parts of East and West Oakland, where average life expectancy can be as much as 15 years less depending on race than residents who live one mile away in the Oakland Hills.[54]

In 2018, the Oakland City Council recognized the need to center frontline communities through a just transition in a Climate Emergency and Just Transition Resolution.[55] This resolution put in motion the creation of its Equitable Climate Action Plan (ECAP) as a road map for this transition.

ECAP recommends 44 actions that reduce greenhouse gas emissions and promote equitable economic development, 18 of which increase resilience. The plan also identifies which city department is responsible for leading each action. Of all departments, the Office of Public Works (OPW) is responsible for leading the most actions, including among those identified as promoting resilience. Other departments that have significant roles include the Department of Transportation (DOT), the Planning and Building Department (PBD), and the Office of Resilience.

While Oakland's ECAP is a useful planning framework for resilience, the city government lacks the capacity necessary to fully implement it. According to a staffing report in 2019, there is a 14.49 percent vacancy rate across all city departments.[56] This shortage has consequences for city workers and residents alike, resulting in an overworked staff and underperforming city services. In 2019, the city's unions came together to call attention to the toll these critical shortages were taking on workers and city services (see insert).[57] Importantly, as shown in Table 3, some of the most understaffed departments are those chiefly responsible for leading the city's resilience efforts.

[53] Disadvantaged communities are defined as the top 25% scoring areas from CalEnviroScreen along with other areas with high amounts of pollution and low populations. This definition was developed by CalEPA pursuant to SB 535.

[54] City of Oakland. 2019. *Draft Oakland 2030 Equitable Climate Action Plan (ECAP).*

[55] Oakland City Council. 2018. *Resolution Endorsing the Declaration of a Climate Emergency and Requesting Regional Collaboration on an Immediate Just Transition and Emergency Mobilization Effort to Restore a Safe Climate.* Resolution 87397.

[56] Appleyard, I. 2019. *Semi-Annual Staffing Report.* City of Oakland Human Resources Management Department.

[57] SEIU Local 1021. 2019. Oakland City Workers Fight to Fill 600 Vacant Positions.

Table 3: City of Oakland Vacancies, by Department

Department	# Authorized Positions (FTE)	# Vacant Positions	Vacancy Rate
Transportation	317.04	73.75	23.26%
Public Works	634.57	118.02	18.60%
Planning & Building	172.50	31.00	17.97%
Fire	612.10	83.20	13.59%
Human Services	239.93	30.60	12.75%
Parks, Recreation & Youth Development	227.69	26.71	11.73%

On September 25, 2019, Oakland city workers from SEIU Local 1021 and IFPTE Local 21 picketed outside City Hall.

"We're severely understaffed, and have more than 600 vacant positions. That's 600 people who are not filling Oakland's potholes, preventing residents from getting evicted, paving streets, or helping our homeless population. We're doing the work of 2 to 3 people, sometimes 4 or 5. And we're underpaid. But we stay because we love Oakland."

Felipe Cuevas, City of Oakland heavy equipment mechanic and SEIU 1021 Oakland Chapter President

Public sector workers provide social services that are crucial for resilience. Understaffed city government offices are left unable to fulfill their duties, undermining the effectiveness of government programs and creating gaps in the social safety net. These gaps become exacerbated during crises when the most vulnerable are also the least able to access resources.

Position vacancies tell only part of the story, the city of Oakland must recognize its need to increase staffing in departments that address the social determinants of resilience such as housing, food, and economic security. These departments include the Department of Human Services, Libraries, Recreation and Parks, and those responsible for maintaining our roads, buildings, and other physical infrastructure. These departments are struggling to meet their current duties; it is unreasonable to believe they will be able to achieve ambitious resilience goals unless current staffing needs are met. In fact, it is likely that these departments will need additional staff. While creating Offices of Resilience demonstrates commitment to city resilience efforts,

comprehensive community resilience will require integrating resilience across all departments. Without the necessary staff for implementing climate and resilience actions, ECAP will become only a plan for actions never taken.

Resilience in Alameda County

The county is responsible for delivering many resilience services. The County Department of Public Health delivers programs and services directed at addressing the social determinants of health; the Social Services Agency administers IHSS and promotes the economic and social well-being of individuals, families, and communities; the General Services Agency oversees the county's sustainability and climate resilience efforts. The public sector workforce is vital to community resilience; expanding these departments would ensure that a robust resilience workforce is in place before disaster hits.

