Climate Equity LA Series Part 2: Equitable and Community-Driven Climate Resilience in Los Angeles Public Workshop Series (April 2022)



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Introduction

As global warming accelerates wildfires, drought, extreme heat and increased potential for electrical grid outages, there is an urgent need for all Angelenos to be prepared and knowledgeable of how to protect themselves and their neighbors. This is especially relevant for underserved communities who already suffer from disproportionate exposure to air toxics from industrial and transportation sources, lack of green space and tree canopy, poor housing quality, and more limited access to health services.

The Part 2 "Equitable and Community-Driven Climate Resilience in L.A." virtual workshop series was designed to build awareness of climate impacts, discuss multiple strategies for adaptation as well as mitigation, and highlight how community models and wisdom could inform and improve the City's climate resilience investments. This three-part series was constructed to engage participants in discussions on key themes and to solicit their ideas, recommendations, and priorities.

"Top 10 Takeaways" from the Community-Driven Climate Resilience Series

Key "Takeaways" that emerged through the presentations and break out room discussions included:

 Engage Community Residents to Design Resiliency Strategies: "Resilience Hubs" must be guided by authentic engagement and input from the underserved, community residentsincluding those who are currently unhoused. This will assure that the location, operating hours, and services provided are responsive to community needs. Community-based organizations can play a key role in mobilizing their voices. CBOs should be fairly compensated for their staffing to engage their communities.

2. Provide a Wide Range of Survival and Social Services at Resilience Hubs,

including air conditioning/filtration to counter heat and smoke exposure; access to electrical power for charging devices; refrigeration to store medications; medical assistance; and the provision of food/water. Access to mental health, youth services, safe and affordable housing, job development, financial literacy and other services can help with social cohesion year-round, but especially in the event of disaster.

3. Build Community Trust Before Disasters:

Resilience Hubs must win the trust of the community members they seek to serve during times of extreme heat or other climate emergencies. Nonprofit and faith-based institutions who already (and frequently) provide services on a daily, round-the-clock basis, should be considered as potential sites, along with other public locations such as local schools, park facilities, and libraries. Nonprofits are helping their communities to thrive, not just survive, and have built trust and rapport with their neighbors.

4. Strengthen and Expand Localized Social Networks to reach the most vulnerable community members—especially the elderly,

disabled or immigrants—to assure that they are notified of extreme heat, power outages, or wildfire events, and know how to access relief and services.

5. Expand Climate and Disaster Preparedness Education and Training to target essential

workers (e.g., "in home" health care workers, outdoor workers who maintain critical infrastructure, health "promotoras") who have a direct role in saving lives of the most vulnerable populations. Public financing and support should be expanded to implement this concept at scale, while creating new jobs with familysustaining wages.

- 6. Centralize Data Platforms to create a full picture of climate and social vulnerability that can inform disaster preparedness strategies and responses. This database should include existing and planned resilience hubs and community centers and should also consider how to increase access for underserved community members who experience the "digital divide".
- 7. Develop Specific, Localized Strategies to Protect Populations At-Risk from Wildfires, Flooding and/or Extreme Heat including

the homeless, outdoor workers, mobile home dwellers, transit riders, and residents in highrisk zones, including evacuation routes and emergency guidance.

8. Invest in Multi-Benefit Solutions that Advance Equity: Tree planting, increased access to parks and green space, improved and more energy efficient building stock, solar power installations, and free/low-cost transit can all provide adaptation and mitigation benefits that protect physical, social and emotional health and well-being, while addressing social and economic disparities.

9. Address Root Causes of Climate Change

that also exacerbate poor air quality and health/ social disparities. Our extractive economic model relies upon oil drilling/refining, diesel-powered transportation, gas-powered home heating, and fossil fuel-powered electricity generation that not only increase GHGs, but damages human health. These processes are enabled by historic and systemic racism, such as redlining practices, and must be addressed to fully solve the climate crisis.

10. Build Multi-Sector Partnerships that can deliver greater information and language access, program accountability and effectiveness.

Planning and Preparation for the Climate Resiliency Series

The design of the Community-Driven Climate Resiliency series mirrored the design and structure that was created in Part 1 of the Climate Equity LA series. A collaborative process was developed by a Curriculum Design Team that included both CBO and NPO Anchor Groups and other city, county and academic practitioners. The Design Team met twice, after individual interviews were conducted by CEMO and Liberty Hill staff to surface key themes. Design Team partners emphasized the need to highlight work already underway in communities. By featuring key community-based programs and strategies, we could help to expand investments and build on lessons learned to address climate resilience. This emphasis especially shaped workshops 2 and 3.

Preparation for Part 2 on Climate Resiliency similarly identified key speakers, panelists, and case models

of community climate resiliency in Los Angeles. In addition to the coordination of panels, breakout sessions, and engagement strategies, there was also a greater effort to translate all presentation materials into Spanish in response to the Curriculum Design Team's identification of language justice and access as a key area for growth. CEMO and Liberty Hill staff played the role of lead coordinators, including preparatory sessions with speakers, coordination on translation and facilitation, and organizing Breakout Group Discussions and questions based on discussions with panelists and Curriculum Design Team members. were present throughout the Building Decarbonization Series. This series, however, attracted stronger turnout by the CBO Anchor Groups (previously defined in Part 1 of the Building Decarbonization Report) who brought out community members to discuss and share on the impacts of climate hazards and pathways towards climate resiliency. The graph below shows the distribution of participation by category and across each workshop conducted on April 7th, 14th, and 21st.

Workshop Series Attendance

The Community Climate Resilience Public Zoom workshop series engaged a total of 255 unique individuals, including many of the same groups that

FIGURE 13. Overall Participation in CELA Part 2: Community Climate Resilience



Workshop #1: Introduction to Equitable Climate Resilience (April 7th, 2022)

On April 7th, 2022, Workshop #1 took place from 6 p.m. to 8 p.m. on a public zoom. This first workshop provided an overview that defined climate resilience and vulnerability and provided background on the significance of social infrastructure (or social "networks") for determining communities' adaptive capacity to disaster. In addition to the key objectives for the Part 2 series, this workshop also aimed to: 1) identify a shared definition of resilience and vulnerability; 2) center communities at the frontline of climate impacts as experts in adapting to and planning equitable pathways towards climate resilience; and 3) build an understanding of the exacerbating role of climate hazards on pre-existing social inequities such as poor air quality, exposure to toxic contaminants, and lack of access to health care.

