Fostering Social Resilience for Flooding Preparedness

Co-designing collective action with Detroit Eastsiders

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Abstract

Today, the Eastside of Detroit, home to a strong social network of neighbors, communities, and organizations, is challenged by serious and frequent flooding. This is a complex issue as it grapples with the systems scale of Detroit's aging infrastructure system and social equity issues, exacerbated by climate change. For Eastside Detroit residents, current flooding preparedness protocol is incredibly individualized. It's isolating and overwhelming and many residents don't feel comfortable asking for help. Through this community-based design project, I co-created three design interventions with residents to shift the status quo of flooding preparedness from individual to collective, and tap into inherent play, joy, and fun in the face of hard experiences. Each design intervention works with three different scales of community power: the neighborhood, the task force, and the organizational scale. Through principles from participatory action research (PAR) this project centers on using co-design to surface tacit knowledge collectively with Eastside Detroit residents. The design interventions adapt the EAST Behavioral Framework to include play to increase resident buy-in for a reorientation to flooding preparedness. Through generating ideas together, social bonds between community members are strengthened, to build collective power for action.The key findings of this project reveal that creativity, fun, and play, though may feel counterintuitive during times of disaster, are crucial to forming social bonds and generating resident-driven novel ideas for flooding preparedness.

According to PG Watkins, facilitator and community organizer in Detroit, "Building power is the science of relationships". While the subject of this project has been flooding, on a broader scale, the impact is designing for resilience through trauma and the human ability to work together and tap into innate joy, creativity, and play, to persevere through hard spaces.

Keywords

East side Detroit, Flooding Preparation, Co-design, Participatory Action Design Research, Social Networks, Collective Action

1. Introduction

1.1 Problem Space: June 2021 Flood

On June 25, of 2021, the city of Detroit received a 1,000 year rainstorm[1], causing the flooding of over 47,000 Eastside Detroit households, with not just rain water, but raw sewage. Power outages swept the city that day, breaking ten out of sixteen pump stations which can move billions of gallons of water per day, with two being on Conner and Freud on the Eastside. This put even more pressure on Detroit's aging sewage infrastructure system that was built in 1886 (Allnutt 2022). During wet weather, too much stormwater can overload the combined system, causing raw sewage to be funneled from the suburbs of Macomb and Oakland County into the Eastside of Detroit. For the city to upgrade the sewage infrastructure system enough to reduce basement flooding, would require a five to twenty billion dollar budget (Allnutt 2022). Many residents reported that the resulting damage caused two to eight feet of sewage water to seep into their basements, destroying washing machines, hot water furnaces, and valuable belongings costing tens to a hundred thousands of dollars in repairs.

The June flood was a social equity and infrastructure issue, exacerbated by climate change. With a median family income of thirty two thousand, Eastside Detroit neighborhoods, home to majority Black and low-income populations, have been some of the most historically disenfranchised in the city. Situated next to the Detroit River and Stellantis plants, Eastside neighborhoods are among the hardest hit by environmental injustice issues like sewage flooding and air pollution in Detroit. The flood of June 25, was not the first flood. It was the third flood that had happened within the span of eight years – the previous two happening in 2014 and 2016. So for many, the 2021 flood exacerbated existing conditions of financial and emotional stress.

The city's Detroit Water and Sewage Department's (DWSD) immediate response following the flood involved dispatching crew members to unclog basins and clear highways like I-94 that completely shut down. However, the Detroit Water and Sewage Department along with the Metro Detroit's regional water authority, the Great Lakes Water Authority (GLWA), faced heavy criticism on their reach in the disaster clean up process. Most residents claimed they received little to no help with clean up or financial help from the city immediately following the disaster.

1.2 Aftermath: Individualized Burden on Detroit's Eastside Households

The reality is that despite flooding being a common occurrence, the preparation and recovery process is incredibly isolating, tedious, and inaccessible. It makes people feel like they need to prepare by themselves, putting the burden on the individual. In addition, not only is the process overwhelming, the information that often exists is in the form of boring checklists and handouts that doesn't actually help residents practice or embody the knowledge of preparing for a flood.

[1] "1,000-year flood" means that, statistically speaking, a flood of that magnitude (or greater) has a 1 in 1,000 chance of occurring in any given year. GLWA's system is designed for a 10-year storm of 1.7 inches of rain falling over an hour.

While the city invested in homeowners repairs, these were allocated to more well-off neighborhoods like Grosse Pointe. Similarly, residents in more low-income Eastside neighborhoods like Morningside and Jefferson Chalmers struggled to receive help from contractors who flocked to wealthier neighborhoods. Residents were told in the immediate aftermath to hold off on removing water and sewer damaged sections of their property until FEMA and insurance representatives could arrive to assess the damage. However, with nowhere else to go, and slow response, black mold and bacteria quickly became a major health concern as it grew in resident's basements. Many residents living in more vacant and low-income neighborhoods reported feeling completely alone and depressed dealing with flooding by themselves. Yet ones who were surrounded by neighbors didn't ask for help because they felt embarrassed (Ramirez and Ruble 2022).

A year later, GLWA denied all 24,000 damage claims it received from residents, citing that it was only liable for sewage backing up in a basement if a defect in its sewage disposal system was the main cause and resulted in property damage or physical injury, according to the state's Governmental Liability for Negligence Act (Ramirez and Ruble 2022). Ven Johnson Law is representing more than 600 clients in a class action lawsuit against local water and sewer authorities, including GLWA and the Detroit Water and Sewerage Department (Afana and Marini). Almost two years later, less than 50% had received requested FEMA claims to help fix their home damages and those that did reported receiving paltry checks that come tens of thousands of dollars short of actual damages (Afana and Marini). On the Eastside which has a heavily aging population, some older adults still wait for assistance, while living in their damaged homes.

1.3 The Case for Social Capital

The flooding preparation process, with its lack of intentional design, is hyper-individualized and overwhelming, yet in a study done by political scientist, Daniel Aldrich, the single most important thing for surviving a disaster, isn't necessarily having all of the proper equipment or resources, but actually knowing your neighbor (Aldrich 2010).

His findings show that during disasters government aid was not the source of survival. Instead, survival was linked to the personal ties and social connections members of a community had between each other. This determined the amount of information people had on when to evacuate or where to go.

1.3 Creativity as a Means to Build Resilience in Times of Crisis

Resilience, a term used frequently in the climate crisis and flooding space, is understood as the ability to bounce back from challenges by adapting to change. Creativity encourages positive emotions that can unlock our inner resources for dealing with stress and uncertainty. According to the "Broaden and Build theory" neurologists have found that when engaged in everyday creativity or pleasurable activities, the brain produces alpha waves, which can help suppress obvious ideas or solutions, and thereby broaden our mindset to try new ideas or experiences

(Fredrickson 2001). Creativity of course is harder to tap into in the wake of crisis and hardship and may not be the first thought that comes to mind in terms of survival. However studies have shown that in times of uncertainty, our most creative thoughts can happen through play.

Play is a powerful experience for developing coping mechanisms for stress and can help alleviate levels of trauma and adversity previously experienced (Solis, Liu, and Popp 2020). A 2001 study on positive emotions done with college students in the aftermath of 9/11 concluded that those who sought our experiences that piqued their curiosity or brought them joy rather than succumb to negative ones were less likely to be depressed than their peers who did not seek such experiences (Fredrickson 2001). They had developed psychological resources like optimism, joy, and tranquility to successfully navigate crises, both personal and national in scale. This thesis posits that social capital, like personal relationships, combined with developing creative resilience through play, spurred by design, can serve as a powerful way to develop creative resilience and reorient flooding preparedness on the Eastside of Detroit.

2. Problem Statement and Research Aims

2.1 Research Question Opportunity

This project seeks to shift the status quo of flood preparation on Detroit's Eastside, which is currently inaccessible and individualized, to a collective model that utilizes existing social connections. Using community-based co-design and the EAST Behavior framework with Eastside Detroit community leaders to create design interventions, this project tested and explored this driving research question:

How might we re-design flooding preparation to be more collective, less overwhelming, and fun, to create collective power for action?

I co-created three design interventions with my community partner, Eastside Climate Action Coalition (ECAC), a resident-led climate advocacy group, to incentivize collective action for flooding preparedness at three different scales of community power from the hyper-local neighborhood scale, organizational, to city scale. Co-design was used at two different phases during the ideation and prototyping phase to create these design interventions with ECAC, as well as testing them with residents to generate new ideas. I co-created these fun, and unconventional interventions because accessing joy, creativity, and play, especially in the face of difficult experiences, is imperative to being generative and building collective power. These three design interventions were conducted as generative workshops.

Design Intervention #1: Cocoa & Comment
This intervention was created with ECAC and tested with twenty five residents at ECAC to unpack the complexities of accessing elected officials through public comment writing in a more accessible manner.

Design Intervention #2: Map Your Neighborhood
This intervention was created with Tam Howard, Community Leader at What About Us and tested with five residents in the neighborhood to design a neighborhood emergency mapping exercise to learn about emergency preparedness and access harder to reach adults.

Design Intervention #3: Water We Gonna Do?
This intervention was created with ECAC and tested with 13 residents from the Flooding Task Force, a group within ECAC, to talk about traumatic flooding experiences through play and generate new ideas.

Eastside Detroit community leaders are inherently creative. Eastside Climate Action Coalition and neighborhood leaders are constantly working with their communities to organize for more equitable flooding protocols and organize for collective action. In addition, the newness of the formation of ECAC as a coalition allowed for the receptivity to new ideas and for this work to take hold. Community-based design that taps into play, intrinsic joy, and creativity can uplift the ingenuity that is already happening for more sustainable action. These design interventions prove that flooding advocacy work doesn't just have to be something that is sloughed through, but rather a space to bring people together, tap into creativity, and still have fun in the face of hard experiences.

2.2 The Social Infrastructure of Detroit's Eastside



Figure 1. Diagram of Eastside Detroit's semi-formal social network.

Eastside Detroit's social infrastructure is often semi-formal and made up of long-time neighbors and community organizations that have been serving their communities for many years. There is a strong history of mutual aid and collective power stemming from elders, many of whom served as leaders during the civil rights movement as organizers and educators, and now guide the youth's generation. Daylighting this social infrastructure, is in many ways simplifying community connections on the Eastside, but it is important to understand how relationality creates collective power.

Individuals who are informally known as "block champions" are neighborhood leaders who serve as the nexus of their neighborhood block clubs and associations, providing resources and information to their neighbors.

Block clubs and neighborhood associations are an essential part of the eastside's social tissue. They are organized groups of residents that are dedicated to sustaining and improving their neighborhoods. Block clubs often are involved with larger community based organizations that provide programming, resources, and funding for local neighborhood projects that build resident leadership capacity. Together, with power in large numbers, and 1 on 1 connections, residents in community organizations can take collective action and push for more transparent and equitable flooding programs and policy from city council and elected officials.

It is important to note that these different scales of community are more fluid than represented – not every individual needs to be a part of a block club in order to be part of a community organization, but generally, these are how different groups across the Eastside are organized.

2.3 Community Partner and Collaborators

For this thesis project, I have been working closely with Eastside Climate Action Coalition (ECAC) for about a year. ECAC is a resident-led program within community organization ECN on the Eastside that pushes for advocacy on climate-related issues, specifically flooding and air quality. ECAC is situated within a larger parent organization, Eastside Community Network (ECN). As a resident driven advocacy organization, it's main goals are information and resource sharing, learning about policy solutions and building advocacy strategies, evaluating existing plans based on racial justice and community health, resident-driven strategizing and planning, building community relationships and networks, community education and outreach, and serving as the arm of ECN that generally guides their climate and health equity work.

During flooding disasters, recovery efforts often fall on local organizations and nonprofits like Eastside Community Network, ECN, for sanitization, basement cleaning, financial assistance, and mental health resources. ECN served as a major resources hub during this time, working faster than the city of Detroit and federal forces like FEMA, to help residents with their immediate needs, replacing hot water tanks and facilitating applications for FEMA claims. As Savana Brewer, Director of Community Organizing and Planning explains, ECN's work is based on what the community needs. "We are really doing wraparound services…because as residents come in for flood assistance, we also ask them if they need assistance with property taxes, whether it's the current year or past year as well as assistance with food, water, and

clothes," Brewer said. In this way, ECN and ECAC have started to become a formally recognized organization in supporting residents in times of crisis.

My two primary partners have been Erin Stanley, *Director of Climate Equity*, and Ricky Ackerman, *Chief Sustainability Officer*. They guide a 12 person resident leadership team, who sets monthly agendas, and a group of about 60 residents who are consistently involved with the coalition. Throughout this project, I met biweekly with Erin to first understand the breadth and depth of flooding on the Eastside, as well as what existing resources and actions ECAC has taken, to inform my design intervention. These standing meetings were a way to keep track of progress and maintain a co-creative process with Erin and Ricky. We worked co-creatively to design Design Intervention #1: Cocoa & Comment as well as Design Intervention #3: Water We Gonna Do?

I collaborated with Tammara Howard, Director of What About Us and Block Club leader of Belvidere Block Club to co-design Design Intervention #2: Map Your Neighborhood. I met Tammara through ECAC as she is an active member in the coalition and I wanted to test collective power at the hyper-local neighborhood scale. We designed the intervention together with my design and visualization expertise, combined with Tam's expertise of her neighborhood, and how to engage the kids that come to What About Us.

I also met my two secondary community partners through ECAC – What About Us Inc, a neighborhood organization for family programming run by Tammara Howard, and the Flooding Task Force, an organized group of residents within ECAC, working in partnership with Wayne State University professors Bill Schuster and Richard Smith on flooding specific issues.