Snapshot: Public Health Nurses

As of January 2019, Alameda County is estimated to have a population of 1,669,301. In keeping with best practices of one public health nurse per 5,000 people, the county should employ at least 334 PHNs, but it currently budgets for just 117 (21 are vacant).[58]

Snapshot: In-Home Supportive Services (IHSS)

Like the rest of California, Alameda County also faces an aging population. In the next 10 years, the population over the age of 65 is expected to increase by almost 43 percent, from 272,484 in 2020 to 388,759 in 2030. This increase will put significant strain on public health and aging services.[59]

Currently, the county estimates an average monthly IHSS caseload of 25,608 (about 9.4 percent of the senior population). If that ratio stays constant, we can expect a monthly caseload of 36,543 by 2030, requiring more than 9,000 additional IHSS workers in Alameda County alone.[60]

The county has recognized the funding challenges that the IHSS program presents. In its 2019–20 proposed budget, the county said of the IHSS program, "In addition to increased costs driven by caseload growth, counties will also assume a larger share of costs associated with provider wage increases due to changes in the cost sharing formula in future years. Without additional state relief, growing IHSS costs will continue to be a significant concern."[61]

SEIU 2015, the union for IHSS workers in Alameda County, views this crisis as more than a numbers game. Increasingly viewed as an essential workforce in crisis, especially in the COVID-19 pandemic, the union is calling on counties, including Alameda, to join with them in advocating for better wages, benefits, safety protections, and training to meet the challenges that lie ahead.

[58] Email conversation with Nicholas Peraino, SEIU 1021 Research 8/31/2020.

[59] California Department of Finance. State Population Projections (2010-2060).

[60] Uses ratio of 0.83 of IHSS workers to consumers as calculated in Thomason, S. and A. Bernhardt. 2017. *California's Homecare Crisis.*

[61] Muranishi, S. S. 2019. *Proposed Budget 2019-20.* County of Alameda.

PUBLIC SECTOR RESILIENCE RECOMMENDATIONS

Recommendation 4

Reinvest In and Grow the Public Sector Workforce

The public sector is responsible for delivering services that build community resilience, but currently lacks the capacity to take an active role in bringing these services to the community. Many cities and counties in California have developed robust climate action and resilience plans, but achieving those goals will require a significant expansion across key departments. City and county governments need increased staffing to implement resilience measures and play a major role in equitably allocating resources, providing needed services, and facilitating local resilience networks.

Components:

1. **Prioritize public health services.** Best practices for public health services indicate the need for a broad expansion of public health workers. Local governments should prioritize expanding their public health workforce and formalizing roles for community health workers.

2. **Stop sacrificing community resilience to balance the budget.** City and county governments have high vacancy rates in departments that are crucial for building resilience. These roles are already accounted for in their budgets, and the commitments to fill these positions must be kept. Work collaboratively with unions to develop strategies to recruit, develop, and retain staff.

3. **Identify critical department staffing necessary to meet resilience goals.** Local governments in concert with community members need to determine what it will take to meet the climate action and resilience objectives and build the political will to adequately fund these programs prioritizing support for vulnerable populations.

4. **Create career pathways and workforce development programs** targeted to the communities served. Programs such as the California Workforce Development Board's High Road Training Partnerships[62] could be leveraged to support increased resilience training and skills development. The resulting workforce will reflect the values and lived experience of those served, and in so doing will be a community economic multiplier improving the quality of services, and building economic security.

Recommendation 5

Improve Emergency Response Coordination to Protect Vulnerable Communities

Governments at all levels must improve their planning and coordination to protect AFN individuals and vulnerable populations. The state should play a leadership role in directing guidance and resources, but local governments must improve their assessments of vulnerable residents and ensure assistance for all who need it.

Components:

1. **Improve State Guidance to Local Governments.** Cal OES must provide more robust guidance to local jurisdictions, and develop standards and periodic reviews of local emergency management plans.

[62] https://cwdb.ca.gov/initiatives/high-road-training-partnerships/ accessed Aug. 12, 2020.