Similar to the Part 1 series, Workshop 1 featured opening remarks from the CEMO Director, Marta Segura, who described the CEMO "Blueprint" as a framework to construct equitable policies centered on the experiences of frontline communities through the Climate Emergency Mobilization Commission and the Equitable Climate Action Road Map. Marta Segura also provided a brief presentation on "Communityled Climate Resilience, Co-Benefits, & Justice". This introduction highlighted the purpose of the Part 2 series in showcasing community-driven models of climate resilience and adaptation. Often these are issues that communities have organized around for years, either directly or indirectly, such as the current work to link local environmental health hazards with larger climate impacts, like oil drilling. Community models are often shaped by co-benefits that address

not just a single need, but multiple community needs such as shelter, public health, food access, and mobility to name a few, and which in turn help create wider buy-in.

The following speakers participated in Workshop 1 roundtables and panels:

- Terilyn Chen, Resilience Policy Coordinator of the Asian Pacific Environmental Network (APEN)
- Alison Frazzini, Sustainability Program Director of the County Sustainability Office (CSO)
- Lyn Stoler, Associate Director for Strategic Initiatives of the UCLA Center for Healthy Climate Solutions
- Laura Gracia, CARE Program Coordinator of Communities for a Better Environment

Presentation Summary

Workshop 1 was structured with four presentations focused on definitions and frameworks to understand climate resilience. These presentations were followed by Breakout Group discussions that involved all participants, with a few facilitators sharing key takeaways from their groups before adjourning. Spanish language interpretation was provided throughout by Interpreters Unlimited, while Zoom technology and coordination support was provided by Liberty Hill and CEMO staff. All materials for Workshop 1 can be found in the following hyperlink.

Terilyn Chen from the Asian Pacific Environmental

Network (APEN), a Bay area-based organization involved in state and regional climate policies, opened up the first workshop by providing a background on disaster planning and the "Climate Gap", defined as the unequal impacts of climate disasters and their role as a threat multiplier. Included in this report was a background to community resilience, and how risk was measured and mapped before a disaster. Below are some key points made during the presentation:

- Community resilience can be defined as the ability of communities to withstand, recover, and learn from climate impacts to strengthen future response and recovery efforts.
- Key to strengthening community resilience was the social infrastructure in place to provide services to promote economic, health, cultural and social well-being of the community, and the physical infrastructure to support those services.
- Resilience is built before disaster. Some principles that ground equitable community resilience are building strong public and community institutions, targeting solutions to communities with the least material resources, ensuring equitable economic development through high road jobs, and democratic community-led planning.
- Community resilience centers are spaces for communities to access services, gather together, and organize, and are not meant to activate only during disasters but on a daily basis. These buildings play a role in the daily life of community members, such as libraries or schools, and can offering cooling and other services.
- There are other needs that cannot be fully addressed by resilience centers. In-home resilience resources, such trained homecare workers for the elderly and disabled, as well as

trained public sector workers who can respond to crises and help communities stay in place, are also needed.

- One of APEN's key research findings was the abundance of climate data and tools, even though there are still some gaps in available information. There is still the need for a centralized climate vulnerability mapping platform that creates, or centralizes, a multifaceted set of indicators to inform the general public, while serving as a streamlined, actionable framework for policymakers and other decision-makers.
- Through community engagement and conversations, the state Office of Planning and Research (OPR) is currently developing a Vulnerable Communities Mapping Platform and the formation of a Community Resilience Working Group.

A second presentation was delivered by **Alison Frazzini** of the County's Chief Sustainability Office (CSO), who delved deeper into the County's Climate Vulnerability Assessment. Frazzini started with a definition of climate vulnerability based on sensitivity, adaptive capacity, and exposure. Specifically, Frazzini defined vulnerability not as an indicator of an individual's weakness or capacity to cope, but rather, as the factors that are almost entirely outside of individual control that put people at higher risk of negative impacts.

- The County's assessment featured multiple engagement strategies, including Advisory Committee Meetings, Public Workshops, Listening Sessions, Key informant interviews, and a webpage.
- These engagement processes helped provide quantitative data across a wide range of indicators

including age, gender, language, education, health, housing, mobility, income, occupation, and race/ ethnicity. This resulted in a social vulnerability index which, when overlayed with disaster risks, provides an overview of the geographic areas and populations most impacted by climate disaster.

- This assessment found that 50 % of the population stated they avoided going outside due to smoke pollution, often in areas where pre-existing health conditions, like asthma, are exacerbated by wildfires.
- Nearly one-third of all mobile homes in the County are in flood risk zones, causing those most in need of disaster services to lose access and mobility to services.
- Extreme heat especially targets susceptible populations and workers who work outdoors, with more than one-quarter of heat-exposed workers in LA County citing a lack of protections from heat illness. Many workers also cited a fear of reporting heat incidents and injuries for fear of workplace retaliation.
- The County also found that energy disruption particularly impacted socially vulnerable populations.
- Trees/parks/open spaces were key for adaptive capacity, but their proximity to climate disasters, like wildfires, also made them vulnerable to disruption.
- There is a need to protect workers during climate disasters. Otherwise, there is a risk of creating a feedback loop where workers who are critical to maintaining physical and social infrastructure are harmed by the event and unable to respond to disaster.

Building on previous presentations around vulnerability and climate resilience, **Lyn Stoler from the UCLA Center for Healthy Climate Solutions** shared frameworks around co-benefits in addressing climate resiliency through the overlap of mitigative and adaptive practices.

- In a comprehensive adaptation process, co-benefits are developed when solutions are designed that combine mitigation and adaptation approaches.
 Co-benefits here were defined as "Positive secondary effects of climate response strategies that go beyond greenhouse gas mitigation."
- One example shared was planting trees both for the mitigation of greenhouse gas emissions as well as for the adaptive use of shade and relief from urban heat island effects. Tree plantings can lead to multiple adaptive co-benefits such as reduction of surface temperature, better water filtration, and mitigating co-benefits such as the natural capture and storage of carbon from the atmosphere. Research also found additional benefits to mental health, and reduced physical stressors, as well as positive correlations with youth development and education in areas with access to tree canopy and shade.
- Beyond adaption and mitigation benefits, cobenefits can also include physical health, mental health, education, social well-being, energy conservation, and equity as well.

Rounding off the presentations for Workshop 1, Laura Gracia, the Climate, Adaptation, and Resilience Education (CARE) Coordinator from CBE, expanded on the ways communities have organized and driven climate resilience efforts in Los Angeles. Communities for a Better Environment is a multi-faceted organizing group, based in Wilmington, Southeast LA, and parts



FIGURE 14. Survey results for a resilience hub (Source: Community for a Better Environment, April 7, 2022)

of Northern California, such as East Oakland.