2.4 Project Audience: Stakeholders and Constituents

The primary audience of this project includes Eastside residents that were involved with ECAC at varying levels of community leadership – from block club leaders to residents that were new to ECAC. Each design intervention was designed to specifically meet Eastside residents where they were at in their understanding and experience of flooding. Design Intervention #1: Cocoa & Comment for example, was designed for any resident at ECAC, so I focused on making education about flooding programs and policy and the public comment process more accessible. Design Intervention #2: Map Your Neighborhood's target audience was children, so I designed the experience to be tactile and visual to communicate information easily and quickly to keep them engaged. Design Intervention #3: Water We Gonna Do? was tested with the Flooding Task Force, an organized group of residents who were heavily involved in flooding activism already, so the board game was more complex, detailing specific programs, policies, and resources that already exist that residents would know about.

2.5 Project and Intended Outcomes

This project is a participatory action design research project aimed to test how co-design can reorient flooding preparedness on the Eastside of Detroit from the individualistic status quo by

building social capital and creative resilience through play. This thesis challenges the ineffectiveness of existing flooding preparedness protocol that is described as isolating, tedious, and inaccessible. While ECAC is already very effective at bringing residents together to implement resident-driven ideas around flooding preparedness, there is a real worry about how to keep participation consistent and sustainable. This thesis posits that flooding preparedness that is done collectively and digs into inherent joy and play, will make the process feel less isolating, more accessible, and even fun for Eastside residents.

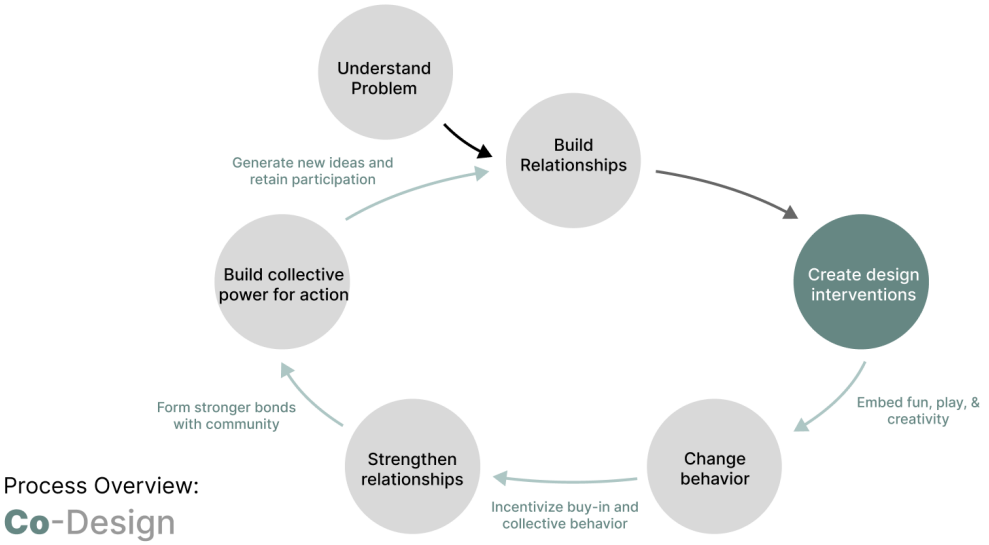

Figure 2. Process Overview: Co-Design

In the co-design space, this thesis aims to be a contribution to the field as it adapts the EAST behavioral framework from the policy space, to the community-based design context by adding play, and therefore, becoming PEAST. Designing the three design interventions to be playful, easy, attractive, social, and timely generates behavior change from not only buy-in to participation, but most importantly collective participation. This in turn, strengthens existing and newly formed relationships which drives the power for building collective action.

While the subject of this work and immediate impact was specifically on flooding, the broader implications point to climate change resilience that is crucial not just to flooding, but any climate disaster, or just everyday life. This project uses emotionally sensitive design to create interventions that foster positivity and collectivity. It enables people to stay engaged and work together through hard spaces. Especially in the climate resiliency space, emotional burnout is a pressing threat, with communities of color carrying the heaviest brunt of the burden, experiencing climate change first hand at a disproportionate rate. Accessing joy, play, and creativity, and doing it with others, is key to keep people showing up to this fight and lessening the load of burnout.

3. Contextual Review

3.1 Current Flooding Protocol

Flooding preparedness and recovery protocol on Detroit's Eastside is overwhelming, individualized, and tedious. A few programs and resources have been developed by federal, regional, and city governments that are a step forward in providing flooding preparedness services to residents. However, broader community engagement needs to be done for these programs to be useful for Detroit's most marginalized communities.

HUD Community Development Block Grant – Disaster Recovery (CDBG-DR)
At the federal level, in October 2023, the US Department of Housing and Urban Development (HUD) allocated $57.7 million to the City of Detroit. The funds are specifically to be used for "disaster relief, long-term recovery, restoration of infrastructure and housing, economic revitalization, and mitigation, in the most impacted and distressed areas" (Almulaiki 2022).In three public hearings held from October 4 to November 4, city authorities presented three ideas of using the grant money that were vehemently opposed by residents. These three proposals included blocking off the canals in neighborhoods like Jefferson Chalmers that serve as an integral culture and livelihood of residents there, or charging residents with the task of maintaining seawalls on their private properties. More than 400 residents angrily protested during that public meeting that day, pushing to cancel them. The three proposals clearly were not informed by the residents nor considered the burden they would place on individual residents to change their livelihoods.

Basement Backup and Flood Protection Program
In February 2022, the City of Detroit announced the Basement Backup Protection program with $15 million dollars in funding from the American Rescue Plan Act. The program aims to help homeowners install backwater valves and sump pumps to help prevent basement flooding in eleven Detroit neighborhoods who have historically been flooded. On the Eastside, neighborhoods Cornerstone Village, East English Village, Jefferson Chalmers, Morningside, Moross-Morang, and Victoria Park are eligible. The city will pay up to $6,000 per household for the installments (detroitmi.gov). However, many neighborhoods are still being left out of the picture. The Goodstock neighborhood for example, is not as large as Jefferson Chalmers, but constantly gets left out of resources and funded programs. ECAC is among many local organizations working to push the city to expand the Basement Backup program to include more neighborhoods in need beyond the eleven listed neighborhoods. In addition, while the Basement Backup and Flood Protection Program is a good start, it covers only a fraction of what residents need to flood-proof their houses. Services the program does not cover but still are much needed include replacing and repairing sewer lateral service lines between houses and the city connection, replacing basement foundations, and reimbursements for residents , many who have taken out loans, to purchase these resources already.

Community Emergency Response Team (CERT) Training

The Community Emergency Response Team, or CERT program is a part of the Homeland Security & Management program led by the federal government, and implemented by cities. The program is meant to educate people about disaster preparedness for hazards that may impact their area and train them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations (detroitmi.gov). The program is voluntary and the idea is that CERT members can then use the training they've learned in the classroom to assist others in their neighborhood during an event when professional responders are not immediately available. The idea behind this program is well-intentioned and aimed more at a local approach. After all, residents know their communities the best, right? But it is not a replacement for the deficiency in regional and city government services. In addition, according to Director of Climate Equity at ECAC, Erin Stanley, she was initially excited about the idea of providing functional training to informal neighborhood leaders that take care of their communities throughout the Eastside. However, after multiple attempts to connect, the CERT program has not kept her updated on when or where these trainings were happening. This also begs the question, who is being recruited for these trainings? There is a real need to close the knowledge gap in flooding preparedness and train up communities. But similar to the CDBG-DR grant and Basement Protection Program, the Eastside communities that need the knowledge the most, are kept out of the conversation. In addition, the CERT program relies on training up individuals instead of building community capacity, reinforcing the burden put on individuals to spread knowledge to their communities. Resources that exist need to be made widely available to all residents so they can work collectively to prepare for flooding.

3.2 Social Infrastructure for Resilience

The Case for Social Capital

Flooding preparation is currently experienced as hyper-individualized and overwhelming, yet in a study done by political scientist, Daniel Aldrich, the #1 most important thing for surviving a disaster, is not necessarily having all of the proper equipment or resources, but actually knowing your neighbor. His findings show that during disasters like, Hurricane Katrina and the Kobe earthquake, ambulances and gov aid are not the main ways that people are surviving. Government interventions can’t bring neighborhoods back, and most emergency responders take far too long to get to the scene of a disaster. It is the personal ties and social connections among members of a community that determine survival. So during these disasters, it was the people who were the most socially connected, or knew the most people, that had the information on where to go, or where aid was.

The comparison of three different disasters, the Kobe Earthquake, Hurricane Katrina, and the Indian Ocean Tsunami demonstrates that recovery is not linked to the scale of destruction or the financial assistance that flows into the country but the social networks that created efficient recoveries. The 1995 Kobe earthquake killed 6,500 and unhoused 300,000 but within a year the city restored all utilities and resumed trade and exports at 80% (Aldrich 2010). The 2004 tsunami in the Tamil Nadu region of India killed 8,000 and unhoused 310,000, one year later, almost all schools were rebuilt, in addition to 75% of the housing stock recovered (Aldrich 2010). New Orleans however, is still not completely recovered, 18 years after Hurricane Katrina.

Although devastating, there were significantly less deaths and damage than the Kobe Earthquake and Indian Ocean Tsunami with 1,600 killed, and 250,000 unhoused. However, it was particularly difficult to get public transportation, hospital openings, child care recenters, and to get rebuilding started.

A social capital deficit was one major factor in why New Orleans did not experience the type of recovery Kobe or Tamil Nadu did despite having $14 billion more dollars from FEMA to recover. “Communities with more trust, civic engagement, and stronger networks can better bounce back after a crisis than fragmented, isolated ones (Aldrich 2008). These social networks can be measured by:

- Levels of trust (in other citizens and government)
- The tendency to spend time and energy on civic duties (voting in local, regional and national elections)
- The ability of citizens to mobilize cooperatively (demonstrations, neighborhood cleanup days, and collective action)

Citizens in Kobe and India mobilized as a community through informal networks in India and self-help groups in Kobe much quicker than those in New Orleans. There was one Vietnamese neighborhood in New Orleans, the Village de L’Est that was one of the only neighborhoods that recovered quickly after Hurricane Katrina due to its dense community networks and high levels of trust, while other neighborhoods stagnated (Chamlee-Wright 2010). Aldrich makes the argument that neighbors and friends – not government agencies or NGOs provide the necessary resources for recovery after a disaster (Aldrich 2008). When disaster strikes, the first responders are not trained emergency personnel, as it often takes too long to get to the scene, but rather local residents and neighbors (Perrow 2007). After the Kobe earthquake, local citizens formed bucket brigades and searched for survivors and after Katrina, local rescuers who had embedded knowledge of the neighborhoods acted much quicker than the National Guard.

It is true that hospitals, food, and life-saving resources for survivors, and physical infrastructure does not guarantee resilience or recovery as effectively as social capital. However, governments still need to provide more effective service to residents. Underserved communities are always the afterthought when receiving resources and funding during disasters and it is crucial that local and regional governments, especially in Detroit, embed better community engagement practices to understand how to more evenly distribute these resources.

If informal social networks are crucial to the survival and recovery of residents after a disaster, it is crucial that these networks are formed ahead of time between community members to also prepare for disasters. Organized communities can better mobilize and overcome barriers to collective action (Olson 1965). Neighbors with greater levels of social capital can share information about bureaucratic procedures. Social capital can also assist residents in attracting and receiving resources from government entities and it has been proven that mobilized regions are more successful in accessing loans, supplies, and other resources. That is why it is so important for Eastside Detroit residents to strengthen their relationships between their

neighbors, in order to generate tangible ideas together around flooding preparedness, and push for collective action from the community, organization to city level.

3.3 Grassroots Activism in Detroit for Community Collective Action

Detroit has a rich history of using creativity in its black grassroots activism in the post-Civil Rights Movement era. During stark urban poverty, labor activism, civil-rights activism, and strong black political empowerment, especially under Mayor Coleman A. Young compelled black grassroots organizers to be innovative as they pressured the government to meet basic needs such as high-quality and affordable housing (Shaw 2009). Only through grassroots activism were those advocates able to delay or derail governmental efforts to demolish low-income housing or push for higher environmental justice standards. Social activism campaigns were the most successful when they followed the Effective Black Activism Model (EBAM). Through this model, activists who were able to perceive utility (the right tactic), time (the right moment), and context (the right setting) succeeded in applying pressure to public officials, despite the barriers of race, class, gender, and regime (Shaw 2009).

“A revolution that is based on the people exercising their creativity in the midst of devastation is one of the great historical contributions of humankind.”

This quote was from Grace Lee Boggs, a prominent civil rights, labor and environmental justice activist in Detroit. Her work centered around personal transformation, reflection and community organizing that advocated for workers, the poor, elderly and revolution to support those causes. Later on, Boggs theory of change involved not just putting pressure from within the government or on institutions of power, but also from within (Ryerson). Boggs emphasized the potential of oppressed people for self-organization and creativity.

Today, much of the environmental justice fight is built off of prior grassroots activism and organizing that follow principles organizations and activists have collectively created such as the The 17 Principles of Environmental Justice and the Jemez Principles for Democratic Organizing. While “design” in the formal sense wasn’t a leading principle in the environmental and grassroots activism movement, creativity and community-led engagement has always been the common thread for why social movements were successful.

