

**Integrating Information Flows and Supporting Communities as  
Decision-Makers in Response to Acute and Chronic Stressors  
1952196**

**Katherine Lieberknecht, The University of Texas at Austin  
IRG-2, FY2020**

**Community Partners**

Residents of Dove Springs Neighborhood  
Carmen Llanes Pullido, Go Austin!/Vamos  
Austin!

Frances Acuña, Go Austin!/Vamos Austin!

Marc Coudert, City of Austin

Phoebe Romero, City of Austin

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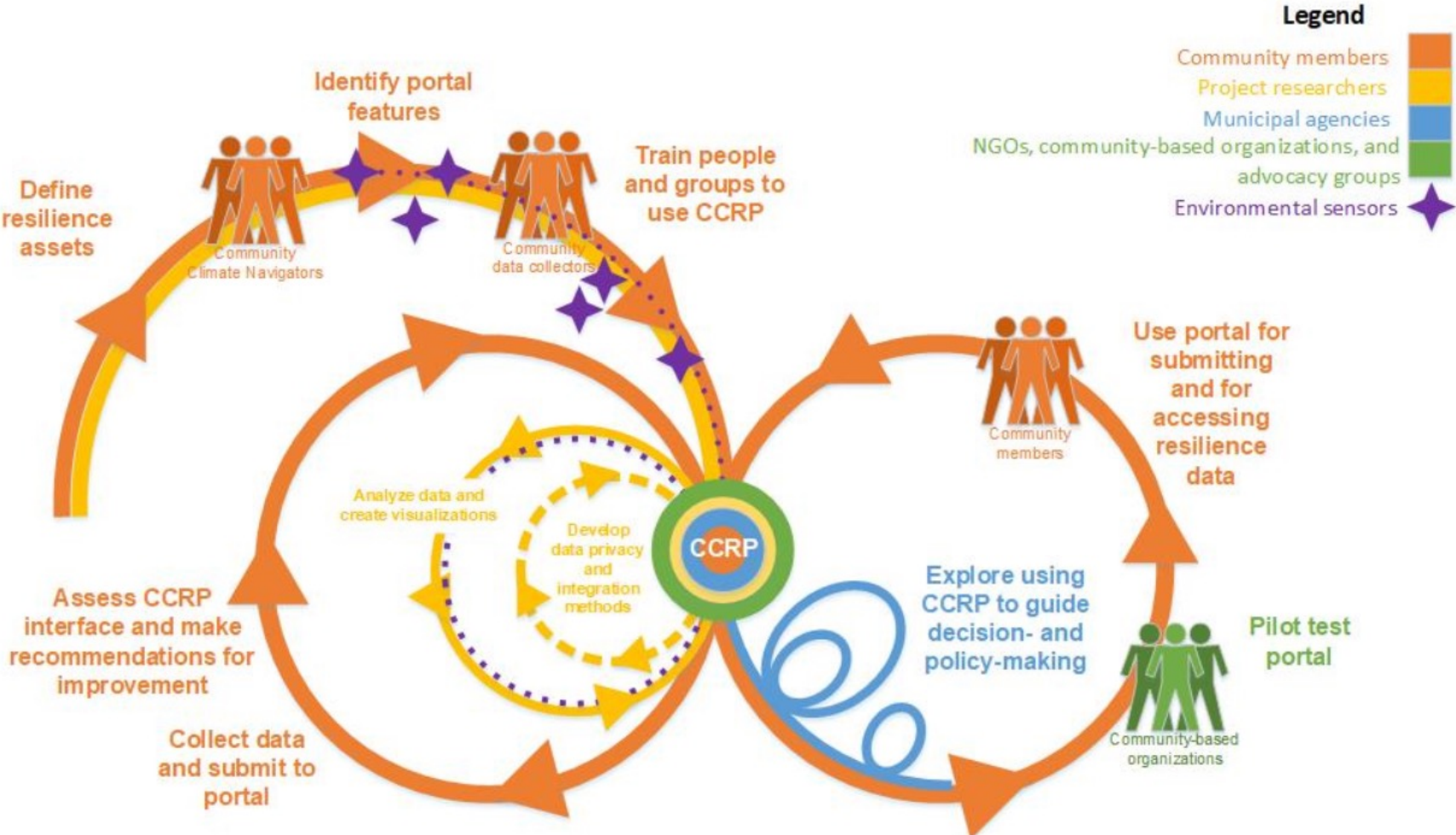
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# Project Overview

## Harnessing Information Flows to Support Community Response to Acute and Long-term Stressors



### Project Vision:

- Produce a community-led, innovative data interface to help residents prepare for acute stressors while building long-term resilience to chronic ones
- Integrate local knowledge with existing data to improve municipal, NGO, & household decision making related to climate & health stressors