- Frontline communities face both the root causes of climate change through proximity to environmental and industrial hazards like oil refineries and truck corridors, as well as the greatest impacts from climate change, such as extreme heat.
- These environmental health impacts often synergize with disasters, such as acute extreme heat events that worsen the particulate matter in frontline communities and expose them to higher levels of air contaminants. During periods of energy shutoffs or grid blackouts, the elderly and those with pre-existing medical conditions, such as asthma or heart ailments, can especially suffer. Similarly, flooding can also serve as a vector for the spread of toxic materials in communities where oil refineries and other heavy industries have

contaminated soil and groundwater.

- Cumulative impacts from industry and transportation worsen air quality and pose longterm health impacts for areas like Wilmington and South LA, causing them to face high exposure to PM2.5 (particulate matter) and other ozone pollutants.
- Focus groups carried out by CBE with communities in Wilmington and South LA identified lack of physical infrastructure, and cooling relief (such as air conditioners) in older buildings. These conversations led to the development of a cooling center pilot at the Tzu Chi Community Clinic, and another at the Wilmington Senior Center. These sites include additional services like refrigeration for storage of medicine and access to electrical power.

- In addition to resilience centers, Gracia highlighted the need to build community leadership to assure localized, neighborhood care. Some examples included community education (sharing information about resources) and expanding social infrastructure (checking in on neighbors), to DIY practices such as preparing emergency backpacks with items that address the localized impacts of disasters, like air filters for highly polluted areas.
- Following up on the success of these pilot programs, surveys were shared in Wilmington to identify the ideal location for a resilience center and the services it should provide. A total of 123 participants, a majority Spanish speaking households with dependents, shared their climate/ disaster concerns including fear of earthquakes. Though not immediately perceived as a typical climate disaster, this was especially relevant due to Wilmington's vulnerability to liquefaction

Resilience (April 7, 2022)

"Those of us who are low income have to walk in intense heat but while we are suffering those with more resources have access to transportation. Low income communities need more support. We see buses pick up kids from other areas but not for our kids. "

-Workshop Participant

and location of a fault line in the area, and the prevalence of industrial chemicals that could be released.

 These surveys found that priority services for resiliency hubs included material support, such as water, food, access to electricity for phone charging, wifi/communications, access to



FIGURE 15. Participation in the CELA Part 2 Workshop 2:Introduction to Equitable Climate

Participants by Affiliation

medication and medical resources. There was also a need for the City to help provide resources and materials like first aid and earthquake kits.

- Participants also identified the need for trainings on violence de-escalation practices, and year-round services focused on physical and mental health.
- Surveys also found a need to build trust for the location and to assure accessibility. The location of any resilience hub must tap into pre-existing relationships with trusted community institutions, identified through community led processes.
- As a counterpoint to community-driven climate resilience planning, an example was cited of a resilience hub in Texas built without access to transit, in an area that was highly policed by border agents in a primarily migrant community.

In the Q&A session, participants shared their reflections, with key points here:

- There is a need to fund community-based organizations and respond to the concerns community members raise, even if some fears may not fit the traditional definition of a climate disaster (e.g., secondary impacts from earthquakes causing chemical releases or hazardous air quality exacerbated by acute climate disasters). (Gracia, Frazzini)
- Changes in extreme heat affect social behavior and are correlated with higher suicide rates and domestic violence calls. Cooling centers and access to adaptive co-benefits can potentially reduce domestic violence and other mental health crises. Current research at UCLA is exploring the geographic distribution of tweets during heat waves to see if there are behavioral changes that result.

(Stoler)

 Resilience centers do not necessarily look the same across different neighborhoods. Resilience networks are helpful to distribute information, but they don't exist without intention and investment. Sharing information through deeply connected community members, as well as through local collaborations with government, can be alternatives to help identify resources. (Chen)

Though this session had some technical challenges in setting up language channels, there was better and more comprehensive translation of visuals into Spanish. This was especially important considering so many of the case studies and materials discussed were drawn from community experiences and perspectives in managing and adapting to climate risks.

Participation in Workshop #1

Workshop #1 of Community Climate Resiliency brought together 143 participants across a variety of sectors. CBO Anchor members provided the most sizeable group of participants (42), and attendance by individuals affiliated with CBOs was almost a third more than the previous series, a pattern that would repeat throughout the Resilience workshop series. Other represented groups included many government agencies (12) like LAUSD, LA Homeless Services Authority, and the City Planning Department to name a few. Others included non-profit anchors like GRID Alternatives who also actively participated as a design team member; with additional participation from nonprofit groups like the Greenlining Institute, the River Project, and the Climate Center.

After the panel presentations and Q&A session, the participants were organized into 8 breakout groups of

roughly 8 to 12 individuals each, including 1 Spanishonly speaking group. The goal of the breakout groups (BOGs) was to provide participants with an opportunity to engage with others, ask questions about the information they heard, and provide feedback on some key questions. As before, each breakout group was facilitated by a trained CBO staff member, Team member, or UCLA student, and each group had an official notetaker to record key observations and feedback. The BOG discussion notes were inductively coded to identify key themes mentioned by participants. Below is a summary of the takeaways from Community Climate Resilience Workshop 1 BOGs:

1. What factors affect your ability to respond to climate hazards?

Break out group participants mostly identified a lack of understanding and need for clarity related to climate risks and how communities can address these risks. Disaster preparedness was frequently mentioned: participants cited a lack of knowledge, from what to include in disaster kits, to where to find resiliency centers and other resources. Other factors frequently mentioned included:

- Increased financial burdens, especially due to increased energy bills and utility debt. Participants cited the need for rehabilitating buildings to include air conditioning and better temperature control, without which communities cannot withstand extreme heat.
- A lack of trust towards government agencies stemming from misinformation, past harms, and lack of formal structures, were cited as additional barriers. Participants referred to previous community meetings that eventually dwindled in

participation due to a lack of official support, lack of knowledge about relevant resources, and little understanding of which public agencies oversee relevant issues.

- Many identified the need for information and resources to be unique to geographic needs and specific community needs, such as localized emergency escape plans and transit routes.
- The need to include community participation in all planning for resiliency services and resilience hubs so that programs and approaches reflect the needs and ideas of those who most need support.

2. In what ways do you think LA residents face inequities in their ability to cope with climate emergencies and risks?

- Both economic and environmental inequities were often cited together as structural barriers that make communities more vulnerable and less able to cope with climate-induced emergencies. Unequal distribution of hazards (e.g., proximity to industrial facilities and traffic corridors, as well as lack of tree canopy and urban heat island impacts in disadvantaged communities) creates greater community vulnerability to climate hazards. Economic inequities thwart community members' ability to recover or respond to disaster (e.g., lack of money or transportation to evacuate, or to increase use of air conditioning during heat waves due to cost). Many cited the resistance of landlords to upgrade buildings with air conditioning or other necessary repairs, with especially harmful impacts for the elderly.
- Unequal access to resources and infrastructure creates a social, economic, and racial divide.
 Wealthier communities have greater access to

escape routes, alternative shelter, and emergency resources compared to many poorer communities in LA who are disconnected and "stuck" in their neighborhoods during climate-related events.