3.4 Social Innovation through Co-Design

Social innovation requires an open ended, participatory process to facilitate large-scale change that is navigated by both experimentation with small-scale local projects, and larger “framework” projects that guide and give definition to the smaller, individual projects that collectively contribute to large-scale, transformative processes. (Manzini and Rizzo 2011; Manzini et al. 2015). Ezio Manzini talks about catalyzing social resources for sustainable change through emerging scenarios being small, local, connected, and open. The SLOC scenario gives a direction on how to look for sustainable solutions in a design for social innovation context that are needed to promote wellbeing and combat ecological woes.

Small involves place based projects happening at “small scale” that are comprehensible and controllable by individuals and communities. *Local* involves hyper-local solutions that suit the needs of local people who are the ones implementing solutions and are interconnected scaling up to larger systems. *Open* involves the distribution networks of people and of information. *Connected* involves the distribution of information and resources through horizontal interactions (with other similar communities) and vertical interactions (institutional and non-institutional stakeholders).

The designer’s role “is to spread innovative solutions through co-creation in other communities through adapting tools and methods to new localities”. This project uses this approach by designing three design interventions across three different scales of community power to spur larger scale change at the organizational level through collective action and to instill ways of achieving long-term sustainable change through design (Manzini and Rizzo 2011; Manzini et al. 2015).

3.5 Play through Co-Design

We know that creativity serves as a means to resilience, the ability to “bounce back” and studies show that in times of uncertainty, our most creative thoughts can happen through play (Silvers 2016). Play not only is a powerful mechanism for coping with stress and alleviating trauma, but also opens up opportunities to generate new ideas. Specifically, play in the design thinking process, can foster creativity and collaboration (Silvers 2016) and can be used as a tool to take on real-world challenges in a way that is more accessible. In this project, I was interested in the role of play in my project to be used as a mechanism to make talking about flooding, which is often hard and traumatic, easier to do. Could embedding joy and play into design interventions change how people approach flooding preparedness, create buy-in for collective action, and generate new creative ideas? While ECAC are already experts in leading the coalition through resident-driven ideas, this project also tries to understand how community-engagement can be conducted outside of current methods of meetings, google jamboards, and surveys with playful interventions to elicit more creative and generative ideas for flooding preparedness with residents.

Using play to 1) elicit community engagement and 2) change the orientation of disaster preparedness from individual and social have become more frequent across the design field. Examples range from small to large scale. After finding that it was hard to receive feedback from residents through surveys and meetings, 2018 Interboro Partners designed a “You Can Plan On It” ice cream truck as an engagement tool to talk to residents about what they like and don’t like about the Campau/Banglatown Neighborhood, and their hopes for the future (Interboro 2018). Residents could place sticker dots directly on the ice cream truck noting whether their favorite spots were. In return, they received a free ice cream. This tactic was simple yet engaging because it followed the EAST behavioral framework – Easy, Attractive, Social, and Timely. The ice cream truck met residents where they already were in their neighborhoods, and deployed an easy, visual and fun way to elicit feedback. The second example is Design Studio for Social Intervention’s (DS4SI) Social Emergency Response Center. DS4SI partners with communities, artists, and social justice practitioners to imagine, demonstrate, and collectively rebuild places to

be more just and vibrant (DSI4I.org). The idea of the Social Emergency Response Center (SERC) is framed as a counterpoint to emergency response centers, which are often used for climate emergencies like hurricanes and tsunamis. With an emphasis on *social* emergencies, it exists as a pop up to act on violence against Black communities, to gentrification, Islamophobia, privatization, environmental devastation, and more (DSI4I.org). The SERC project influenced how I approached designing interventions for flooding preparedness because of the way it motivated people to come together and move from rage and despair, and channel it into collective, radical action. Using play, SERC focuses on the social infrastructure of what brings people together, designing room for activities like music and dancing, as well as a SERC “Intake form” for skill sharing, to a workshop for social media outreach tools.

4. Co-Design Methodology

4.1 Participatory Action Research (PAR)

This project is broadly situated within Participatory Action Research (PAR) with an emphasis on community engaged co-design. PAR seeks collaborative partnership between the researcher and the organization to study and surface practical knowledge that leads to direct action toward societal change. (Minkler and Wallerstein 2008; Schneider 2012). PAR is defined by an iterative process of planning, experimentation, testing, and observation, and evaluation that intends to gain depth and dimension at each iteration of the cycle (Schneider 2012) and make regular people co-researchers, centering the lived experience of participants (Schneider 2012; Reason and Bradbury 2006). This project involved the collaborative partnership of my community partner, ECAC who I co-designed with during the ideation phase of this project, as well as Eastside residents who I co-designed with during the prototyping phase of this project to surface new ideas.

4.2 Evaluating Co-design through IAP2

Co-design, an approach under the umbrella method participatory design, means creating *with* not *for* stakeholders in the design process in a partnership (Mulder 2018). Through collaboration, “tacit knowledge” is surfaced (Schön 1983) or information that is challenging to communicate, to better inform design decisions (Kolko 2010). In co-design, designers flip the role of “expert” with people with lived experience to design in ways they know best (Manzini 2015). Co-design was embedded in this project from start to finish and occurred most importantly during the ideation phase in co-creating the interventions together with my community partner, and the prototyping phase in co-creating new ideas with participating residents.

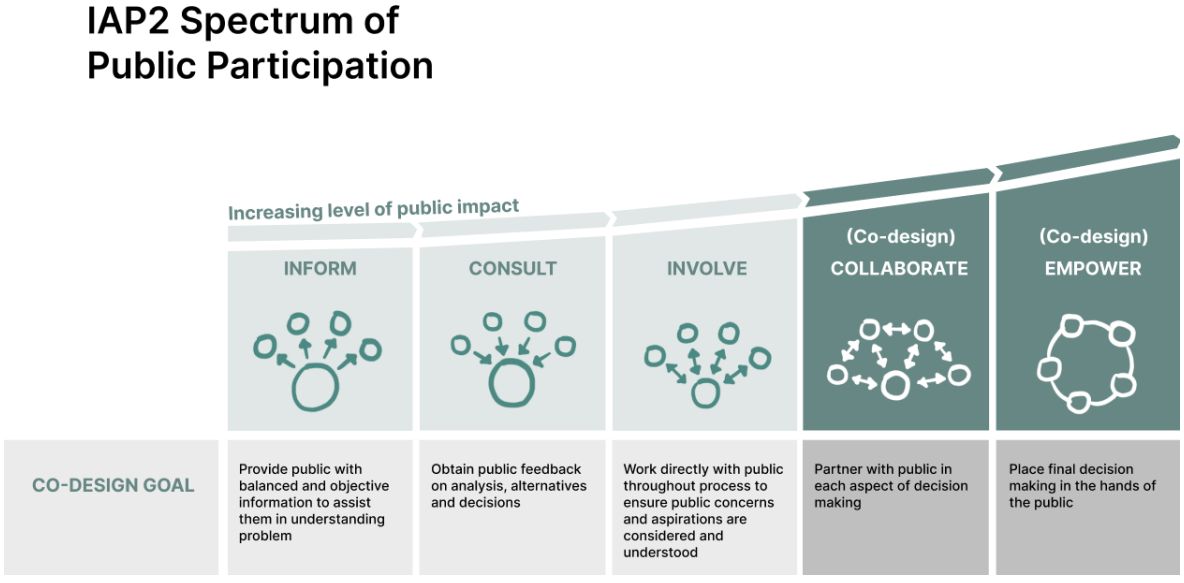

Figure 3. IAP2 Spectrum of Public Participation & Co-Design

In this project, I use the IAP2 Spectrum of Public Participation to evaluate the effectiveness of co-design through the design interventions. The IAP2 Spectrum of Public Participation, which is used internationally, was designed to assist with the selection of the level of participation that defines the public's role in any public participation process (iap2.org). It walks through each of the five stages of public involvement: inform, consult, involve, collaborate and empower. I posit that in the IAP2 public participation model, co-design moves directly beyond the lower levels of engagement of inform, consult, and involve, and happens during the collaborate and empower stages. In the collaborate stage, the public is actively partnered with in each aspect of decision making. In the empower stage, it places final decision making in the hands of the public (iap2.org). This project collaborates and empowers residents through three designed interventions.During the ideation phase, I collaborated with my community partner ECAC and Tam Howard, Director or What About Us to co-create these interventions for each specific audience. In the prototyping phase, I tested those co-created design interventions to empower Eastside residents to tap into play and creativity to generate new ideas.

4.3 EAST Behavior Framework

Developed by the Behavioral Insights Team (BIT) within the policy field in 2012, the EAST Framework provides a simple outline for policymakers to optimize their work using behavioral science. Specifically, the EAST framework is designed to improve public policy by using nudging, social engineering, and other psychological and economics methods. East stands for: Easy, Attractive, Social, and Timely (Behavioural Insights Team 2010). I applied this policy framework for behavior change to my project to empower residents to buy-in into approaching flooding preparedness in a new way, orient them to a collective rather than individual approach, and empower them to generate new and creative solutions.

Easy:
People tend to give up on tasks when faced with many obstacles. The EAST framework therefore provides techniques to combat this. This was created for policymakers to alter the level of friction it would take for competing behaviors. For example, making the preferred decision easier to choose, and less preferred decision to be more difficult.

In this project, I use easy coupled with accessible. Each design intervention I designed was meant to be easy to use, in the sense that the activity wouldn't be hard to figure out. But I also wanted the information to be accessible. Often in the flooding space, the information around programs, policy, and protocol are confusing and hard to navigate, which add onto the frustration and trauma and residents not wanting to talk about it. A big part of this project was simplifying ambiguous and long lists of information into comprehensible chunks.

Attractive:
In order for a policy to be chosen, it needs to be noticed. Attractive calls on policy documents and advertisements to use salient images, colors, and personalized details (Behavioural Insights Team 2010). But it's also more than just making something look pretty – attractive also means grabbing people's attention and drawing them in.

In my project, I implement my skills as a designer to make my design interventions visually appealing and co-design with my community partner and stakeholders to make each experience personal to the context in which people are experiencing them (neighborhood, organizational event, meeting). The goal was to use attractive visuals and incentives to get people to generate resident buy-in to each of the interventions.

Social:
This piece is aimed at helping policymakers influence behavior by harnessing the reliance on other people's behavior and thoughts in a social setting. It emphasizes the bandwagon effect, the habit of engaging in activities and beliefs as they gain popularity, and more relevant to my project, developing social norms which foster communities and networks to hold individuals accountable (Behavioural Insights Team 2010). The EAST framework suggests that if we make an explicit commitment to others in a group setting, we are more likely to follow through.

Making the design interventions social was one of the biggest factors of the project. With research showing that the most important factor in surviving a disaster is knowing your neighbor, I created each activity to shift from the individual status quo orientation of flooding preparedness to community activities that strengthen knowledge and social bonds.

Timely:
Utilizing the correct timing to implement policy is very important for public perception. This framework recommends policies be rolled out when individuals are most receptive to them, which typically occurs with significant changes or life events (Behavioural Insights Team 2010). These major events allow for drastic shifts in people's habits and make people more receptive to changing behavior.

I hypothesized that this would be similar in the flooding space as well and approached this through the lens of "why should people care?" when thinking about when to implement each design intervention. I approached this through the lens of "why should people care?" when thinking about how to engage people. All of the interventions centered around major events that had happened or were going to happen, from power outages to valentine's day that made the interventions less random, and relevant to the stakeholders.

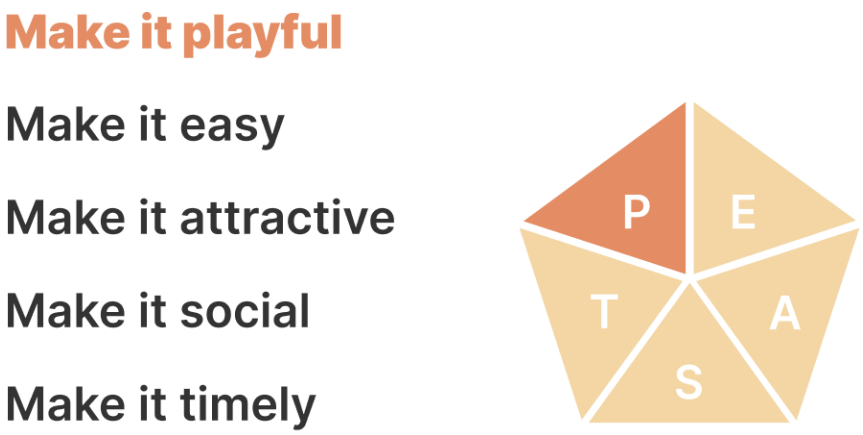

Figure 4. (P)EAST Behavioral Framework

Playful:
Playful is not explicitly a part of the framework, but it is a tactic I added because it serves as the glue that ties the other pieces of EAST together. Being playful is more than just being attractive, it is a way of eliciting specific emotions of excitement and joy in people to make them not only buy-in to participate in the design interventions, but do it with others.

I implemented play through riffing off of familiar joyful activities, visually externalizing information to make it hands on, and gamifying my design interventions. In these interventions, play serves as a vehicle to access easy, attractive, social, and timely components. As mentioned previously, research suggests that play is a powerful mechanism for coping with stress and trauma and in times of uncertainty, or most creative thoughts can happen through play. Therefore play was a crucial component in activating residents to generate novel ideas for flooding preparedness.