2. **Increase Funding for Listos.** The Listos California campaign has demonstrated positive impacts, allowing community-based organizations to train staff, hold outreach events, and aid in planning for emergency preparedness and response. The state should increase funding for Listos California and similar initiatives targeted toward vulnerable populations.

3. **Develop a comprehensive approach to protecting medically vulnerable populations.** Convene the workgroup established by the governor in October 2019[63] in the midst of the Public Safety Power Shutoffs to develop a comprehensive strategy to make sure that no one who needs life-sustaining electricity is left in the dark. This workgroup was understandably waylaid by the COVID-19 emergency, and the problem and its potential consequences are even more serious in the context of the pandemic. The published resource guide[64] is a good down payment on this commitment.

[63] https://www.gov.ca.gov/2019/10/26/governor-newsom-announces-new-partnerships-and-tools-to-help-californias-most-vulnerable-residents-during-power-shutoffs/ accessed Aug. 13, 2020.
[64] https://www.chhs.ca.gov/blog/2019/10/25/public-safety-power-shutoffs-resource-guide/ accessed Aug. 13, 2020.

LESSONS FROM COVID-19

The coronavirus (COVID-19) has shown the many ways in which our current health care system and social safety net are inadequate. To be clear, the coronavirus did not break the system; it exposed the ways in which it is already broken. This is especially true for our society's most vulnerable populations. Those with the least capacity to withstand serious illness are often the same who are most exposed to risk. Precarious low-wage workers without paid sick leave continue to show up to work while more affluent workers telecommute from home; outbreaks run rampant through prisons and nursing homes; ICE raids proceed amid the pandemic. These calamities reveal the need for systemic change. They also highlight the central role of community resilience in times of crisis.

COMPREHENSIVE COMMUNITY RESILIENCE

Although COVID-19 is not a climate disaster, it demonstrates how all disasters exacerbate inequality. Like any crisis, the impacts and risks depend on who you are and where you live — whether you have a good job, access to health care, and stable housing. The ongoing impacts of climate change only threaten to worsen health and economic conditions.

Community resilience measures anticipate increasingly severe and frequent disasters due to climate change, but those same measures would protect individuals and families in the current health crisis. The point of community resilience is not to predict and prevent specific threats; it bolsters community capacity to respond to any shock. If scaled throughout the state, Resilience Hubs and In-Home Resilience programs could be a vital part of emergency response.

The Role of Resilience Hubs

A statewide network of Resilience Hubs would have the resources, training, and capacity to quickly and efficiently transform into emergency response and recovery centers. As services falter during the pandemic, some cities have responded by converting public facilities into emergency centers for child care, food distribution, and medical treatment. Although these efforts are laudable and timely, they have also been ad hoc and disjointed. Rather than scrambling to convert facilities for new, unintended purposes, a network of Hubs would be ready to provide essential services throughout the state.

The Role of In-Home Resilience

In the face of a crisis where social distancing is a top priority, the COVID-19 pandemic highlights the need for In-Home Resilience. Individuals and families must have safe homes for shelter, and frontline workers must be protected while continuing to perform essential labor. This includes improving housing and energy security, empowering home care workers, and expanding the public sector workforce.

Improve Housing and Energy Security
While an inconvenience for some, directives to "shelter in place" can decrease safety for those with inadequate, crowded, unhealthy, or unstable housing, or those currently unhoused. Housing disparities have been compounded by widespread loss of income, causing many vulnerable populations to fall behind on payments for rent as well as many basic services such as electricity, water, gas, and internet. This underscores the urgency to guarantee basic needs to all residents through anti-displacement protections like just cause and rent control, guaranteed energy

provision, and proactive efforts to improve housing quality through retrofitting, weatherization, energy efficiency, and construction of high-quality affordable housing units.

Empower Home Care and Nursing Home Workforce

Home care and nursing home workers are the frontline of resilience for many of our most vulnerable populations. COVID-19 is most dangerous for typical recipients of personal care, including the elderly, disabled, and immunocompromised. Because of their physical proximity to others and high exposure to disease, these workers themselves are also among the most vulnerable workers. According to an analysis by The New York Times, personal care aides and home health aides are among the groups of workers most vulnerable to COVID-19.[65] Disturbingly, nursing home workers and residents account for approximately one-third of all U.S. deaths, and nearly half of all coronavirus-related deaths in California.[66,67] Significant measures must be taken to protect care workers and their clients.