 While social inequities were clearly recognized, participants also highlighted extensive social networks that were seen as holding strong adaptive potential where neighbors and families can help each other through heat waves, wildfires, and other threatening events.

3. What types of services and resources do you and your community need to help you become more climate resilient?

- Physical infrastructure investments must be informed by robust community engagement and outreach to achieve holistic solutions to strengthen climate resilience. Public private partnerships that provide for deep stakeholder engagement and guidance in identifying and developing both physical and social infrastructure services, were cited as crucial.
- "Promotoras," who are community health educators, along with public health/home care workers (such as visiting nurses, home healthcare workers for the elderly and indigent, and stay at home family members), were mentioned as individuals who should receive training to respond to climate and public health hazards given their trusted status with disadvantaged households and communities.
- The need for coordination with local and trusted institutions--such as local schools, community parks and pools, or churches and other faithbased programs--were frequently mentioned.
 Many of these entities and places already serve

as community centers and trusted spaces for providing daily shelter and services that can be strengthened through increased City support.

 Accountability of elected officials and City agencies was discussed often in the context of increasing access to information and financial resources. Community members expressed the need for greater understanding of how resources were being used and how communities can access them.

FIGURE 16. Qualitative coding of breakout room group discussion

Workshop 1: Factors Affecting Community Resilience and Adaptive Capacity (April 7, 2022)

- Financial and other resources
- Community participation/buy-in
- Community cohesion/social network/trust
- Systemic inequities
- Government action/accountability
- Clarity about the risk and what to do about them
- Individual health/sensitivity



FIGURE 17. Qualitative coding of breakout room group discussion

Workshop 1: Inequities Preventing Community Resilience and Adaptive Capacity (April 7, 2022)

- Unequal access to resources/infrastructure
- Awareness of the risks and how to prepare
- Lack of inclusion or ability to participate
- Underlying environmental/infrastructural inequities/increased exposure + sensitivity
- Underlying economic/social inequities/reduced adaptive capacity



FIGURE 18. Qualitative coding of breakout room group discussion

Workshop 1: Types of Services and Resources Needed to increase Community Resilience and Adaptive Capacity (April 7, 2022)

- Centralized hubs that distribute resilience resources and information
- More accessible information about climate change hazards and responses
- Governmental or organizational coordination/accountability
- Grassroots community outreach/engagement
- Financial resources
- Physical infrastructure



Workshop #2: Community-Driven Climate Resilience, Solutions & Challenges: Case Reflections (April 14th, 2022)

On April 14, 2022, Workshop #2 took place from 6 p.m. to 8 p.m. on a public Zoom titled "Community-Driven Climate Resilience, Solutions & Challenges: Case Reflections." The workshop began with a review of the Climate Equity Innovative Governance Model and the role of community input in shaping a Climate Action Road Map. Segura discussed the context of the Resilience series and the role these discussions will play in conveying the cumulative impacts of climate risks and providing advice on equitable climate resilience strategies and policies. Workshop 2 focused on community-driven projects and campaigns, and stakeholder-led projects that addressed environmental and climate hazards, often through co-benefit models.

Representing nonprofit, community-based, government and neighborhood council leaders, the following speakers participated in Workshop 2 roundtables and panels:

- Veronica Padilla, Executive Director, Pacoima Beautiful
- Lisa Hart, President, Neighborhood Council Sustainability Alliance
- Zahirah Mann, President & CEO, SLATE-Z
- Aaron Gross, Chief Resilience Officer, City of Los Angeles

Presentation Summary

Workshop 2 kicked off with an introduction from Marta Segura about the Climate Equity LA Series and an overview of the role of the Climate Emergency Mobilization Office. As a new office within the City, Segura wanted to provide this important context for new and continuing participants. This session consisted of four presentations highlighting the work already being done and led by communities on climate resilience, followed by a Q&A session and Breakout Group discussions with report backs from a few discussion groups. Spanish language interpretation was provided throughout by Interpreters Unlimited, while Zoom technology and coordination support was provided by Liberty Hill and CEMO staff.

Opening the workshop, **Veronica Padilla of Pacoima Beautiful** reviewed the history of the organization as a grassroots environmental justice organization with active organizing and advocacy on education policy, local planning and zoning, the arts, and public health in Pacoima, Sun Valley, and the greater northeast San Fernando Valley. Pacoima ranks at the 90th percentile of pollution burden, characterized by the high concentration of industry, freeways, diesel truck corridors, airports, and railyards. A group of mothers in the neighborhood saw the impacts of these hazards and wanted to clean up their neighborhood, leading to the founding of Pacoima Beautiful in 1996. Pacoima Beautiful is leading several climate and environmental justice organizing campaigns that were highlighted:

- Many of Pacoima Beautiful's projects focus on participatory design processes where community members identify the benefits they would like to see come out of a project. The Bradley Plaza in Pacoima, for example, reimagined neighborhood alleys through a public community-led design process. The result was a water filtration and collection system to strengthen local water supply, the implementation of native gardens, and the creation of a public space that doubled for both for recreational use and community meetings.
- Community clean ups continue and are helpful means to engage community members on local issues. Programs like Junior Rangers pair clean ups with educational learning and environmental stewardship for young community members.
- Several of Pacoima Beautiful's campaigns focus on local hazardous sites including a local generating station with several instances of methane leaks, as well as the Whiteman Airport which has led to air and noise pollution for nearby communities.
- Organizing around these hazards, Pacoima Beautiful uses community science to hold industry and government accountable. This has included regular monitoring of air quality and soil sampling around the airport with youth and community members who are local experts and stakeholders.
- Community gardens, tree plantings, and plant giveaways are conducted in areas with frequent illegal dumping as part of holistic strategies to address the prevalence of hazards.
- Recently, Pacoima Beautiful has developed several

projects with a focus on extreme heat. At the Fernangeles High School, a mural was made with cool paint to explore the impact of these materials to lower surface temperatures. Other efforts, like "Marty the shade lab", is a robotic intervention used to monitor and gather data on extreme heat conditions in Pacoima.

• Energy needs and equity have been explored through programs like Electric vehicle car shares, connecting community members with free rain barrels, and a Transformative Climate Community grant partnership with GRID Alternatives that assists low-income households in installing solar panels and accessing job training and skills.