4.4 Mapping Play on the IAP2 Spectrum

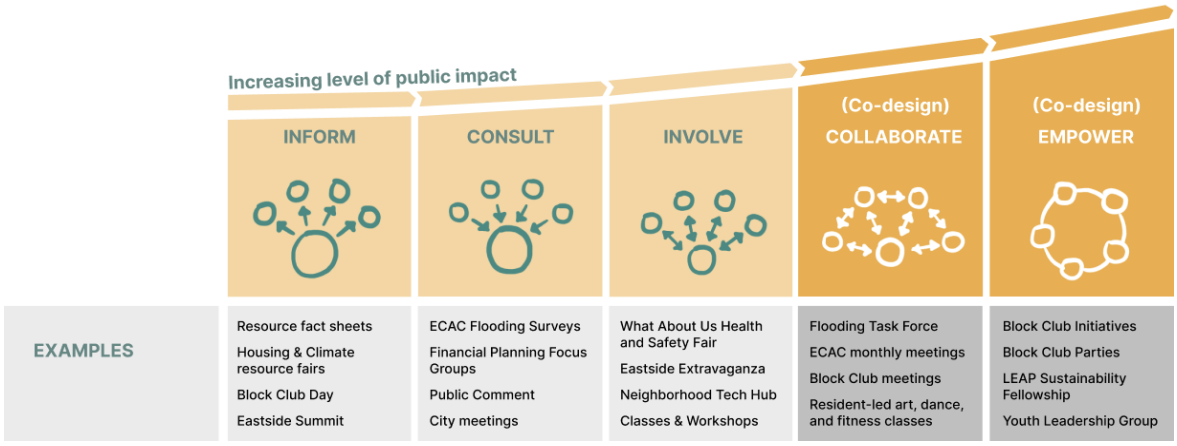

Figure 5. Mapping Eastside Detroit's Community Engagement on the IAP2 Spectrum of Public Participation

After understanding how the IAP2 Spectrum categorizes public participation, I wanted to understand how existing Eastside Detroit initiatives fell on this this spectrum. I sorted Eastside Detroit's community engagement activities from the block-level, to organization, to city-scale based on my observations the past few months onto the spectrum. Most successful public participation that fell under *collaborate* and *empower* were most often community-led and amplified resident leadership capacity. At the neighborhood level, this includes block club initiatives and parties, and at the organizational level, ECAC runs the LEAP Sustainability Fellowship program that helps neighborhood leaders fund and implement their own ideas of sustainability of what they want to see in their communities.

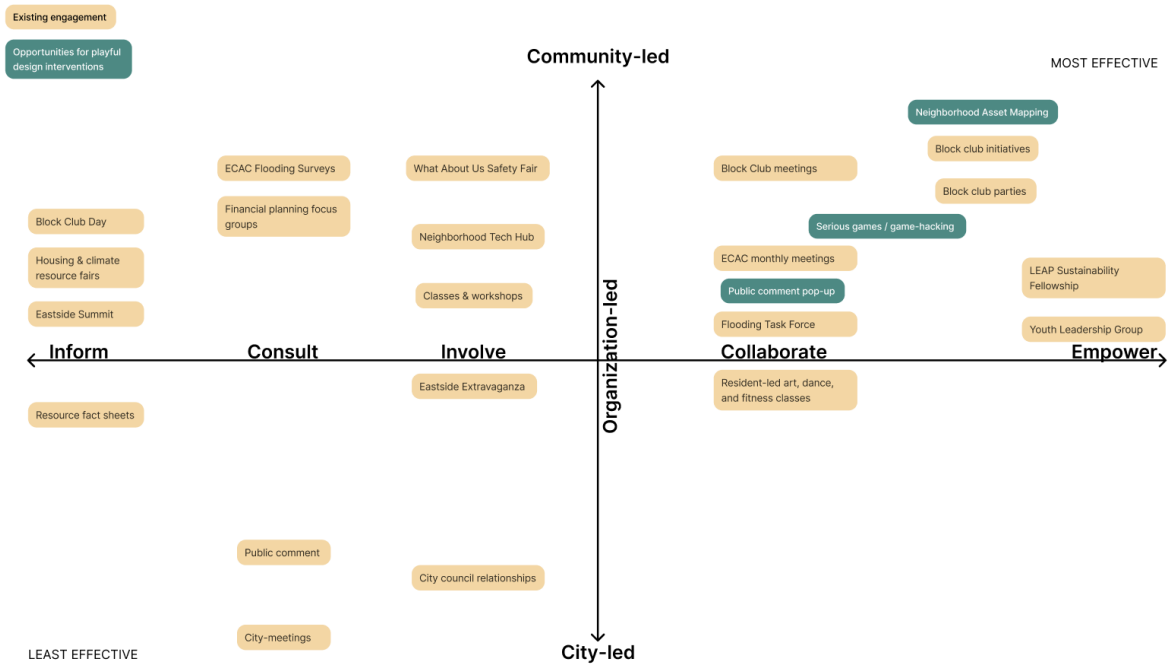

Figure 6. Mapping Opportunities for Design Interventions

Then, mapping these existing initiatives on a four by four grid with the IAP2 Public Participation spectrum on the x axis and stakeholders on the other, it was easy to see that the most effective initiatives that engaged resident decision-making power fell in the second quadrant, and were community-led, collaborative, and empowering. It was crucial that my design interventions also were situated between *collaborate* and *empower* to co-design with residents as well as community-led, for maximum impact. I hoped that if residents could buy-in to these design interventions and see the value add, it would be more likely that they would want to continue this type of design thinking with their neighbors and communities.

5. Co-Design Methods & Findings

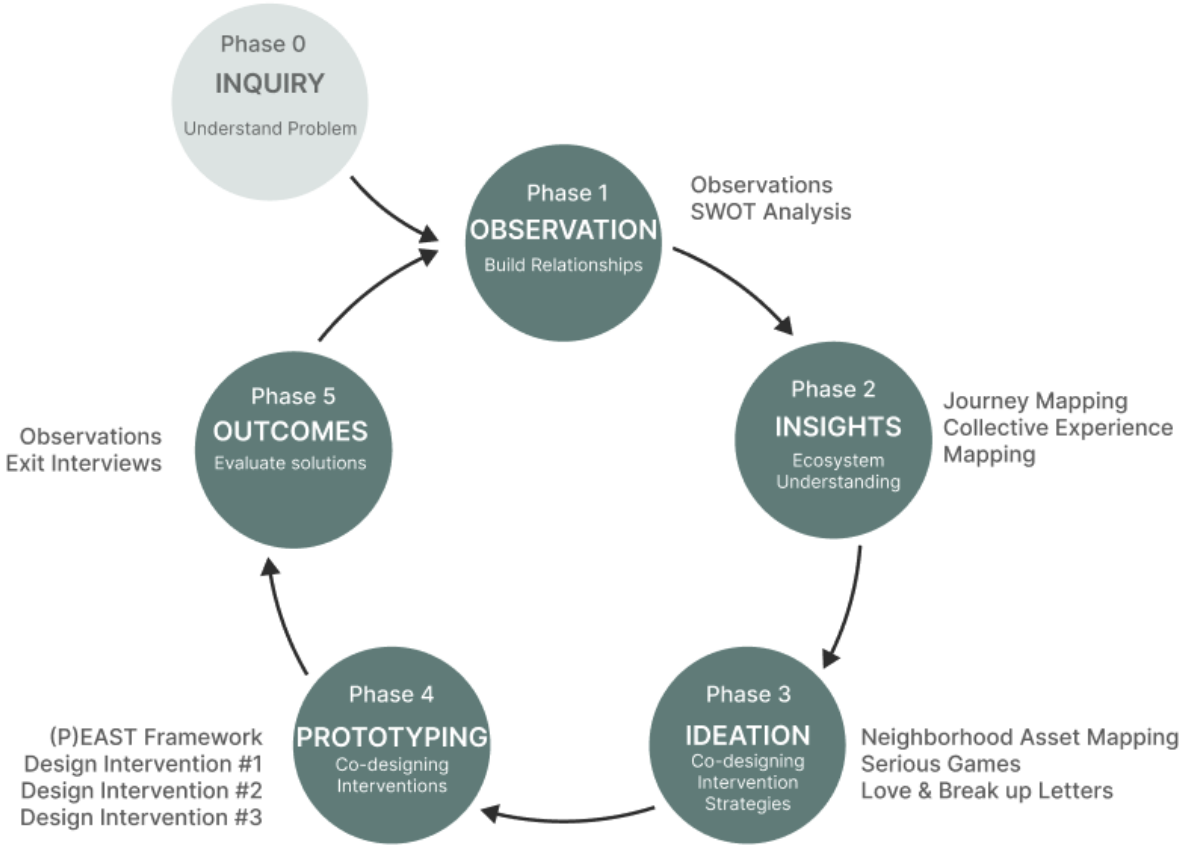

Figure 7. Co-Design Process

5.1 Phase 0: Inquiry into Community-based Design & Activism

My inquiry process began as a summer internship with Detroit Collaborative Design Center (DCDC) as well as a research project conducted over the summer of 2022. At DCDC I worked with Eastside and Southwest Detroit community organizations to conceptualize neighborhood resiliency by connecting needs to existing assets and external services. A big part of this design research role entailed understanding the social network of the Eastside, the local community leaders and organizations that made up it. Through our research, I was starting to unpack how resiliency hubs were not just places for emergencies, but also places for everyday social connection, culture, and activity. These characteristics were what neighborhood resiliency could be measured by. I met my community partner, ECAC through this work.

During the summer, I continued to understand the idea of a resiliency hub through a trip to Oakland, CA, in which I visited and interviewed climate resiliency and health organizations. I was particularly interested in Oakland as while the environmental disasters were different than Detroit, there is a similar bottom-up grassroots approach towards community organizing or resilience. I visited three different climate resiliency hubs that expanded my definition of resiliency: Canticle Farm, a community farm and commune that is dedicated towards food security, holistic health, and food sovereignty, in which community members live and grow their food together. Dream Youth Clinic – a youth focused health clinic founded by Dr. Mays that partners with a youth shelter to do drop-in teen clinics with expertise in trafficked and homeless youth. San Leandro 2050 – A community based organization for community climate action that does community outreach, policy advocacy, and neighborhood action planning to envision a carbon free city by 2050. The common thread through each of these organizations was their expanded definition of resiliency of not just climate, but social resiliency. Each served as an anchor for social connectivity for residents in the area. This would go on to influence my focus on the importance of social connectivity in flooding preparedness.



Figure 8. City of Detroit CDBG-DR Meeting

In November of 2022, I attended a city-wide flooding recovery meeting for the CDBG-DR federal grant that solidified my interest in pursuing my project of making flooding preparedness more equitable and accessible. During that meeting, I saw the injustice as the city proposed two options for flood recovery that completely disregarded resident experiences and was inspired by the sheer magnitude of what collective community power looked like which would continue to shape the direction of my thesis. Four hundred residents that day from all walks of life, organized together ahead of this meeting, door knocking, campaigning, to give passionate testimonials of why these terrible and inequitable ideas and pushed for the city to do better and listen to the public. As a result, these two detrimental options were scrapped, saving the

livelihood of hundreds of Eastside Detroit residents and setting the tone for the climate justice flooding space for the remainder of the year.

5.2 Phase 1: Relationship Building through Participant Observation



Figure 9. Relationship Building through Eastside Detroit Community Events

While researching and attending meetings to understand the problem space of flooding on the Eastside of Detroit and history of organizing, I also wanted to start building relationships with Eastside residents and understand the social infrastructure of the Eastside before I approached ECAC to partner on this project. Between June 2022 to August, I volunteered at four Lower Eastside community events: Brewer Park Day, Walk the Block, What About Us' Health and Safety Fair, and the Mack Alive Parade. Volunteering consistently was crucial in building genuine relationships with Eastside residents.

I also attended and observed through the AEIOU method, three resident ECAC monthly meetings to understand how ECAC operated and the relationship with residents. After formalizing my partnership with ECAC in September 2022, we held a total of 16 biweekly partnership meetings to plan the direction of this project. I also attended 3 city-wide meetings around flooding recovery.

Phase 1 Findings:
Showing up consistently was crucial in building genuine relationships and starting to understand how the social infrastructure of the eastside worked. In this observational phase I gained insight into how residents showed up to support their community and the level of community building and organizing that occurred on the Eastside. Based on my observations, the attendees at each of these events always knew one another and regular events were a way to come together to not only engage with the content of whatever event or meeting was happening, but was also an important time for socializing, hanging out and catching up with each other. Key findings included the following:

- **The importance of fun -** Eastside events focused on sharing resources and information with residents in a way that was engaging and celebratory, sometimes in the form of a block party. These were run by neighborhood leaders or organizations like ECAC.

- **Community building -** Residents that showed up to events and ECAC meetings often knew each other and these activities served as moments for people to catch up while also engaging with material.
- **Resident-led -** ECAC is a resident-led coalition guided by Erin Stanley and Ricky Ackerman that truly amplifies resident voices and builds leadership capacity.

5.3 Phase 2: Ecosystem Understanding

To better understand the ecosystem of the problem space, I conducted a total of 5 semi-structured interviews with neighborhood leaders Loretta Powell, owner of Little Detroit Community Garden, and Tammara Howard, leader of What About Us. I also spoke to institutional experts, Sue Ann Bell, emergency preparedness FEMA nurse practitioner, Sarah Dobie, a University of Michigan PHD graduate student who studies vulnerability assessments, and attended a WE ACT, an environmental justice organization's neighborhood resiliency talk. I also led two workshops with Eastside residents to better understand their experiences with the 2021 flood.