# Project Overview



City of Austin

## Use-Inspired Research

With residents of the Dove Springs neighborhood of Austin (TX) and our community partners (Go Austin!/Vamos Austin!, the City of Austin, and St. Edward's University), we identified a community need for an online interface where residents can:

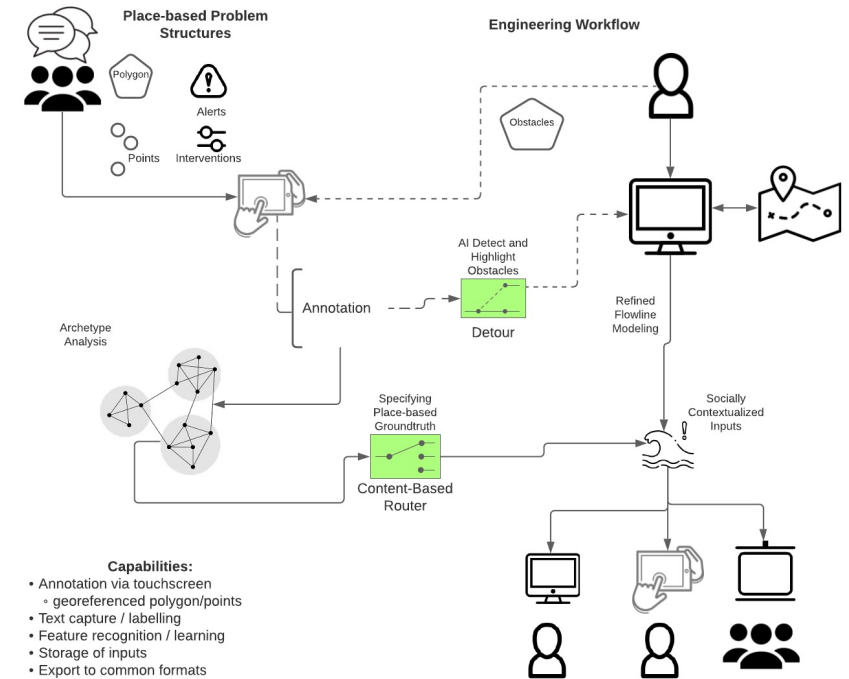
- access information to address acute and chronic stressors (e.g., flooding, food insecurity) &
- share information useful for developing more effective stressor-related policies and programs (e.g., identifying areas in need of more shade to address heat events).

## Fundamental Research Contributions

- a community-led, innovative technological interface to help residents prepare for acute stressors & respond to chronic stressors
- a safe, secure, & private technological system to collect, store, & analyze local knowledge
- a co-developed process to integrate local data into policy and decision-making
- an original knowledge management framework to support planning, policy making, and decision making
- a system to integrate local knowledge into big-dataset integrative modeling critical for developing scenarios to envision & plan for resilient futures at regional and statewide scales

# Project Update

- Outcome: a community-led, innovative technological interface to help residents prepare for acute stressors & respond to chronic stressors. **Sites & Stories template developed.**
- Outcome: a safe, secure, & private technological system to collect, store, & analyze local knowledge. **Will begin after pilot portal developed.**
- Outcome: a co-developed process to integrate local data into policy and decision making. **Reactivated Climate Navigator program (after COVID) and recruitment of additional Navigators; interviews conducted & scheduled; new Navigator trainings scheduled**
- Outcome: an original knowledge management framework to support planning, policy making, & decision making. **Literature review conducted; initial interviews in process; draft knowledge graph produced; City/NGO communications established**
- Outcome: a system to integrate local knowledge into big-dataset integrative modeling critical for developing scenarios to envision & plan for resilient futures at regional and statewide scales. **Early stages of working with TACC, DataX, and MinT; most progress will occur in Year 3 once portal has launched & data have been collected.**