- ❍ Train home care and nursing home workers to respond to emergency scenarios.
- ❍ Leverage the care workforce to help coordinate, facilitate, and communicate with local government and other community organizations during shock events.
- ❍ Provide free health and safety supplies to all home care workers to protect them and their clients.
- ❍ Improve wages and benefits during the pandemic now, and in doing so create a new standard for the home care workforce that recognizes them as "essential" now and in the future. This should not be considered "hazard" pay that disappears once the crisis is over, but a first step in creating high road home care jobs that offer family-sustaining compensation and attract more workers to the industry.
- ❍ Guarantee paid sick leave for all workers, which has been shown to measurably reduce virus transmission.[68]

The Role of Public Sector Resilience Services

This crisis has shown the critical importance of public sector workers who provide the social services that form the safety net for our most vulnerable populations. This includes first responders, teachers, nurses, child care workers, and many other frontline workers who keep our communities functioning. A larger and well-trained public sector workforce dedicated to resilience would strengthen communities and increase their capacity for a coordinated and effective emergency response.

- ❍ Increase staffing across all city and county departments to levels needed to achieve resilience goals.
- ❍ Develop protocols to ensure communication and coordination between relevant government departments, including Public Health, Resilience, Emergency Services, and Sustainability.
- ❍ Increase the workforce for frontline public health workers such as social workers, public health nurses, community health nurses, counselors, and educators especially focused on recruitment and workforce development in the communities served.
- ❍ Train public sector workers to respond to a variety of emergency and disaster scenarios.

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CONCLUSION

Climate change poses a threat to all Californians, but it has unequal impacts. While some communities have the ability to prepare and adapt, others lack the resources necessary to protect their most vulnerable populations. This gap, fueled by structural racism and historic disinvestment, leads climate change and climate disasters to disproportionately harm communities of color and the poor. Closing the climate gap requires a comprehensive approach to community resilience. Rather than trying to predict and prevent every possible disaster and risk scenario, policymakers should seek solutions that proactively enhance community assets and build social cohesion. It is not enough to react to catastrophic events when they occur. Resilience is built before disaster.

Although California has recognized the need to proactively promote adaptation and climate resilience, there has been a lack of direct and meaningful state-level investment in resilience for people and communities. In part, this is due to a lack of policy models for scaling community-driven solutions to a statewide level.

This report describes two models for enhancing community resilience — Resilience Hubs and In-Home Resilience — and identifies ways that they can be achieved at scale. Implementing these resilience models will require a robust public sector workforce that can bring services to the community. It will also require an unprecedented investment in California communities.

In the wake of the COVID-19 pandemic, many difficult decisions lie ahead. But those challenges should not obscure the hard truths that this crisis lays bare. The pandemic shows us what happens when disaster hits a society with extreme inequality, an increasingly precarious workforce, an underfunded public sector, and large gaps in the social safety net. It also shows us a path forward to a just recovery.[69] Instead of cutting public budgets, we can invest in public health and social services. Instead of further dismantling the safety net, we can create equity-centered social and economic systems that offer prosperity to everyone. Instead of relying on low-wage jobs, we can recognize and compensate essential workers as they should be and put people to work in high road careers that build resilient communities. In doing so, we will not only recover from this disaster. We will also be ready for the next one.

[65] More than 100 groups including APEN have endorsed a open letter to the governor, Legislature, and the COVID-19 Economic Recovery Task Force with Recommendations for a Just COVID-19 Response & Recovery to Support Resilient Communities calling for many of the recommendations in this report.

ACKNOWLEDGMENTS

The authors would like to thank the following people for their time and expertise from the field.

Nuin-Tara Key
California Office of Planning and Research (OPR)

Kristin Baja
Urban Sustainability Directors Network

Aubrey Germ
City of Baltimore Office of Sustainability

Amanda Steele
SEIU Local 2015

Nicholas Peraino
SEIU Local 1021

Eleanor Prouty
SEIU

Daniel Homsey
Neighborhood Empowerment Network

Roxane Auer
Lumina Research

Natalie Hernandez
Climate Resolve

Susan Shaw
North Bay Organizing Project