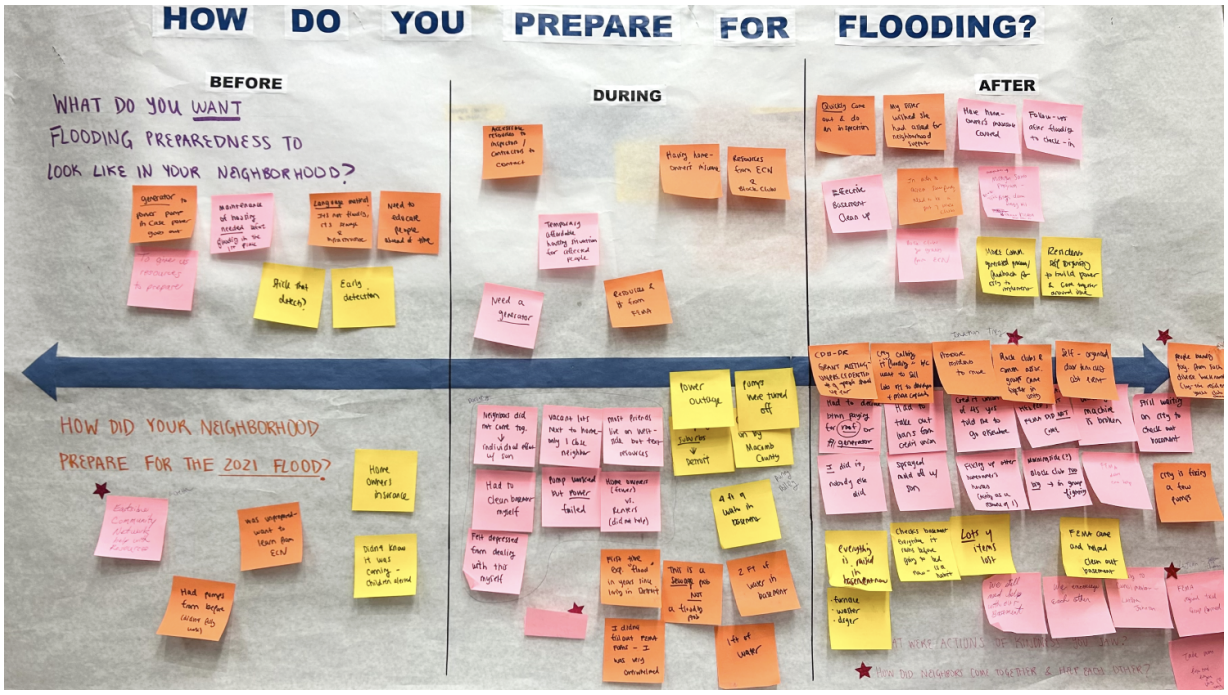

Figure 10. Workshop with Eastside Detroit Residents "How Do You Prepare for Flooding?".

In a workshop with Eastside residents, I asked them what their personal experiences were with the 2021 flood - and what they did or couldn't do to prepare.

"Depressed" and "overwhelmed" were feelings shared by many. Some eastside residents live in fairly vacant neighborhoods and therefore had to prepare and deal with the flood by themselves. Yet others, who were surrounded by neighbors, didn't ask for help. Tam Howard, Belvidere Block Club leader and head of neighborhood organization What About Us, spoke about how some of her neighbors honestly felt embarrassed and were moving bits and pieces of their furniture out onto their sidewalk in secret- despite the fact that flooding was something almost

everyone was dealing with. This just goes to show that neighborhood connection isn't just about being able to say hello to your neighbor, but being able to ask for help when you're struggling.

Phase 2 Findings:
The biggest takeaway was that despite this being the 3rd flood in the span of 8 years, people still felt really traumatized, unprepared, and alone. Many people told stories of not finding out their basements were flooding until the last minute and receiving very little outside help. This project seeks to shift the status quo of flood preparation on Detroit's Eastside, which is currently incredibly inaccessible and individualized, to a collective model that utilizes existing social connections, by co-designing with Eastside Detroit community leaders. The below overarching research question guided this inquiry:

> ***Can preparing for flooding be re-designed to be more social through empowering individuals to take collective action?***

By conducting this initial workshop, I was able to better understand the Eastside Detroit resident's experience which further validated my

Conducting this initial workshop to understand Eastside Detroiter's experienced firsthand and hearing how overwhelming the flooding preparation process is further validated the need to use the PEAST framework to intentionally design interventions that brought residents together to unpack hard experiences. The following I objectives for my design intervention emerged:

1. **Make it collective**
2. **Make it less overwhelming**
3. **Make it less painful (and maybe even fun?)**

5.4 Phase 3: Ideation through Co-design

Instead of a rigid design process, it was important to me to work closely with my community partner and collaborators to surface potential opportunities and ideas during the ideation phase. We met biweekly and called regularly to fine tune the design interventions. In a biweekly community partner meeting, Erin Stanley expressed to me "we need something between a workshop, which is collective, but often too general to be useful to a neighborhood and what's called CERT training, a government program, which, although is quite detailed, puts the burden all on one person, making it overwhelming).

Community leadership exists in many forms – whether you're a neighborhood block club leader, a resident, or an ECAC employee. Everyone has inherent power. Power is the ability to influence others or change a certain situation. Power can look like "not just taking it lying down", as a resident expressed to Erin in a recent meeting about flooding resources, to organizing ahead of time with hundreds of other residents to make your voice heard at a city-wide flood recovery budget meeting. In terms of organizing for more equitable flooding programs and policy from the city, power in numbers (quantity), is just as important as one to one relationships (quality). It was important for me to create specific prototypes for different types of "leadership"

groups to understand the common themes across them all, to understand the key to organizing residents to build collective power.

After realizing that it was important for this project to be a series of different design interventions to work with multiple scales of community power, I worked with my community partner, ECAC and collaborators to start to ideate together on design interventions that would hit the sweet spot between collective, yet personal for flooding preparedness. We drew on inspiration from existing design methods, but tweaked them to be more fun, accessible, and playful. This section will talk about ideation through co-creation with my collaborator, ECAC, and collaborators, while the following section will talk about the prototyping of the intervention.

Eastside Climate Action Coalition (ECAC)
With my community partner, ECAC, we wanted to create an intervention that would help residents understand how to write a public comment at the organization scale. Writing public comments is a form of direct action that is very simple, but not the most exciting thing to do. Few residents had written a public comment before, and many didn't know where to start or who to write to.

One design method that was used during this phase was the "Love and Breakup Letter" method because it is quite similar to writing a public comment. Created by Smart Design in 2010, the method involves writing a letter to a brand or product to tap into an emotional connection and identify positive or negative features. Writing to a product or brand in this form humanizes it, and allows people to tap deeper into their experiences and emotions. However, I wanted to use this same approach in a tangible and impactful way: to talk about flooding through the public comment process, and humanize the approach by creating a personal experience directed at elected officials for residents rather than writing to a nameless and faceless person. With ECAC's experience in organizing and working with Eastside elected officials, Erin and I worked together to identify elected officials and specific asks we could make to each to personalize the public comments.

Since this conversation around the interest in educating residents on the public comment process happened in February, we realized that creating a Valentines Day pop-up event would be a smart opportunity to use this holiday to bring residents to the community hub and demystify the public comment process in the form of valentines.

What About Us
The second collaborator I worked with was Tammara Howard, Director of What About Us, a youth and family programming organization on Belvidere Street. We wanted to start the conversation around a neighborhood emergency preparedness protocol with her neighbors on Belvidere street, starting with what resources the neighborhood already had. Tam and I met when I volunteered at her Health and Safety Fair this past summer and have interacted with her through ECAC. However, it took repeated meetings with Tam to build enough trust to run a workshop with the What About Us hub. It wasn't until we discussed how testing these design interventions now could be beneficial to the Health And Safety Fair, a neighborhood event that

Tam runs every year to distribute health information and resources, that Tam could see how this could be a value add. This proves that asking “why should people care?” and understanding underlying motivations is also crucial to participation. Tam and I had an extensive co-creative process in the ideation phase. This intervention was probably the truest form of co-design in the ideation phase out of all of the 3 interventions. The Belvidere neighborhood doesn’t flood intensively, but when it does, it often takes residents a long time to clean their homes, as adults often feel isolated and embarrassed about flooding and do not always seek help. We went back and forth on who should be the audience of this intervention and decided that we would do a two part activity that worked first with kids who regularly came to the hub, and then target harder to reach adults in the neighborhood.

One design method that was used during this phase was participatory asset mapping. The point of this method is to create a tangible map of important people, places, and assets with community members who live in that neighborhood. Participatory asset mapping often gets critiqued with *who* mapping actually benefits the designer or residents? Often, the assets that are mapped are also only “hard” assets like physical places, instead of social. For this intervention with What About Us, we wanted to ensure that the activity was more accessible, playful, and tangible, especially because we were working with kids.

Flooding Task Force

Working with ECAC again, we wanted to design an intervention for the flooding task force, an organized group of residents on the Eastside working specifically on flooding issues in partnership with professors from Wayne State University. The flooding task force meets once a month and since the meetings are usually fairly dense and academic, we wanted to create an intervention that could alleviate some of the heaviness and tension that is felt during these meetings and prompt residents to generate ideas from a place of fun, rather than fear.

We used “serious games” as an example of a method to look at for this intervention. “Serious games are designed for a primary purpose other than pure entertainment” as an educational tool. We liked this idea of uncomplicating confusing things like flooding into a game format so that it’s easier to talk about. However, many serious games that exist out there are very academic and heady, so I was especially focused on designing an intervention to make our game accessible, and easy to use, designed for residents, rather than academics.

5.5 Phase 4: Prototyping thorough Co-design

5.5.1 Design Intervention #1: Cocoa & Comment



Figure 11. Eastside Climate Action Coalition

Goals:
The first design intervention I tested with ECAC, my community partner, was a way to create collective action through empowering residents to write public comments, make their voices heard, and push elected officials in the city to push for better programs and policies on flooding preparedness. The public comment process is a typically simple, but boring process. Many residents don't know where to start or who to write to even though making your voice heard is an important way to take direct action. So we prototyped a design intervention that answered the question: *What if we could make the public comment process more fun and collective to incentivize people to want to do it?*



Figure 12. Cocoa & Comment Pop-Up boards

Prototyping:
Using the PEAST behavior framework, we strategically implemented this intervention on Valentines Day as a pop-up called Cocoa & Comment. This design intervention taught residents how to write public comments in the form of valentines for their elected officials. It took a total of three days of implementation, and I observed that twenty five participants out of thirty eight people opted in to participate in the intervention.

We made it *timely.* We let people know this pop-up would only be up for a few days until Valentines Day to create a sense of urgency around participating in it. It conveyed the feeling that this pop-up was a limited edition special event that could only be done during a certain time frame.

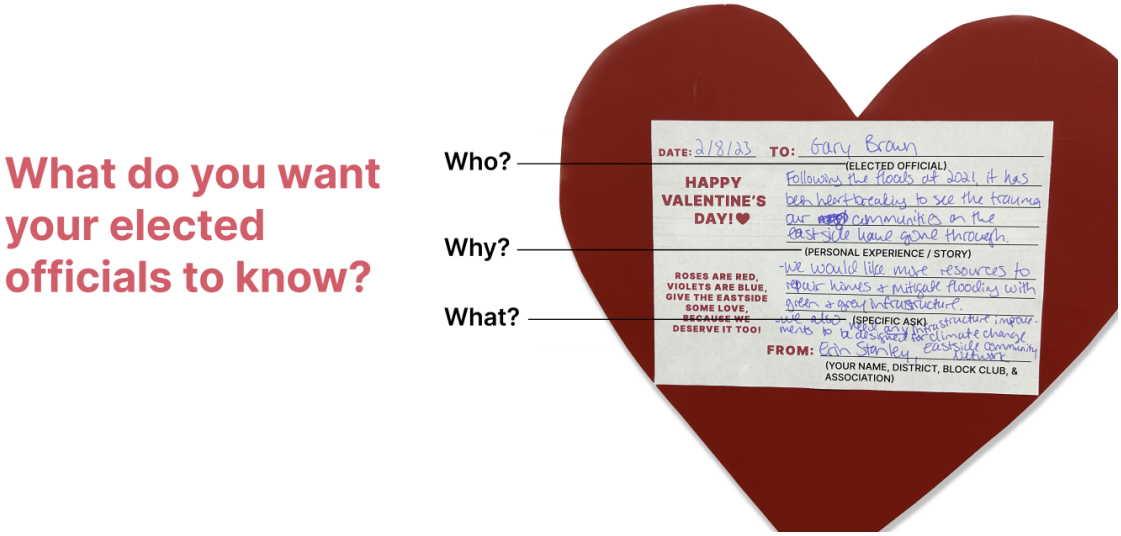

Figure 13. Eastside Climate Action Coalition

We made it *easy.* We asked residents, “What do you want your elected officials to know?”. With Erin Stanley’s guidance, I simplified the public comment process down to the 3 main important points and designed it to be an easy fill in the blank template that we stuck on individual paper heart valentines:

- the Who (are you writing to)
- the Why (your personal experience)
- and the What (your ask)

We made it *attractive.* Because it’s often not clear who has power over what in the city, and therefore who to write to, I wanted to make sure the information was attractive to catch your attention, and easy to digest. Using bright colors, I created two visual boards also detailed out who sat on city council, GLWA, DWSD, and who was responsible for what, making it easy to choose a person, choose an ask, and complete a valentine. Once people learned who their city council members were, this made the process much more personal, putting a face to a name, rather than writing to a large faceless organization. People who knew their city council members wrote more personal valentines to them. In addition, the intervention was simple and self-explanatory enough that multiple people were able to facilitate and residents were still able to complete it when no one was there.