A second presentation was provided by **Lisa Hart, board member of the Neighborhood Council's Sustainability Alliance**. Los Angeles has 99 neighborhood councils, with many working to advance resilience throughout the city through community action and advocacy. The NCSA serves as a network within the neighborhood council structure to address climate resilience and sustainability at a local level. The following are key takeaways from Lisa Hart's presentation:

- NCSA runs the "Cool Blocks" program as a way to gather neighbors together to identify how, at the block level, they can organize to identify climate resilience goals including water and energy conservation, disaster preparedness, and infrastructure needs. These conversations occur in neighbors' homes and living rooms, and take place over a 5-month period
- Research has shown that in the Fukushima tsunami and Kobe earthquakes, social connectivity (i.e., strong social ties) was the strongest factor in shaping high survival rates and long-term recovery.

Neighbors rescued each other, checked in on the elderly, and provided quicker first response than official rescue teams.

- "Cool Blocks" was envisioned as a way to develop this social infrastructure and cohesion to prepare for climate impacts. For 2022, NCSA has a goal of recruiting and training 200 Cool Block leaders, with a particular focus on addressing the most atrisk communities as indicated by CalEnviroScreen scores on pollution burden and social vulnerability.
- Cool Blocks is open to both renters and homeowners and provides multiple paths of engagement to address climate issues at a neighborhood level.

Zahirah Mann, President and CEO, of the South Los Angeles Transit Empowerment Zone (SLATE-Z) focused on

the intersection between mobility and community-led climate planning. Slate Z is a partnership of over 100 diverse private and public entities, covering 200,000 residents in South LA, where 30% fall below the federal poverty line. Founded as a strategy to shape the investments in new transit lines and leverage HUD Promise Zone grants, SLATE-Z serves as a conduit for identifying and pursuing community led priorities and needs. SLATE-Z focuses on policy and programs including living wage jobs, fostering small business and local entrepreneurship, investing in education, affordable and accessible transit, and community safety and wellness. Key takeaways from Zahirah's presentation included:

 SLATE-Z's organizing started by fostering an understanding of the impacts of the transit lines on the economic well-being of the community, especially since many residents are highly reliant on public transit. The historical legacies of redlining and the lack of social and physical investments have resulted in these communities being overburdened with poor air quality and suffering health impacts like diabetes, asthma, and cancer rates.

- Working with community residents to access tools that address environmental pollution, SLATE-Z identified community needs and priorities. This work was awarded a Transformative Climate Communities (TCC) planning grant to organize a one-year participatory planning process focused on climate resilience. Done in partnership with METRO, LADOT, MOVE LA and others, SLATE-Z started a pilot program that provided youth with free transit, resulting in the Fareless System initiative for pre-K-12th grade and community college students who can now access unlimited Metro rides from October 2021 through June 2023.
- This work also led to Universal Mobility programs being developed in South LA, guided by a resident advisory council that shapes the project focus and priorities. Drawing inspiration from this experience, parallel councils have been established to focus on resilience hub planning, as well as park access and equity in the Baldwin Hills Conservancy area.
- Informing community members and cultivating discussions is crucial for identifying design challenges in accessing the benefits of a green economy, and in assuring that implementation is shaped by the community, and for community interests.

The final presentation was delivered by the **Chief Resilience Officer for the City of Los Angeles, Aaron Gross**, who provided greater context on city policies and actions on community resilience. Using a broad definition of resiliency, city agencies now focus on a recovery process that has expanded to all city systems and projects. This new framework for resilience includes:

- Current work on a hazard mitigation plan for various disasters that details pathways for activating different response plans, including evacuation routes. These plans will include the location of resilience centers and other relevant information.
- Flood resilience plans across the city are being developed with a focus on equity and the disproportionate impact of climate change on frontline communities. Climate change has been a recurring theme throughout new planning codes and project developments. In the Venice Coastal plan, for example, sea level rise has been incorporated when identifying areas for development.
- Local water measures have focused on capturing and recycling stormwater in LA, enabling greater water self-sufficiency and resiliency, and less reliance on imported water that could be threatened by earthquakes or other emergencies.
- The "Ready Your LA Neighborhood" mapping program connects communities together to identify local assets and resources. Initial pilot programs identified the need to redesign some of these programs to reflect the unique needs of communities, with some groups requesting greater technical/governmental assistance and others expressing interest for a more independent process.
- The Boyle Heights Resilience Hub, the first resilience Hub of its kind in the city and located in the Boyle Heights Arts Conservatory, provides

space for residents to access electricity, cooling, clean water and food, communication and digital resources, and trainings. Boyle Heights is a densely populated neighborhood with high vulnerability to earthquakes due to an older building stock, extreme heat, and poor air quality. The Conservatory is a trusted and familiar community meeting place. As a resilience hub, it also includes a pizza store with a wood-fired oven, a radio station with wider communication functions, and a gathering spot for youth. The partnership includes multiple organizations, such as the City of Los Angeles, LADWP, U.S. Green Building Council-LA, and several others. The Hub was designed through a community participation process that identified potential shocks and stressors and the most needed resources.

Due to a lack of time, the Q/A session with panelists was eliminated and panelists instead participated in Break Out Group discussions.

Participation in Workshop 2

A total of 143 participants attended the workshop, including participants, staff, speakers, and facilitators/ notetakers. The largest portion of attendance came from CBO Anchors (59) who heavily promoted the series to community residents and local groups, many of whom were monolingual Spanish speaking. A total of four break out rooms were organized for Spanish speakers to reflect this increase in demand, compared to the two to three rooms needed in previous workshops. Additionally, a significant portion of identified participants came from Academic groups (13) such as Occidental College and UCLA, and Nonprofit Organizations (NPOs) (11) such as Climate Resolve, Los Angeles Green Ground and the River Project. Participants were organized into 10 breakout groups of roughly 8 to 12 individuals each, including the four Spanish-only speaking groups, to provide an engagement and feedback opportunity. As before, all breakout groups were facilitated by a trained CBO staff member, Team member or UCLA student, with discussion recorded by an official notetaker. Participant comments were inductively coded to identify key themes. Here is a summary of the Workshop 2 comments for each of the three guiding questions:

1. What are some benefits you see from the communitydriven climate resilience solutions discussed in this workshop?

• Nearly half of the participants cited "community empowerment" as a primary benefit of communitydriven climate resilience since it not only shapes the design and implementation of a project, but because it also contributes to multiple co-benefits that sustain long-term community building and improve the quality of life.

- Community Empowerment was often tied to feelings of safety and comfort. Resilience hubs, when driven by residents' needs and insights, could strengthen long-term social cohesion as well as serve as a resource for immediate disaster relief.
- The need for equity-focused planning and programs was also frequently mentioned as a potential benefit. By addressing systemic inequities that have led to greater vulnerability to climate risks, resilience planning could provide multi-benefit solutions, such as increasing park access and shade infrastructure in a single project.



