

# SCC-IRG Track 1: Socially-integrated Robust Communication and Information-Resource Sharing Technologies for Post-disaster Community Self-reliance

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Award Type (IRG TRACK 1), FY2023-2027, Award No. 2311405



## Project Challenge

Enhance community resilience in disaster scenarios via robust communication infrastructures and information- and resource-sharing technologies.



- Challenges:**
- 1). Identify applications that serve in daily and disaster scenarios for both study areas and beyond.
  - 2). Engage community groups that vary in many ways (urban vs. rural; spatial vs. social networks; place-based vs. distributed infrastructures)

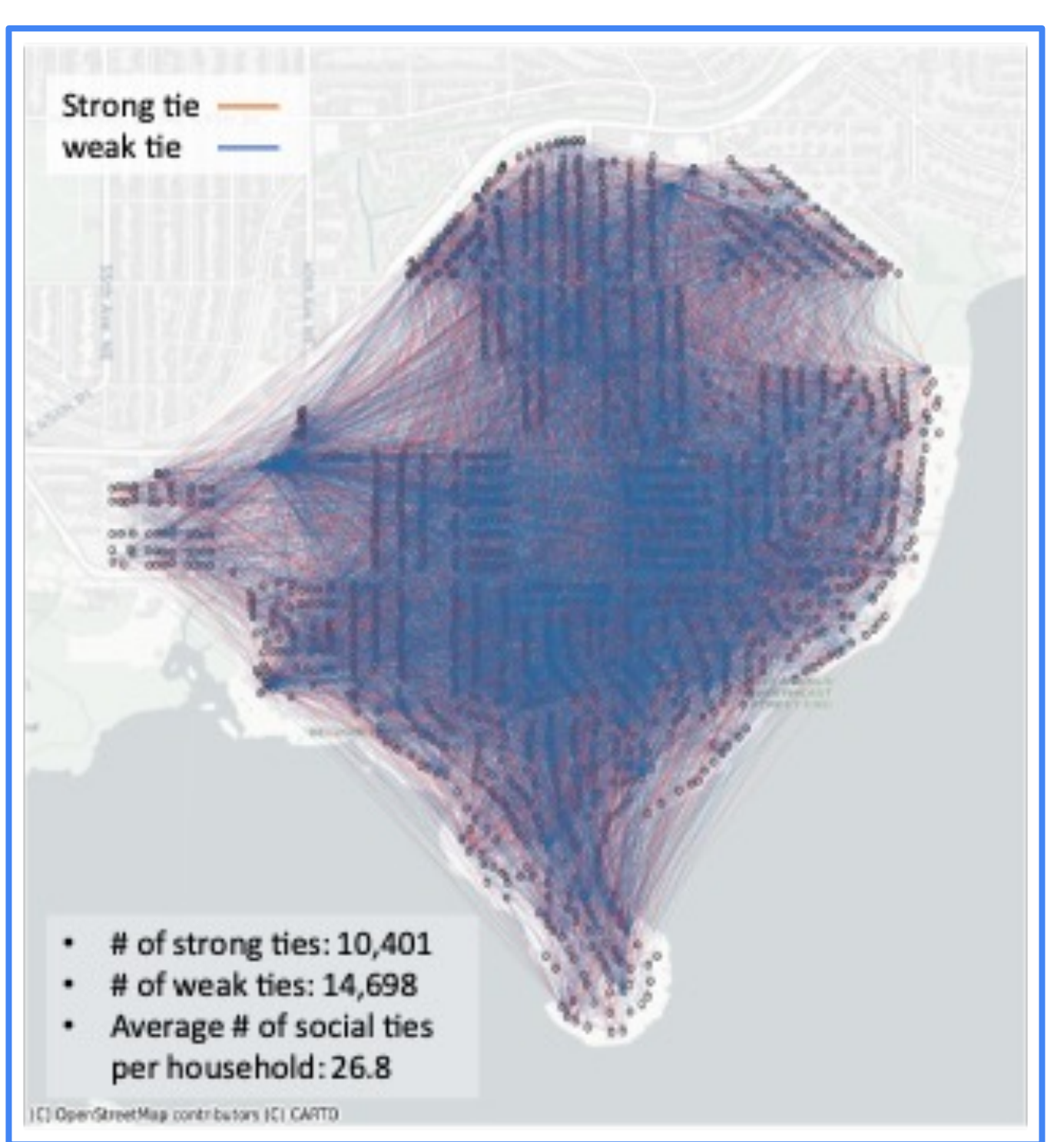
## Intellectual Merit

**Robust infrastructure:** Build open-source community wireless infrastructure and mobile apps that are functional during disasters.

**Place-based data collection:** Develop integrated survey and statistical modeling methods to collect data on resource preparedness and sharing preferences.

**Decentralized sharing mechanisms:** Design decentralized information- and resource-sharing mechanisms; design socially-based interventions.

**Pilot test applications:** Collaboration with two communities to pilot test technologies.



Social network ties in Laurelhurst.

## Major Outcomes/Progress

### Site selection

Sites for wireless network infrastructure were selected with local leaders and community members.