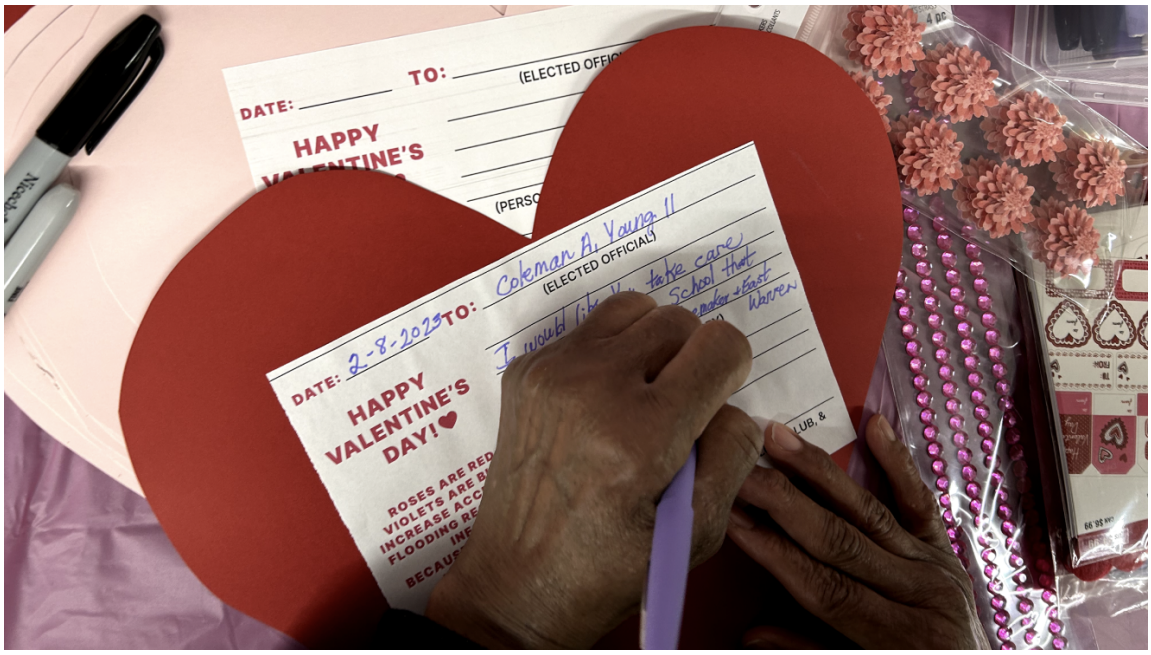

Figure 14. Resident filling out Cocoa & Comment valentine

We made it *playful.* People’s initial reaction was curiosity, because they had never seen anything like this before at ECAC. But they quickly realized that similar to the love and break up letters, serious matters could be addressed through valentine’s that were as direct, sweet, or cheeky as you wanted to be. People wrote things like “I’ve lost thousands of dollars in furniture

and important documents due to the flood and really need financial help fixing my house" to "Roses are red, violets are blue, please fix flooding infrastructure, because I'm sick of poo".

Play was a crucial ingredient in this intervention. The valentines were designed to be warm and playful to address flooding issues on the Eastside, something inherently stressful and weighted. The public commenting process is also relatively dry and boring. Being playful allowed the activity to be more approachable and less dreadful because residents could make their valentines as pithy, warm, or serious as they wanted. By transforming the public comment process into a Valentines card activity, it draws upon a sentimental and common experience of writing valentines as children that is inherently fun. Creating an experience that was disarmingly playful lowered the barrier to learning how to write a public comment and changed resident's perception as something worthwhile.

We made it *social.* We situated the pop-up in a place where people were already going. The pop-up event was strategically placed at the hub because that was a place that residents regularly flow in and out of for dance and wellness classes, meetings, and events. We purposefully placed it by the main door so that people would have to pass it walking in or out of the building. I made sure to be at the stand, or ask another ECAC employee to be there for when residents were leaving other events. We got the majority of people to fill it out just by being where residents already were. Often coming in groups curious about what the pop-up was, most people completed valentines together, or participated in the activities because their friends were doing it too. The pop-up prompted and encouraged valentines to be done together with others.

Especially because this intervention was designed to be passive and happen asynchronously, not everyone was doing it at the same time. After writing their comments, I asked residents to tape their valentine to the wall so they could see that they were not alone and how their individual valentine was part of the collective.

The following day, I delivered the valentines to city council. We learned so much from this event – that you can do it anytime, and it doesn't need to be around a holiday,
but you do need a common cause to unite people in a creative way if you want people to participate. We've also thought about what ways this intervention could be even more powerful, such as rallying a bus full of people afterwards, to deliver these valentines to elected officials in person.

Key Findings:

1. **It's easier to try new things with others.**
   People participated the most when they came up in groups because there was almost a level of accountability. if their friend was filling it out, they were more likely to do so too. Versus people who came up alone felt more tentative about doing it. A few people didn't complete and said they'd come back later.

2. **Humor creates buy-in.**

Making it funny is a part of being playful and is often what prompts people to connect. Residents laughed a lot at the silly classic v-day poems. This was often the moment they would invite other people over and say look at this

3. **Attractive also means personal.**
   Many residents had lightbulb moments when they could put a face to a name on who they were writing to. Instead of nameless/faceless figures many would recognize their council member, get excited and want to write a valentine to them.

Design as a Value Add:
The Cocoa & Comment intervention showed ECAC that it doesn't take that much time to create an activity or workshop and get residents to interact with it. It can be meaningful, yet still low stakes and fun. After this intervention, ECAC seemed to shift how they thought about community engagement through design. Erin told me they learned that they can use this type of passive activity at any sort of event. It doesn't need to be during a holiday, you just need a common cause to unite people. For residents, many engaged with the intervention once they realized it's collective nature – that others were also writing their own public valentines. In addition, personalizing elected officials and putting a face to a name and understanding who held power over what, through a valentines activity made it infinitely more personal for residents.This makes designing future activities like this less daunting both for ECAC, and residents to participate in. Many ideas on how to make an intervention like this even more powerful were generated, including bussing residents to city council to deliver public comment.

5.5.2 Design Intervention #2: Map Your Neighborhood

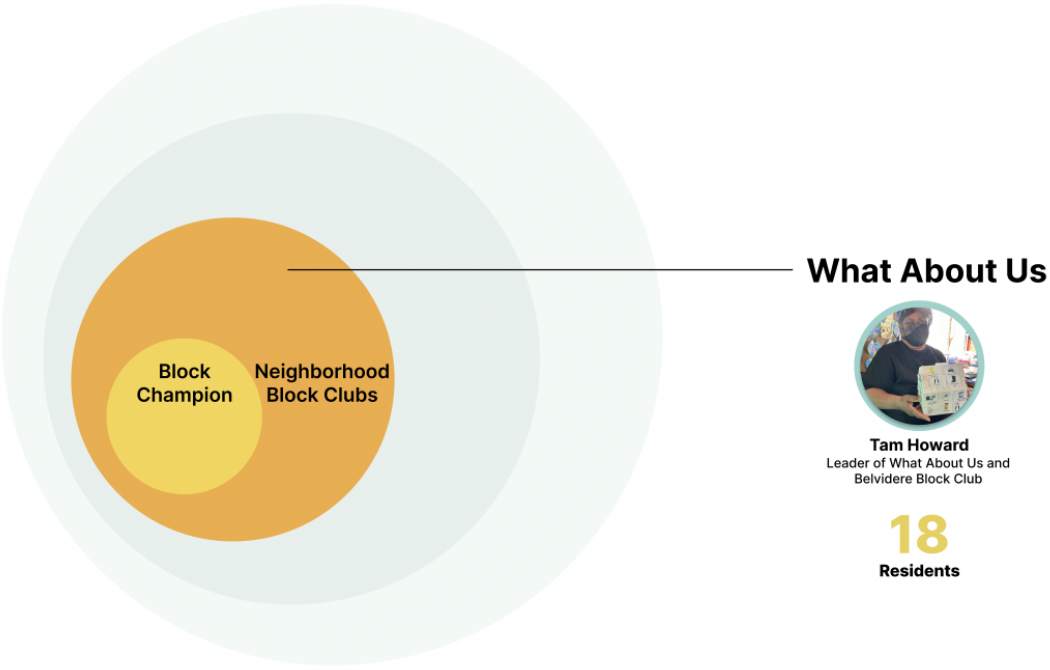

Figure 15. What About Us neighborhood organization.

Goals:
The goal of this intervention was to work with a block champion, or neighborhood leader, to better understand what preparing for a flooding emergency looks like together, as a neighborhood. Working with Tam Howard, we co-created a two part emergency preparedness activity that first worked with kids and then targeted harder to reach adults who found it harder to talk about flooding. The entire intervention took two hours and had five participants.

Prototyping:



Figure 16. Map Your Neighborhood Set Up

We made it *playful.* I created a giant 12' long map of Tam's neighborhood on Belvidere street, and asked kids in the neighborhood to decorate pre-constructed paper houses, and community spaces to represent their homes. We moved from "knowing and talking" (reading checklists and forms) to "doing". The giant map of Belvidere street allowed the kids to understand the scale of their neighborhood and proximity to each other. It was easy to visualize because it was huge, almost taking up Tam's entire trailer, and therefore not precious. The kids were walking, laying on, and coloring on the map. We wanted the houses to specifically be three dimensional so the kids could be hands-on with it. Gluing emergency kit items onto the outside of their houses allowed everyone to visually understand who had what items, what could be shared, and what is still needed.

We made it *easy.* Most of the kids had not formally discussed emergency preparedness before so we wanted to make it as simple and tactile as possible to learn about what items and skills are needed during a flooding emergency. We asked them to externalize by drawing on their houses with the following prompts:

1. What do you have at home that goes into an emergency kit?
2. What skills do you need during an emergency?



Figure 17. FEMA emergency kit and skills posters

We made it *attractive.* I cross checked multiple different government and FEMA emergency items preparedness lists that all listed slightly different items and consolidated them. I created one poster board visualizing these long lists into a series of pictures to be easily comprehendible and recognizable. In addition, I added a second poster board highlighting important skills one might need during a flooding emergency. This is not something seen on FEMA sights, but I thought it would be an opportunity to draw out insights around the importance of social and soft assets in a neighborhood.

We made it *timely.* A power outage had coincidentally just happened the previous day, something that commonly happens during flooding, so this intervention felt particularly relevant as kids could draw on experiences from the day before as it was fresh on their minds.



Figure 18. Tam and kids creating emergency kit houses at What About Us

We made it *social.* Most importantly, we asked the kids “What’s missing?” We talked not only about what hard asset items on the list were important such as having a car or refrigerator, but also soft social assets as well. The kids mentioned the importance of playing games together in the recent power outage to pass the time when they were stuck at home and bored, and dancing! They mentioned the need to have fun and how everyone was celebrating when the power came back on and dancing on the street. In terms of skills, one of the kids, Jordan said, “I have 2 brothers, and 2 sisters. My brothers are good communicators, and my sisters are brave, because they checked on everyone in the house even though it was dark and we didn’t have any lights”.

Everybody reflected on the fact that Tam’s What About Us hub was super important during the power outage because she had a generator. Tam said neighbors came to use What About Us’ hub and generator to charge their phones, store their medications, and come for food. It served as a place to bring everyone together, provide emergency items, while also boosting morale and a sense of community! The point of this design intervention wasn’t that everyone was going to have everything on that list, but that everyone might have something
and how might residents share between each other.

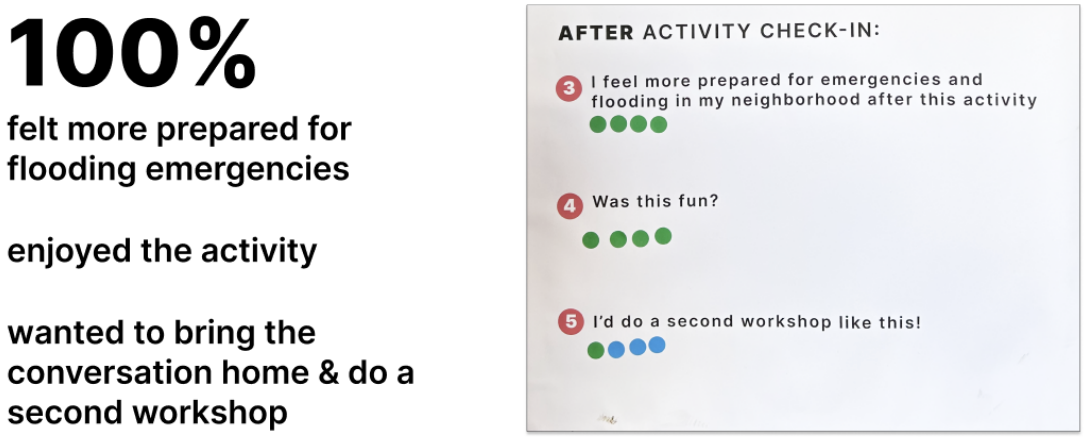

Figure 19. Map Your Neighborhood post-intervention survey

After we were done, we asked the kids how they felt about the design intervention asking them to place sticker dots on a board. 100% felt more prepared for flooding emergencies, enjoyed the activity, and wanted to bring the conversation home and do a second workshop.