FIGURE 19. Participation in the CELA Part 2 Workshop 2: Community Driven Climate Resilience Solutions (April 14, 2022)

Participants by Affiliation

2. What are some challenges to implementing community driven climate resilience solutions?

- The responses about "Challenges" were much more mixed as demonstrated in the pie chart below. One theme that arose repeatedly was the need for greater financial resources. Investments have been insufficient to address current needs.
- Lack of information, low awareness about available resources, and language accessibility were also mentioned frequently. Information needs to be easy to access, and in relevant languages. Now, language barriers limit the ability to involve communities most affected by climate change, especially as many are non-English monolingual speakers. These communities are often working class, renters, and struggling with utility debt, all of which make it difficult to dedicate sufficient time to track these issues and resources.
- Many cited bureaucratic barriers that often slow down service delivery and redistributive processes. These barriers leave communities struggling to coordinate and access resources and can pose challenges to maintaining community cohesion. While communities often develop their own resources (such as 'tianguis' for collection), distrust is formed when people can't participate or understand the outcomes from their engagement.

3. What are the top two things you think the city should be doing to address climate resiliency in your community?

 Multiple issues were brought up as top city priorities. A recurring theme was the demand for greater government responsiveness and involvement in both services and outreach. "Communities had issues with refineries nearby but they had various solutions. There were many problems but they also asked how they could be solved. We have examples that can show what can be. That's how we will move ahead."

-Workshop Participant

Participants felt that it often falls to communities to provide solutions, and while temporary solutions (like rebates) may address immediate needs, they are insufficient for wider, systemic resilience and a transition to a decarbonized economy.

- Increased green space, parks and trees are greatly needed, and can be significant co-benefits resulting from new stormwater infrastructure and school modernizations. One community member shared that their neighbor had passed away from a heat stroke while they were waiting at a bus stop. Participants viewed bus shelters and other transit amenities as key areas for government oversight, with many opportunities to improve infrastructure for greater climate resilience.
- Addressing these issues requires building community trust and working with pre-existing organizations that hold strong relationships with community residents.

FIGURE 21. Qualitative coding breakout room group discussion

Workshop 2: Benefits of Community-Driven Climate Resilience (April 14, 2022)

- Improved outcomes due to inclusion of community/local knowledge/expertise
- Community empowerment/capacity building
- Equity focused solutions/ distribution of resources/ addressing systemic inequities
- Community/trust building



FIGURE 22. Qualitative coding breakout room group discussion

Workshop 2: Challenges of Community-Driven Climate Resilience (April 14, 2022)

- Lack of time/ sustained engagement
- Other more pressing priorities
- Lack of trust
- Information access/ language barriers/ digital divide
- Lack of financial resources
- Lack of awareness/ interest
- Bureaucratic barriers
- Systemic inequities
- Lack of meaningful engagement/involvement



FIGURE 23. Qualitative coding breakout room group discussion

Workshop 2: Priorities for City Policy for Community-Driven Climate Resilience (April 14, 2022)

- Expand government services/programs /
- Work with existing community organizations and leaders
- Prevent corporate takeover of response / hold corporations accountable
- Listening to frontline communities
- Targeted investment in frontline communities
- Workforce development/ job training
- Expand pollution monitoring
- Increase park/green space equity
- Increase housing equity
- Increase transportation equity
- Divest from fossil fuels/ invest in renewable energy



Workshop #3: Investing in Community-Driven Climate Solutions that Deliver Co-Benefits (April 21, 2022)

The final workshop of Part 2 of the CELA series took place on April 21, 2022, from 6 p.m. to 8 p.m. on a public Zoom, titled "Investing in Community-Driven Climate Solutions that Deliver Co-Benefits". Building on previous workshops that sought to increase understanding about climate resilience and community driven models, this final workshop would expand on the mechanisms and resources that communities and organizations can access to address multiple needs.

The following speakers served as roundtable guests and panelists in Workshop 3:

- Gloria Medina, Executive Director, Strategic Concepts in Organizing and Policy Education (SCOPE)
- Luis Angel Martinez, Climate Adaptation/ Resilience Intern, Communities for a Better Environment (CBE)
- Alex Turek, Director of Strategic Initiatives, GRID Alternatives of Greater LA
- Ben Stapleton, Executive Director, U.S. Green Building Council-LA
- Rachel Malarich, Urban Forest Officer, City of Los Angeles Office of Forest Management

Presentation Summary

Marta Segura opened the final workshop with a land

acknowledgment and review of the CEMO blueprint. This included an overview of the role of the Climate Emergency Mobilization Commission, the history of community organizing in the creation of CEMO, and the purpose of break out room discussions and polls to help identify equitable climate policy and goals. This workshop consisted of a Discussion Roundtable, moderated by Segura, featuring four panelists representing community-based organizations, nonprofit organizations, and city agencies with experience and involvement in establishing Community Resilience Hubs. The roundtable was followed by a Q&A Session, and then a brief presentation by the City of Los Angeles Office of Forest Management. As with all other workshops, the session ended with Break Out Groups and a share back of key take aways from a few discussion groups. Spanish language interpretation was provided throughout by Interpreters Unlimited, while Zoom technology and coordination support was provided by Liberty Hill and CEMO staff.

Gloria Medina, Executive Director of SCOPE, opened the Roundtable with a grounding in the community-based solutions that drive SCOPE's work in organizing in Black and Brown communities in South Los Angeles. Residents of South LA are often excluded from the benefits of economic development and have suffered greatly from the public health crisis of COVID-19. Any conversation about climate resilience needs to be based on the historic inequities and social and economic priorities that communities are currently

facing.

- There is a strong intersection between climate impacts and economic inequity. Without addressing these multiple areas of impact, climate resilience cannot be fully addressed.
- Communities in South LA face multiple struggles and have demonstrated resilience across a range of issues and generations. Presently 9% of Angelenos live in a census tract with the highest rate of poverty, with one-third of those Angelenos living in South LA.
- Residents have shared that it is more difficult to protect their families from heat waves, utility debt, housing pressures, and other economic challenges. Many have stated they face difficulty in accessing emergency resources due to language barriers, lack of transportation, and other issues around accessibility.
- Communities need to have a space where they can cool off, and access electrical power in a black out. Just as importantly, they need a space to share information and develop ideas collectively.
- There is urgency to prepare for climate disasters, but a need for intentionality to ensure that additional burdens aren't placed on communities in developing climate resilience. This process implies key imperatives:
 - Commits to equity so that those most impacted are at the forefront of decisionmaking
 - 2. Uplifts place-based solutions
 - 3. Grounded in democratic processes
 - 4. Includes a collaborative process between communities, local organizations, and city

agencies

5. Addresses historic racism and strategically shifts power dynamics so communities are centered in developing solutions.

