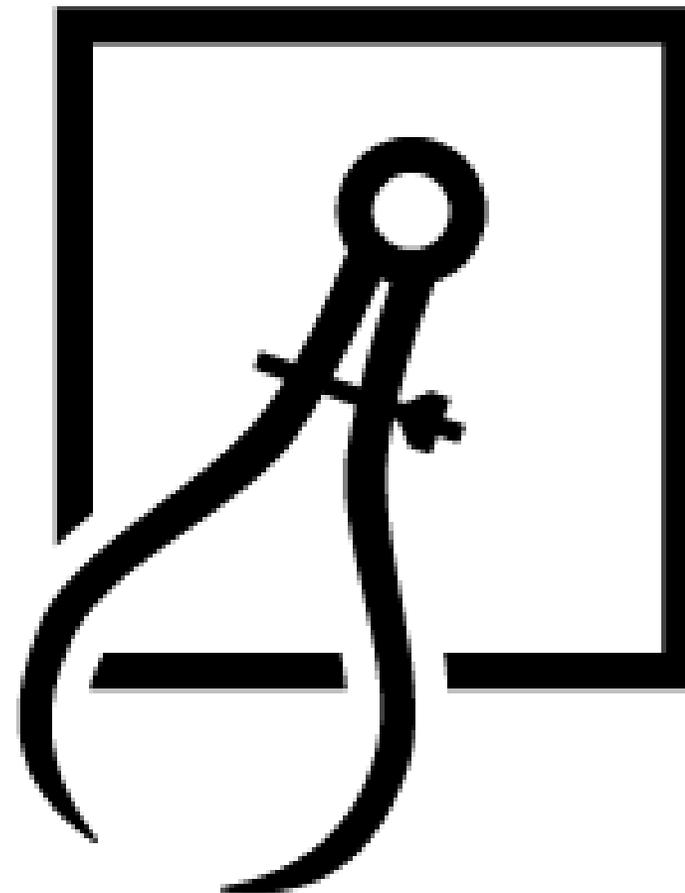


# Fresno State of Mind

---

RESULTS FROM HEAT  
RESILIENCE RESEARCH IN A  
DISADVANTAGED COMMUNITY



CAL-THRIVE:  
California Toolkit for  
Heat Resiliency in  
Vulnerable  
Environment

- There is an urgent need to boost resiliency to heat waves in the built environment
- Especially for California's most vulnerable populations
  - Such as low-income seniors in disadvantaged communities (DACs).
- This interdisciplinary research, funded by CA SGC and based at Lawrence Berkeley National Laboratories\*, will help disadvantaged communities withstand increasingly extreme heat brought on by climate change
- Concurrently, this research aims at reducing greenhouse gas emissions from air conditioning energy use.

# Qualitative research

- The goal was to engage with participants and characterize their homes and households.
- We sought to identify relevant patterns of behavior, cultural, and social influences around undertaking residential cooling measures
- We also looked to assess occupant preferences about building safety, comfort, and functionality
  - (e.g., desire for ancillary benefits, such as noise reduction that may accompany envelope improvements).

# Qualitative Methodology

- The research team collected qualitative data in Fresno, CA via:
  - Home interviews, aka in-depth interviews or IDIs
  - Focus groups
  - Participant observation
- The team focused on both single-family and multi-family residences
- Data was collected to understand residents' needs, preferences, behaviors, priorities, concerns, and barriers to proposed building cooling strategies and coping mechanisms to extreme heat events.

# Themes of research

- Attitudes toward heat waves, passive cooling strategies, cooling equipment options, and use of community cooling centers
- Applying zero-energy, failsafe, passive retrofit measures as well as active cooling measures identified by the research team to cool homes
- Exploring the economic impacts of active cooling measures as experienced by participants, such as electricity rates, rebates, and other related-programs.

# Focus Groups

Four Focus Groups, held the weeks of 12/2 and 12/9 in Fresno, CA

Seniors: 6 owners and 2 renters

Sat General Population: 2 owners and 5 renters

Spanish Speakers: 2 owners and 2 renters

Mon General Population: 5 owners and 3 renters

# IDI's

- Total we have conducted ten (10) in-depth interviews in Southwest Fresno
- All interviewees lived in the zip code 93706 and most lived in the King and Kirk neighborhoods
- The results in THIS presentation are from the set conducted in December 2019, which took place in the home
- The remaining IDIs took place in August 2020, via Zoom or phone, due to COVID 19.
- These are preliminary findings, as research and analysis is still on-going

# Measures

ASKING FOCUS  
GROUP MEMBERS  
THEIR INTEREST  
LEVELS IN  
SPECIFIC  
SOLUTIONS

# Windows and window treatments

Across the board, installing new windows, window shades/overhang, window screens and interior window treatments received the most positive response.