Figure 20. Delivering intervention to neighbors' homes

Tam and I designed the intervention to suit multiple audiences – the kids who were regularly involved with What About Us' Hub and parents who may have felt more shy talking about their experiences. Therefore, Tam and I created a part two of this design intervention that involved kids bringing the conversation home to their parents. We made it *easy* by bringing the activity to her neighbors on the block in the form of these gold goodie bags to make it seem more like a fun gift, rather than a chore. They had the same paper house activity we did with the kids, along with a scavenger hunt for emergency items people could do at home to create a level of *play* for

families that might be doing it alone. Going door to door we explained what the activity was and people seemed excited about it. Later Tam would collect the goodie bags from her neighbors to understand what people were saying about flooding preparedness, and use that information to inform a second neighborhood wide workshop during the summer we will lead together.

Key Findings:

1. **Target engagement approach to audiences.**
   We used a specific engagement approach depending on the audience. How can you make it easy for people to participate? The intervention we did with the kids for example was hands on to do right here together versus making it easier for adult residents to participate who don't feel comfortable talking about flooding yet by bringing to their door. Similar to the Cocoa & Comment intervention, they get the choice to opt in or out.
2. **Ideas are generated through externalizing knowledge.**
   Tam said this design intervention was very useful because by asking the kids "What's missing?" from the FEMA list and externalizing knowledge visually on their paper houses, this served as a jumping off point to start using their imagination and creativity to visualize things that weren't listed on the boards.
3. **1-1 Connections matter.**
   Going door to door allowed Tam to catch up with everyone in a personal setting. Speaking to one of her neighbors, Tam learned her neighbor had a knack for making pen holders out of bottle caps and invited her to come host a workshop at a hub, further strengthening everyday resident relationships.

Design as a value add:

In reflecting with Tam Howard after our Map Your Neighborhood intervention with What About Us, Tam told me that the design intervention helped the kids think through what resources are needed in the neighborhood during an emergency, in addition to what neighbors already have. It generated conversation between the kids, who brought it home to their families. Tam told me that it's a topic of conversation that the community is still talking about weeks later as power outages and flooding have still been happening frequently throughout the block. Furthermore, using the EAST behavioral framework and making the activity easy, accessible, timely, playful, and social is what created neighborhood buy-in to start the conversation around emergency preparedness. Tam said the hands-on and visual nature of the intervention including the visualization of emergency items into picture boards rather than long lists, and having the kids identify and then externalize what resources they had onto their paper houses "kept them interested for longer, made them more active, and helped them visually start to think about new ideas about resources and skills that weren't even represented on the boards". It's true that during the activity the kids reflected on the power outage that happened the day before and immediately started to recall what was missing from the boards. For example, What About Us was able to provide for the community like non-perishable foods and a generator to charge everyone's phones. In addition, soft skills like the practice of staying connected to one another by playing games, or dancing on the streets together surfaced, highlighting the importance of neighborhood social connections.

This co-design process has broader implications because it has influenced the way Tam thinks about bringing her neighbors together in the future. For example, she is holding a neighborhood visioning workshop later this month and thinking about how to implement some of the visual elements we used in our Map your Neighborhood design intervention. For her annual Health & Safety fair, Tam will be making the debut of What About Us goes mobile, a neighborhood trailer that will deliver food and resources door to door to families on the Eastside. Learning from injecting play and creativity in our activity, Tam and I brainstormed ways she could make her trailer interactive to receive feedback from her neighbors on what they want to see in it. Could neighbors write directly on the trailer with white board markers as a way to give feedback? Could we print out giant pictures of resources and items and have neighbors tape them to the trailer? It seems that after our initial design intervention, Tam wants to continue using play, creativity, and visualization to engage with her neighborhood.

5.5.3 Design Intervention #3: Water We Gonna Do?

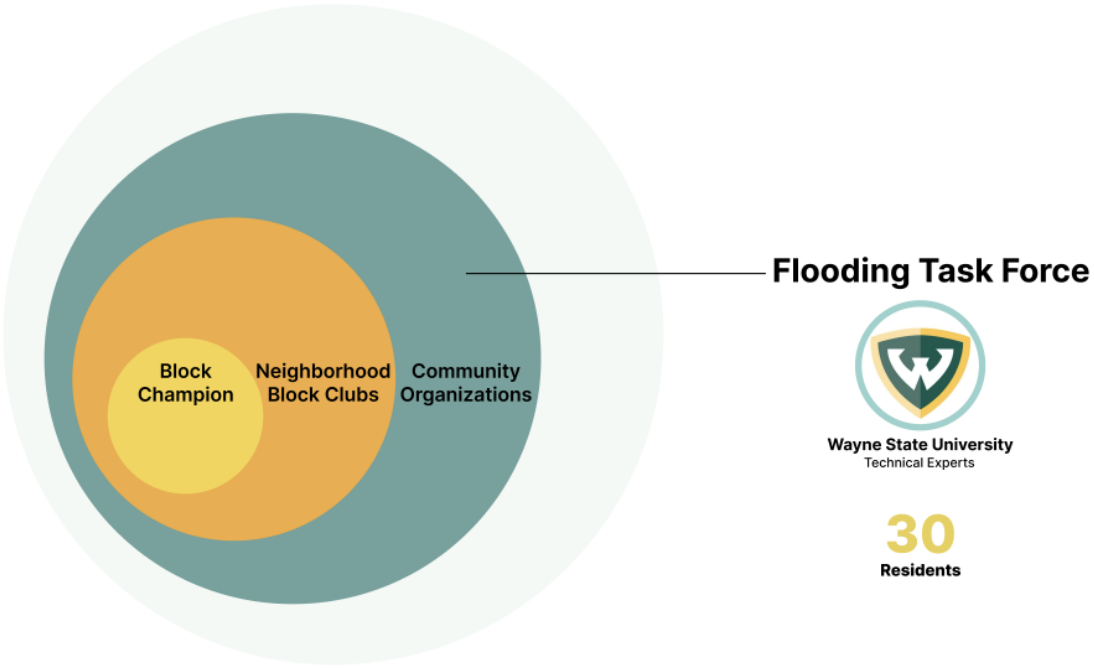

Figure 21. Flooding Task Force

Goals:

The third design intervention was called Water We Gonna do? And tested with the Flooding Task Force. The Flooding Task Force is part of ECAC, my community partner, and is an organized group of residents on the Eastside working specifically on flooding issues, in partnership with Wayne State University. The goal of this intervention was to generate

resident-driven ideas for collective action around flooding preparedness. It aimed to get people talking about things in a non-threatening and creative format, familiarize them with existing flooding resources, and have people leave feeling empowered having done a few steps for flooding preparedness together right here, right now, in real time.

Prototyping:
This intervention took a total of 1.5 hours of implementation with 15 participants from the Flooding Task Force. As a pre-activity check-in, 100% had experienced flooding, and most had some idea of what to do when flooded, and were interested in strategies for collective action. Before starting this activity, the room was heavy and tense. We had just spent the first half of the meeting talking about traumatic flooding experiences with Wayne State professors so I was really nervous that the activity wouldn't be appropriate.

Because we made it *playful.* We created a game about how to prepare for flooding, which is not the first thing that might come to mind when talking about really sensitive experiences. But I explained to people that this wasn't meant to minimize people's experiences or make light of them, but rather to be used as a tool to talk about hard things.



Figure 22. Flooding Task Force playing Water We Gonna Do?

We made it *easy.* The rules to the game were simple to make it easy to understand. Every player takes turns rolling the die and drawing a card that will either move you forwards or backwards, as you try to make it to the finish line.

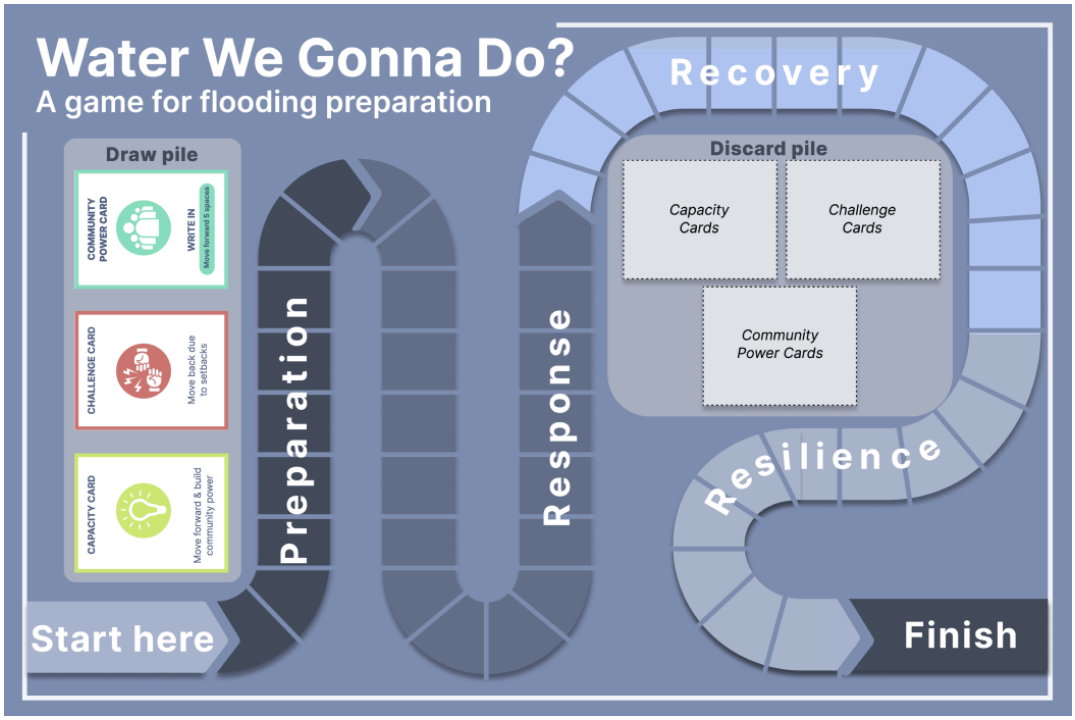

Figure 23. Flooding Task Force playing Water We Gonna Do?

We made it *attractive.* Capacity Cards represent different scales of actions for community power: neighbor to neighbor, community, organization, and city. Green cards call for direct action to be done right here right now with your teammates. For example, exchanging numbers with everyone sitting at the table and starting a group chat to share resources and info. Challenge cards reflect real scenarios the Eastside faces from flooding, like the lack of proper public engagement the city has committed to this process.

We made it *social.* Community power cards, the most important, ask players to collectively brainstorm and write down actionable steps to take to mitigate challenge cards. People seemed to really start getting into it and were having fun. Some were even laughing at the challenge cards at how ironic and accurate they were to their experiences with flooding and taking pictures to share with their friends. Working together, people generated some really good resident-driven ideas from the community power cards.

For example a few were:

- A generator library at resiliency hubs that people can check out during an outage
- Having ECAC develop a program to help people scan documents electronically so that they can have them in multiple formats in case they lose them during flooding
- to scaling up - having a flooding task force for EVERY district that forms an even larger city wide council for flooding preparedness

After the design intervention I asked residents a post-activity how they felt about the intervention by using sticker dot voting:

- 92% of people liked this activity and had fun

- 100% felt working together generated useful ideas for flooding preparedness
- 83% learned something new or walked away with actionable skills

We made it *timely.* Not only was this design intervention similarly conducted around this winter's power outage, so sparked a lot of conversation, it was conducted during an already standing Flooding Task Force meeting, which actually set the tone for the intervention. What I mean by this is that my initial apprehension for running the design intervention because of how different the tone was from the meeting, which was heavy and tense, ended up actually being validated due to the contrast to the intervention, which was lighthearted and fun. Without the juxtaposition between the Flooding Task Force meeting before the design intervention, the behavior change would not have been so drastic, further proving how effective play is in creating behavior change.

In talking to residents afterwards, what stuck out to me the most was a resident telling me that it's very easy during these types of meetings to get caught in a loop of only talking about your challenges and things that have happened. But in order to move forward, you need to also talk about solutions and ideas and get it out of your head, and that this game was generative, and a way of doing this.

Key Findings:

1. **Lower the barrier to participation.**
   People could be as personal or impersonal as they wanted when talking about their experience. They could say "I experienced this" or "The card says this" if they didn't feel comfortable. Nobody is being put on the spot even though they were asked to reflect on hard things, therefore lowering the barrier to playing the game. Challenge cards were also written to be pithy and poke fun at the incompetent and bureaucratic process, rather than be retraumatizing to read. Residents were laughing and taking pictures of the challenge cards because of how relatable they were to their experiences.
2. **Measure behavior change.**
   Behavior change was the most evident in this design intervention. Before starting the activity, the room felt heavy and tense. Residents had just finished a meeting talking with Wayne State Professors about their challenges and traumas due to flooding. There was a very obvious shift in the room from somber to laughter once people started playing the game.The activity served as a tool to talk about hard things, opening the room up to generate new collective solutions and ideas.
3. **Break challenges into manageable chunks.**
   The cards helped focus community members. Rather than asking "What do you want to see differently in the flooding preparedness space?" which might open up unstructured discussion, cards focus people to focus and discuss one thing at a time. This helps break down a complicated multi-faceted problem into more manageable chunks. In addition, the game was just detailed enough to focus residents on a range of topics related to flooding preparedness but talk more about the nuances involved with each capacity or challenge card. For example, many reflected on the advice that getting a generator is not actually enough, but the need for education around how to use one as

improper use can be dangerous. Most importantly, this game was a way to move away from just talking about challenges, and start brainstorming potential solutions within Eastside communities as well as where the Flooding Task Force can push for better program and policy.