Luis Angel Martinez, member of the Climate Emergency Mobilization Commission, organizer. and Climate Resilience Intern at CBE, shared key takeaways from the Wilmington Climate Resilience Hub Survey. These surveys were carried out in 2021 and mentioned in Laura Gracia's earlier presentation in Workshop 2. Key points include:

- Earthquakes were of top concern for the community. Next were refinery flaring events, poor air quality and industrial hazards. Communities like Wilmington face year-round exposure to health impacts from oil extraction, refining, and proximity to freeways and the Ports of LA and Long Beach, with massive goods movement that depends on ships, trains, and diesel-powered trucks. Climate impacts like wildfires and earthquakes only worsen these pre-existing hazards.
- Community members see a pathway to resilience through emergency preparedness and resilience kits that include emergency supplies. These kits have been shared with communities, and have been bolstered by mutual aid partnerships with organizations across South LA.
- As the City seeks to create a buffer between communities and climate/environmental hazards, we need solutions to reflect the unique needs of each neighborhood.

Alex Turek, Strategic Director from GRID Alternatives,

relayed their experience addressing energy equity as

a non-profit organization focused on promoting solar, energy efficiency, and workforce development in lowincome communities. Alex shared takeaways from GRID's experience building the Wilmington Senior Center Resilience Hub:

- Working with the Jaycees Foundation, GRID identified the critical energy loads and needs that the seniors at the Wilmington Senior Citizens Center would need in case of emergencies, including electricity needs for medical equipment, medications, lighting, and communication.
- The design of the energy system was based on feedback from the Senior Center staff and its members, highlighting the need to tailor the physical design and service programs according to community feedback.
- COVID impacted outreach, but there are solar and storage projects in the pipeline that will require ongoing community engagement, especially for communities impacted by blackouts.
- There is a need to prioritize communities who are most impacted and already face environmental and economic impacts. Programs like LADWP's medical baseline policy which subsidizes community members with high utility bills due to medical equipment usage need to be promoted.

Concluding the Roundtable, **Ben Stapleton, Strategic Director of the USGBC-LA**, discussed their work supporting the development of the Boyle Heights Resilience Hub, in partnership with the Boyle Heights Art Conservancy, the City of LA, LADWP, Red Cross, and several others. The following highlights were offered:

• Often there is a strong emphasis placed on the

buildings and physical structure of resilience hubs, but not the people themselves. There is a need to develop trainings about how to leverage preexisting social networks to survive and respond in the event of disaster.

- After multiple surveys conducted with Climate Resolve in Boyle Heights, mental health was identified as a priority issue for community members. In a disaster, resources for physical infrastructure (such as refrigeration and space cooling) may be available, but resources to assist social welfare and mental health are not as prevalent.
- Other important features include clean water access and air filtration, as well as signage to help communities identify where things are located and how they can be accessed in an emergency.

After the Roundtable discussion, panelists fielded questions from participants with Marta Segura facilitating the conversation.

Question: Given the threat of extreme heat in LA, combined with impact of smoke from wildfires in the region, what advice would you give the city to prepare our most disadvantaged neighborhoods?

Gloria Medina replied with the need to implement these actions:

- Prioritize equitable investment: Funding will be pivotal for recovery, but this must be driven by communities to address historical harms;
- Assure a democratic process: and move away from communities being "at the table" and instead, "center "communities at the table. Community residents have deep expertise to share and have

long provided their own solutions to resiliency.

 Listen to Community needs: they ask directly for open space, park access, cooling stations, phasing out refinery pollution, and restructuring utility rates so that people can afford electricity and water supply, especially during emergency issues.

Alex Turek commented that community input to determine the design of clean energy systems and the critical loads that they must handle is fundamental to adequately serve communities and get their buyin. We should not underestimate the impact of lowcost distributive energy systems. Often, large-scale projects take up a lot of time and resources, while low-cost, rooftop solar can go just as far in preparing communities for emergency.

Luis Angel Martinez remarked that Wilmington currently has few cooling centers. Projects need to reflect community needs in both location and service delivery design.

Question: What could be included in a resilience map for resources and buildings for communities?

Gloria Medina commented that we must identify the range of broad impacts that communities are facing. For instance, people often must leave the neighborhood for full access to healthy and sufficient food. Local institutions, such as churches, clinics, and community organizations have built trust and can help to address inequity. Park and Recreation Department swimming pools are also a resource frequently mentioned in breakout room conversations, yet pool fees are often too expensive for families with children.

Question: Do you think there is a future for careers and jobs in the green economy?

Ben Stapleton highlighted that there are many opportunities to create jobs and reduce long-term operating costs while increasing affordability. There is a need to create a pipeline of education and training programs, such as those offered by organizations like GRID Alternatives. We will also see the potential to reduce other costs (like health care) in the long-term if these issues are addressed up front through a cobenefit model. Maybe the challenge for us is how are we making the economic argument and how are we reducing the long-term costs?

Alex Turek underscored that the solar industry is already increasing scale every year, with much of the job training being done by GRID Alternatives in areas like Watts, Wilmington, and other communities with growing interest. It is not just about creating workforce infrastructure in these communities, but also assuring that local communities know about these jobs and how to access them to build job skills and connections to the clean tech industry.

Rachel Malarich, the Forest Officer for the City of Los Angeles, concluded the speakers' program with a presentation on the City's Urban Forestry Management Plan and the role of equity. As the City's Forest Officer, Rachel is focused on implementing urban forest strategies to meet both climate and community needs, working in conjunction with multiple departments such as the Department of Building & Safety, and Parks & Recreation. Key findings, upon which active programs are based, include:

• Tree plantings provide both direct benefits, such as carbon storage, clean air, water filtration, and shade, as well as indirect benefits such as mental

well-being, community spaces, and safer streets.

- Tree distribution is highly unequal in Los Angeles. Mayor Garcetti's Green New Deal has set a goal of increasing tree canopy by at least 50 % by 2028 particularly in low-canopy areas in the San Fernando Valley and South LA.
- The four pillars that guide the City's Urban Forest Management Plan are: 1) Engagement with community members and improving public education especially for residents on private homeowner and rental properties; 2) Preservation to maintain the current tree stock; 3) Planting focused on local ecologies and conditions; and 4) Maintenance of the tree network.
- While trees cost roughly the same amount of time and money to plant and water, the potential

benefits of trees largely differ by species. Large trees, which may provide significant shade and canopy, may cause damage to sidewalks and streets over time, yet smaller trees provide less shade and carbon sequestration. USC's Urban Trees Initiative is seeking to identify how street and sidewalk infrastructure can best be maintained while increasing tree planting along public right of ways.