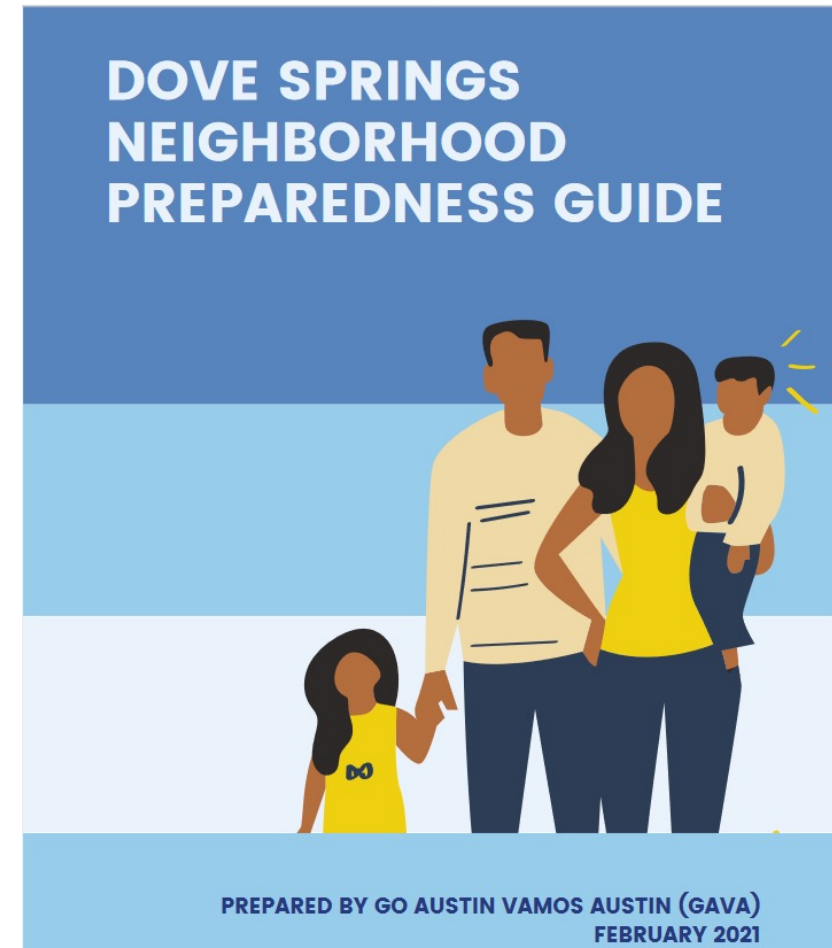


AI-Knowledge Capture for Data Fusion using Place-based and Engineering Workflows; Phase 1 of Sites & Stories Development



# Project Evolution

- In response to COVID, we restructured Year 1 interviews:
  - interviews now virtual instead of in-person;
  - adjusted interview language in response to stakeholder feedback;
  - delayed interviews to account for health and economic impact of COVID on partner community; many residents involved with Climate Navigators program were directly affected by the pandemic.
- We translated our interview questions into Spanish before beginning interviews after learning from community partners that in the past, they have had to translate their surveys into Spanish in real time (i.e., during the interview) because most interviewees spoke Spanish.
- We assisted our community partner, Go Austin! Vamos Austin! in their redevelopment of the Climate Navigator training materials to better meet the needs identified by residents (*Dove Springs Neighborhood Preparedness Guide*).



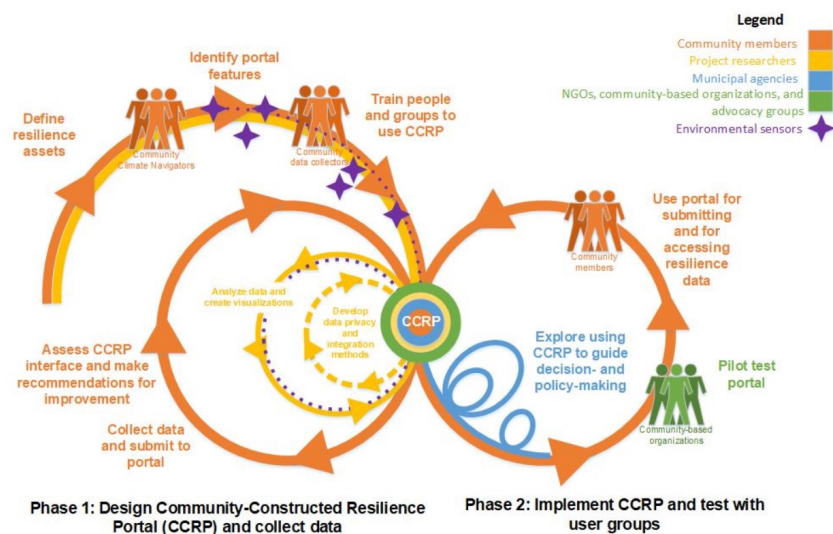
# Anticipated Outcomes & Success Measures for Next Year

- **Finish phase 1 of the longitudinal assessment of community resilience**
  - Conduct additional interviews with Climate Navigators, City of Austin staff, & Go Austin! Vamos Austin! (GAVA) staff
  - Analyze baseline interviews; supplement with context data from A2SI survey & Census
- **Finish & launch Sites & Stories/portal**
  - Hold portal workshop with stakeholders & incorporate design suggestions
  - Finish knowledge graph & design/develop an effective search & faceted browsing tool based on knowledge graph
  - Pilot test portal with Climate Navigators
- **Train 20 additional Climate Navigators**
  - Assist GAVA with recruitment activities online, at grocery stores, places of worship, etc.
  - Work with GAVA to conduct new training sessions
- **Develop & implement data privacy process to secure data collection, storage, & analysis**
  - Develop technical infrastructure & consortium of digital identities
  - Train Climate Navigators to use credentials to upload data/download products to/from portal
  - Train research team to use credentials to access data for analysis

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