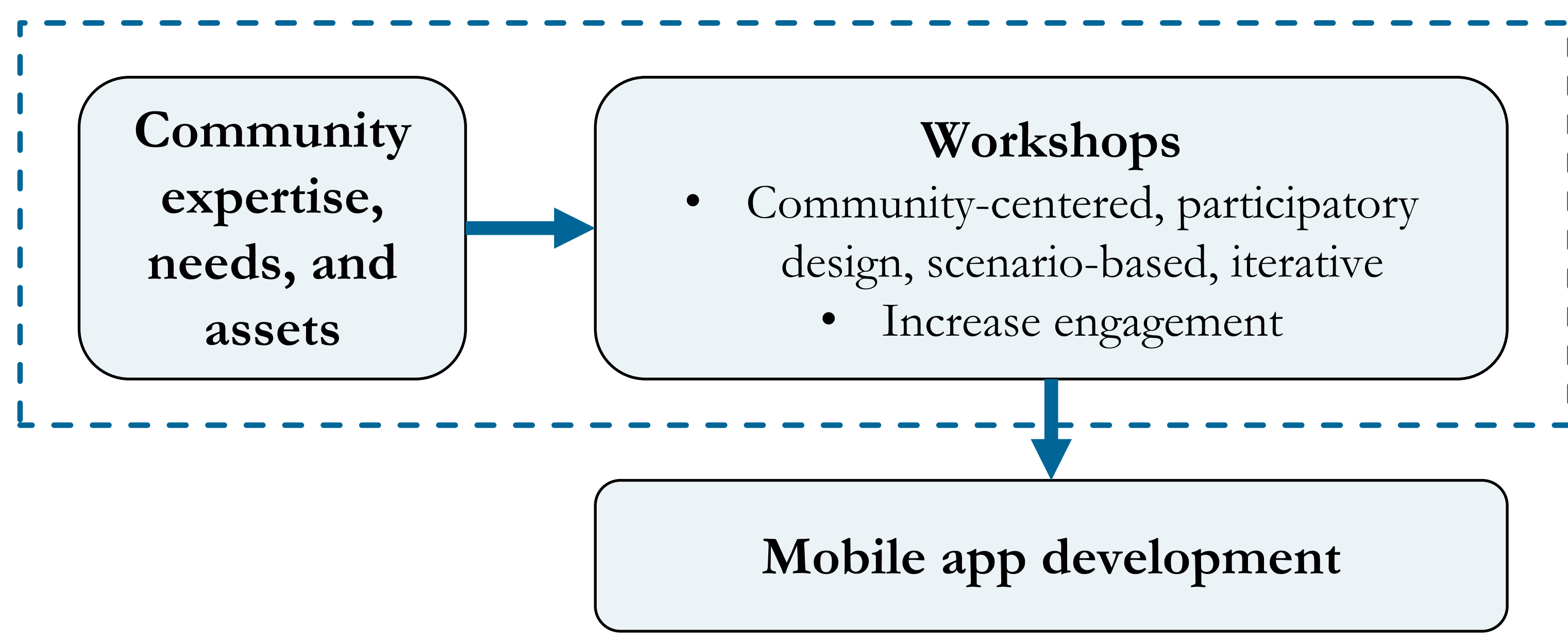
**Westport (rural)**  
Location: various roof sites around the city (such as City Hall)



**Laurelhurst (urban)**  
Location: Villa Academy school

### Community engagement

- Mobile app “daily” and “disaster” function brainstorming co-created with Laurelhurst community.
- Planned series of workshops starting in February 2024, continuing through Summer 2024 for both Laurelhurst and Westport.



### What we have learned

- Peer-to-peer sharing has untapped potential for community resilience.
- Laurelhurst & Westport are very different; developing good application ideas to meet both communities’ needs is challenging.

## Broader Impacts

### Immediate impacts

- Co-design with communities to develop mobile apps for both daily and disaster scenarios.
- Enable communities to utilize local network infrastructure in event of disaster.

### Long-term impacts

- Strengthen place-based social ties and improve sharing outcomes through socially-based interventions.
- Increase community resilience through information- and resource-sharing technologies.



## Future Goals For Next Year

Community engagement will be conducted alongside each of the four thrusts below:

- Robust infrastructure:** Strengthen relationships with community partners; deploy 4G LTE network and provide training for installation and use.
- Place-based data collection:** Design and complete data collection in Laurelhurst (disaster preparedness, sharing preferences, social ties).
- Decentralized sharing mechanisms:** Build models to test decentralized nodes of information and resource-sharing mechanisms.
- Pilot test applications:** Co-design initial app prototype with communities.

# Project Title

Lead PI Name, Lead Institution

Award Type: IRG, EAGER, or PG [NSF Award ID]

Logos for main institutions

## Section Header

Text ....



# Poster Guidance

Please use the template below for arranging your poster. How sections are arranged within the poster is up to the PI's discretion. However, your post must address the following:

**a)Project Challenge** - *describe the challenge/issue being addressed by this project*

**b)Intellectual Merit** – *describe the vision of the project to address the identified challenges and the technical and social advancements resulting from its research and the impact on specific application domains (e.g., transportation, community planning, and health and wellbeing etc.)*

**c)Major Outcomes/Progress** - *describe project activities and research outcomes to date*

**d)Broader Impact** – *describe the immediate, as well as long-term impact on society – who will care and who benefits from the outcomes?*

**e)Future Goals** - *planned activities and expected outcomes in the coming year*

**This scale of this template is adjusted for a 48”(W) x 36” (H) poster size.**

Text should be easy to read and follow. Be mindful of margins.

Use of images/graphics is strongly encouraged. Use high-resolution images.

Please use the fonts and colors used within the template for headers and text.

PI's should print and bring their posters to the PI meeting. **[A digital version of the poster should be submitted at this link by Tuesday, February 6th.](#)**

Reach out to [vsharma@nsf.gov](mailto:vsharma@nsf.gov) and [jkravetz@nsf.gov](mailto:jkravetz@nsf.gov) if you have questions.