 Partnerships with City Plants and multiple organizations including Tree People, Climate Resolve, KYCC, and several others led to the creation of the Tree Ambassador Pilot Program wherein 12 community members were trained to leverage community knowledge while advancing job development. Materials are located on the City website for reference.

FIGURE 24. Menti Poll on Neighborhood Tree Canopy from CELA Part 2 Workshop 3 (April 21, 2022)



Rachel Malarich and Marta Segura then engaged in a brief Q&A discussion around efforts to reach a wide range of communities:

Question: Is the purpose of the tree ambassador program to create local jobs?

Rachel Malarich: One of the goals of programs like the Tree Ambassador is to connect communities with basic training in urban forestry and prepare them for this field. City Plants is looking into expanding this program by exposing participants to nursery skills and integrating it with the community organizing that Tree Ambassadors already conduct.

Question: How does your office and the Board of Public Works engage with Indigenous communities and local leaders to identify and design green spaces together?

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Rachel Malarich: We may look further into that in Stage 2 of the Urban Forest Equity Collective, which is a research project focused on equity and the need for additional park space that requires new investments. The Tree Ambassador program features curriculum content focused on Native Los Angeles and the historical role of native plants and practices.

Question: How would you address the tension between neighborhood greening and displacement?

Rachel Malarich: Every neighborhood deserves access to green space, but gentrification and displacement always need to be considered. Therefore, a community-driven co-design process is critical. There are no silver bullets, but every neighborhood needs to consider this balance.

An on-line polling platform, Menti, was used to ask participants about the number of trees in their



FIGURE 25. Participation in the CELA Part 2 Workshop 3: Investing in Community-Driven

Participants by Affiliation

neighborhood, with "1" representing very low density and "5" representing high density tree canopy. The average result was 2.6, just below the mid-point.

Participation in Workshop #3

Participation in the final workshop of the Part 2 Series reflected previous participation trends, with CBO anchor groups making up the bulk of participation with 57 representatives out of the total 127. Additional groups included Academic representatives (11) including LACCD, Occidental College, and University of California Irvine. Nonprofit organizations (10) also participated including the Greenlining Institute, ELACC, and Climate Resolve. City (8) and Government agencies (3) participated and included representation from LAHSA, LA Department of Building and Safety, County Department of Public Works and SCAQMD.

Participants were organized into 11 breakout groups of roughly 8 to 12 individuals each, including 4 Spanish-only groups, to engage participants and solicit their reactions. As before, all breakout groups were facilitated by a trained CBO staff member, Team member or UCLA student, with discussion recorded by an official notetaker. Participant comments were inductively coded to identify key themes. Here is a summary of the Workshop 3 comments for each of the three guiding questions:

Question 1. Who suffers most from extreme heat and other climate risks in Los Angeles or where you live?

 While specific populations were frequently identified based on age and income status, an overarching group named was people without access to air condition/cooling. Participants referred to the synergistic effect of urban heat island impacts in concrete-paved areas like South "The homeless and those without air conditioning obviously suffer the most. We need programs so people can get the right air conditioning, refrigeration, and ventilation. I lived in Lancaster where you had to have A/C in your home. You can go to libraries and all that, but after a while, they want you to leave. We need a permanent solution for people to cool their home. I have asthma, so I can't function in the heat too much."

-Workshop Participant

LA, where the built environment only worsens the impact of extreme heat.

- It was often low-income households, many struggling with utility debt or without access to air conditioning, as well as seniors and children, who were identified as bearing the brunt of heat. For low-income households, the lack of financial resources limits the availability of options to adapt and respond to heat, while for seniors and children, there are greater barriers for selfadvocacy.
- Additionally, participants pointed to those exposed to temperature and climate on the street, especially the unhoused population, as well as transit riders, many of whom wait at bus stops with little to no shade for long periods of time.

Question 2: What types of services and resources do you and your community need to help you overcome the climate and extreme heat risks?

 Greater availability and investment into cooling centers and green spaces is necessary, along with transit access. Cooling centers could also address other needs, like food insecurity, by incorporating food pantries and community gardens. Several commented that during COVID-19, many had to shelter in place amidst intense heat waves. Public spaces like libraries and park facilities were often shut down, leaving many people confined in multifamily apartment buildings that were often older and lacked cooling systems.

- Cooling centers can provide multiple benefits including play areas for children, swimming pools, educational rooms, recreation and sports courts, and other needs. Often, these spaces already exist in the form of libraries, movie theaters, and malls, but they aren't necessarily maintained or made accessible for use as a community cooling space.
- Participants identified a need for greater investment in building maintenance and public infrastructure. Building decarbonization through solar panels and cooling systems can lead to multiple benefits. Developing shade structures at bus stops and using green infrastructure treatments like heat resistant pavement, can also bring multiple co benefits.

Question 3: What are the primary benefits for you and your community of becoming climate resilient?

- Improved public health was most often cited as

 a benefit of community climate resilience and a
 high priority for investment. Many highlighted the
 potential to address a set of community needs
 through climate resilience, from child development
 to reduction in emergency room visits, to improved
 mental health and reduction in chronic illnesses.
- Another benefit is the value of bringing communities together to address these issues.

While the CEMO public workshops were cited as one example, participants also highlighted the need for more community-oriented and public opportunities to address climate risks and build on current work done by trusted organizations.

 Other benefits referenced the services and resources included in disaster and emergency kits, as well as knowledge on how to address climate and other impacts. Many community members work outdoors or are heavily exposed to climate hazards and seek information and resources to better understand and mitigate the effects of these impacts.

FIGURE 26. Qualitative coding of breakout room group discussion

Workshop 3: Most Sensitive Heat Vulnerable Populations (April 21, 2022)

- Seniors
- Low-income households
- Those without cooling infrastructure
- Those with preexisting conditions or a disability
 Renters
- Children
- Transit dependent/ limited mobility
- People experiencing houselessness
- Outdoor workers
- Racial/ethnic minorities



FIGURE 27. Qualitative coding of breakout room group discussion

- Workshop 3: Priority Services and Resources for Heat Vulnerable Populations (April 21, 2022)
- Trees/ green space/ shade structures
- Cooling centers / resilience hubs / pools
- Transportation to green space / cooling centers / resilience hubs
- Regulation / policy change
- Urban design / infrastructure change
- Tenant / worker protections
- Building maintenance and upgrades
- Targetted investment/ financial support



FIGURE 28. Qualitative coding of breakout room group discussion

Workshop 3: Benefits of Climate Resilience Solutions for Heat Vulnerable Populations (April 21, 2022)

- Improved public health
- Flexibility for workers
- Better quality of life
- Emergency preparedness
- More effective solutions
- Cost saving
- Mitigating climate change/ emissions reductions / ecological health
- Community building/ empowerment
- Educational/ knowledge building