+Blackout shades were almost universally perceived to be useful and something many people had already invested in.

+Solar screens also came up organically within groups and elicited a lot of interest.

-Window blinds were surprisingly unpopular, being seen as onerous to clean

# Windows and window treatments

Interest in measures varied across groups:

Seniors (7:1 in favor) and Spanish speakers (4:0 in favor) had a strong interest in exterior window shades (e.g. shutters)

Seniors (6:2 in favor) and Spanish speakers (3:1 in favor) had a strong interest in new windows

Spanish speakers (3:1 in favor) were the only group with a preference for blinds

# Renters vs. Owners

The total number of renters vs owners across the groups was roughly even (14:13) but the distribution within a particular groups varied.

The seniors were primarily owners

The Monday General Population FG was primarily renters

Interest in measures was definitely affected by the amount of control someone has over the built environment – thus easy to install or remove window treatments like screens or curtains are going to be of more interest to renters than are expensive and permanent solutions.

# Roofs, solar panels

Spanish speakers (4:0 in favor) were the only group interested in cool roofs. Spanish speakers (0:4) were conversely the most negative on solar panels.

Members of other groups may have *investigated* solar, but found it did not pencil out for them:

- Bernardo: We've been talking but when I show how much I pay every month to PG&E, they say no, you're fine.
- Florentino: That's what they tell me.
- Susan: You're fine?
- Florentino: My PG&E bill is low so if I put solar panels, it would cost more than I pay right now.

# Insulation

---

Interest in adding insulation was quite low, most of the groups were majority against, with only Spanish speakers being split.

Three or four participants had added insulation (attics only, not walls) as part of weatherization and they were uniformly pleased, but they were also the only ones in their group voting in favor of it.

Possible cognitive leap needs to be made to association insulation with keeping house cool (as opposed to warm)?

# Weatherization

Nine participants had had weatherization performed on their home either through PG&E or EOC (or both?). Two-three respondents had investigated getting it done.

Spanish speakers: “Nobody was interested in making these improvements with help from the utility company if they had to pay anything...not even paying for them over time in their bill or a small fee.”

Seniors were split (4:4 in favor) with two having had it done. They had the most articulated concerns, including:

- Do not want a trainee/unqualified labor
- Who is responsible for warranty/leaking roof?
- What is the after-market cost for maintaining weatherization

HIGH LEVEL  
INSIGHTS FROM  
BOTH FOCUS  
GROUPS AND IN-  
DEPTH  
INTERVIEWS

# Behavior

# Paying Bills

Monthly bills could range from \$40 to \$800\*...

- Definitely depended on household size, and what people were running (pools, jacuzzis)
- Weatherization reduced bills exponentially

Monday General Pop Focus Group **no one** had problems (General SW Fresno, majority renters)

**All** IDIs had problems, most were in public housing (King and Kirk)

People were quite well informed about options for assistance across the board, but some people are 'masters' of the system

# Local Experts

Each Focus Group contained a 'local expert' – Landon, Janae, Tricia, Craig

- Most of the local experts were African American, even in balanced groups
- Mostly long-term locals, but not always

Expertise appears to be related to position along the lifecycle trajectory/social position

- Craig and the Over 70 resources
- Janae and 8 kids
- Landon as a business owner

# Kinship Networks

A surprisingly large number of renters rent from family members.

This points to the importance of kinship networks in securing housing, and also to the existence of 'supra-household' decision-making units:

- Tanya was 'rent to own' via family connections
- Kevis: Property owner is family. We try but, pretty much my mom, she lives next door. She owns that property so for the most part I just go to her house to cool off if it's really hot because she's got central AC and I don't.

# Multi-generational households

All IDIs are single mothers heading up multi-generational households.

Several folks in FG/IDIs had grandkids, even great grandchildren, living with them, at least occasionally

Getting EOC or CARE requires paperwork not generated by such informal, kinship arrangements

Artist: Planet Asia

Album: Still in Training

Released: 2002

Genre: Hip-Hop/Rap

[https://www.youtube.com/watch?v=O\\_dSjQ1qKrw](https://www.youtube.com/watch?v=O_dSjQ1qKrw)



[Indiciaconsulting.com](http://Indiciaconsulting.com)



[susanmazor](#)



[Facebook/indiciaconsulting](https://www.facebook.com/indiciaconsulting)



[Twitter/indiciainfo](https://twitter.com/indiciainfo)



[info@indiciaconsulting.com](mailto:info@indiciaconsulting.com)



<https://www.linkedin.com/company/indicia-consulting>