Design as a value add:

In reflection with Erin and Ricky from ECAC after the Water We Gonna Do? board game, the clearest value add was the behavior change that resulted from using the board game as a tool to talk about hard experiences. The contrast between the heaviness in the room before the board game, and the joy and laughter after playing it was palpable. People are able to generate more ideas and be more creative when there is a safe space for them to dream and imagine. This design intervention proved that it is undoubtedly more effective to ask Eastside residents to work together to unpack complex flooding protocol through a board game and generate new ideas, rather than only asking “What challenges did you face with flooding?”. Brenda Butler, Eastside Detroit resident told me after the activity that it is really easy to get caught up in challenges, but in order to move forward it’s important to generate new ideas together, and Water We Gonna Do? was a generative way of doing so. Ricky also let me know that this was one of the most impactful student projects ECAC has seen. Broader uses of it could even extend to city officials and organizations playing it to develop better empathy for residents’ lived experiences, through a way that is non-threatening, yet real.

6. Limitations

6.1 Design Intervention #1: Cocoa & Comment

1. **More visual clarity needed**
   While this design intervention followed the PEAST behavior framework and was attractive, I still noticed some confusion around the poster boards. The “Asks” poster board was not as clear as the “Who” board. Some residents couldn’t tell it was about flooding. I consolidated long lists of information to make it as clear as possible, but there was still a lot of text that was hard to read and could have been represented by more visuals. Residents didn’t want to spend a lot of time reading through each of the asks to the elected officials.
2. **Pros and cons of a passive vs. active activity**
   This design intervention ran for three days allowing residents the flexibility to opt in or opt out of the activity. However, I wasn’t there for every minute to run it and traveled back and forth to facilitate the pop-up during days the Stoudamire was having other events. ECAC managers facilitated for me while I was gone and found it easy to do so, but as a result, I couldn’t observe every interaction and had to ask second hand for interactions.
3. **Lack of post-intervention follow through**
   I delivered the valentines to city council in person following the Cocoa & Comment design intervention, but did not get to meet with the elected officials in person, just the secretary. Therefore, I was unable to gauge their reactions to the valentines.

6.2 Design Intervention #2: Map Your Neighborhood

1. **Small group of participants**
   This intervention was done with a small group of five kids, as many neighbors were out of town due to the power outage. The kids found it easy to be playful and have fun with the activity, however this might not be representative of all neighbors who feel more shy talking about flooding in their neighborhoods. Part two of this intervention that involves a conversation around flooding preparedness with the entire Belvidere neighborhood will be more representative of how adults engage with tactile objects and play.
2. **Effects of COVID on level of community engagement**
   Tam was still very covid conscious and due to the cold weather we weren’t able to conduct the Map Your Neighborhood design intervention outside. Therefore, the intervention had to happen at the hub, which ended up being the perfect size for the five kids who participated. But had there been more, and for future events, space will be a factor of engagement.

6.3 Design Intervention #3: Water We Gonna Do?

1. **Constraints to participation**
   Directions were provided for the game and explained ahead of time but a few residents were still confused in the beginning on how to play. This meant that some groups relied

on me as a facilitator, so this is a factor in thinking through how to make the directions more clear so anyone can explain the instructions or a facilitator is not needed.

2. **Varying levels of expertise**
   Groups who played the game had varying levels of expertise depending on whether ECAC leaders Erin, Ricky, or Wayne State professors were in their groups, who had more technical knowledge. Compared to groups that were made up of all residents, these groups generated ideas that were skewed towards technical solutions. However, this isn't necessarily negative as this game was designed to support interdisciplinary teams of residents and technical experts. The limitation just points to the different team dynamics and types of ideas generated as a result of this.
3. **Reliance on group accountability**
   Direct action cards in the game nudged people to complete tasks in real time. However, depending on the group, some followed through while others did not, depending on how hard the direct action cards were. The intention of the direct action cards was to make them as easy as possible to complete, but time was definitely a factor. Residents didn't always want to take the time the card may have needed to complete the activity. In the future, a further iteration could list the amount of time each direct action card should take, removing the barrier of time.

7. Key Findings & Impact

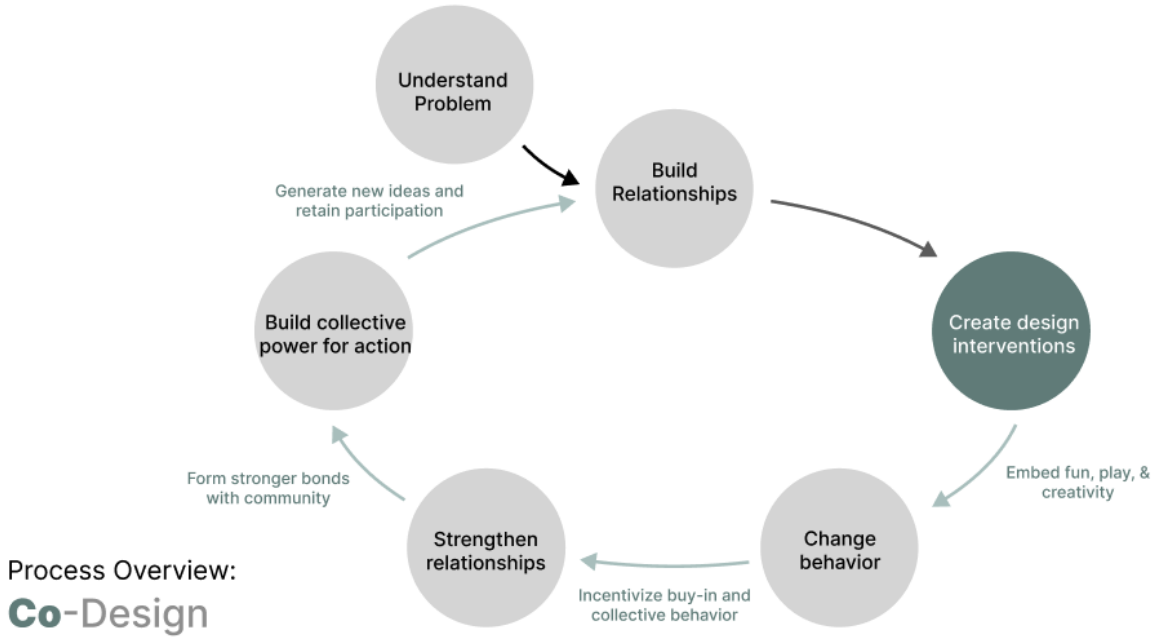

Figure 24. Co-Design Process

7.1 Building Relationships

This work started with and has always centered on relationality. It has proved that we as humans need community to feel a sense of belonging in everyday life, as well as during times of disaster. In full transparency, I felt a lot of initial apprehension in the beginning of this work reaching out to and attending community events on the Eastside in a community that I neither belonged to nor shared the same lived experiences with. I knew building genuine relationships was a necessary first step, but I often felt “what gives me the right to work in these spaces?”. Showing up consistently as my whole self, an observer, then a volunteer, and then a friend, and not just a designer, researcher, or student at University of Michigan built non-transactional relationships and trust.

Through the generosity and trust of my community partners, Erin Stanley and Ricky Ackerman from ECAC, as well as my collaborator, Tam Howard from What About Us, I was able to co-create three design interventions after months of volunteering, attending community meetings, and ideation sessions. All of this project work has been built from the years of love Erin, Ricky, and Tam have committed to community and coalition building with their neighbors on the Eastside and would not be possible without them.

7.2 Embedding fun, creativity, and play

Fun, creativity, and play were crucial components of each design intervention that surfaced during, and not before the work. I resisted the idea of “fun” for a long time and felt uncomfortable labeling my work as that. It felt wrong for a long time to call preparing for flooding “fun” when flooding was a traumatic experience shared by so many. However, as I observed the heaviness of community meetings when residents discussed their experiences, and ECAC’s concern around maintaining resident participation, particularly with their community leaders, I thought there must be another way. Not that what ECAC was doing wasn’t transformative and already building towards collective action, but residents needed a more comfortable way to share their experiences around a hard topic. “Fun” might feel inappropriate and counterproductive, but coupled with creativity and play, was the turning point of this project. When residents tapped into their inherent joy instead of fear, ideas around flooding preparedness were generated quickly and very creative. Whether that was using community power cards from playing Water We Gonna Do?, to re-imagining a FEMA emergency toolkit to include social skills and community resources, to inspiring further ways to show elected officials resident power through Cocoa & Comment, each of these design interventions were designed to help residents recognize their own power, their inherent creativity, and collective power.

7.3 Changing Behavior

In working with Erin, Ricky, and Tam it took some convincing to get buy in for the design interventions. It was definitely a risk to bring someone in from outside to run workshops with community members. In addition, as mentioned, “fun” is not the first thing that comes to mind when talking about flooding. I remember the “aha moment” when I convinced them to create each design intervention was when I introduced how play could be an effective tool. While creating Cocoa & Comment I remember asking Erin, “What if we could recreate the public comment process to be fun and kind of pithy through Valentines Day?” to which she laughed and said “That’s funny, I like that”. In working with Tam, I had to remember that there was extra caution around a community activity due to COVID. The workshop really clicked into place when I thought “why should people care?” and I realized that Tam would be more inclined if the proposed design intervention could benefit her Health and Safety Fair, an annual event Tam has been hosting for seventeen years. When I pitched it this way, Tam became a lot more interested.

When residents saw that these design interventions offered a different orientation to flooding preparedness, through fun, creativity, and play, they got curious about what the interventions were, because they might not have seen anything like it before. Through using the (P)EAST behavior framework to design each intervention and working closely with Erin, Ricky, and Tam, residents started to buy into the interventions and participate even though they were odd and familiar. Doing the interventions together as a community was powerful because that act in itself was shifting the status quo of flooding preparedness from doing it individually to collectively. Not only were more potent ideas generated as a group, it solidifed the idea that we can have fun, and do it together.

7.4 Strengthening Relationships

Each of the three design interventions strengthened existing relationships between residents and built new ones between technical experts, elected officials, and residents. Because the interventions were designed to be done together, residents participated through passive and active ways to generate new ideas. Cocoa & Comment relied on residents' willingness to opt in and was spurred by group accountability. People came up in groups together and were more likely to write valentines if their friends did. Water We Gonna Do? and Map Your Neighborhood called for residents to work together in real time to create and actively generate new ideas together. Working together strengthened social bonds between residents and created positive memories of collective power. After each of these design interventions, most residents felt working together generated useful ideas for flooding preparation and said they would be willing to do something similar again.

7.5 Building Collective Power for Action

Finally, building collective power for action is the result of building relationships, embedding fun, creativity, and play, changing behavior, and strengthening relationships. It’s cyclical. Together as a community and coalition, residents have infinitely more power to pressure elected officials through creative measures to create more equitable flooding policies and programs. After finishing each of these design interventions, residents have been interested in bringing these types of resources to their neighbors and communities and even asked me how to adapt them for different contexts. Residents have suggested ways to make each intervention even more powerful, such as coordinating a bus of people to city council to deliver the public comment valentines, or expanding the Map Your Neighborhood workshop to an even bigger audience.

8. Conclusion & Future Work

Capitalism and white supremacy culture encourage us to practice individualism and scarcity, not just in flooding preparedness. We compete, more than we collaborate. Sometimes, we hoard more than we give. But in Eastside Detroit, there is a rich history of mutual aid, and people have incredible ideas for their communities to shape their futures for the better.
So if we work together, we can build collective capacity, scale our collective power, and take action to push for more equitable flooding protocol and livelihoods.

I recently attended a class lecture with PG Watkins, a facilitator and organizer in Detroit who said “Building power is really just the science of relationships”. To create new futures, you need to get clear on who you work with and how you work together. I felt this encompasses the heart of this work. While the subject of this project has been flooding, on a broader scale, the impact is designing for resilience through trauma and the human ability to work together and tap into innate joy, creativity, and play, to persevere through hard spaces. Collective action emerges through rage, love, and joy. I hope this project has helped illuminate that joy can coexist with rage and an integral part of the process.

True co-design is rooted in resident lived experiences and community “empowerment”, yet is still done rarely. So how can professionals, social designers, and community leaders better utilize design, play, and collective power to create resident-driven solutions? Better put, Erin asked “how can we create something for community leaders to continue doing these types of interventions using design thinking, without actually being designers?”. Planners and the city need to genuinely value people over profit and develop more equitable programs and resources that center resident needs and are inclusive to all neighborhoods. Social designers are translators, visualizers, and relationship builders. They can help the city think of more creative ways to foster relationships with residents rather than just town halls and meetings, and bake equity and power into the heart of the process. Community leaders are experts in their neighborhoods. They know what their residents need. Whether someone self-identifies as a “community leader” or not, there always is someone who has ideas and is actively trying to improve their neighborhood. Through this work I’ve learned that they are inherently creative and innovative, but sometimes need some help surfacing this knowledge, and doing so in a manner that is socially connected.

The next phase of this project works with community leaders. Taking the behavioral framework of PEAST and insights of the importance of the collective, play, and joy learned from this project, I will be working with community leaders to co-create a “Neighborhood’s Guide for Building Collective Power – Sparking Joy for Agency”. This guide is meant for community leaders, whether you’re a block club, or ECAC member, or just someone who has an idea on how to improve their neighborhood, who wants some guidance on how to organize their communities to take action on issues they care about through creative methods. It doesn’t have to be specific to flooding, and is meant to meet communities where they’re at. To avoid individual burden and burnout, activities in the guide will specifically be designed for communities to work together and skill share. The guide will be three pronged and playful, in a choose your own adventure type of

format and include activities for different points in the process of building power from “Starting Conversations Towards Buy-in”, to “Generating New Ideas”, to “Pushing for Collective Action”. It is meant to be collective, playful, and accessible to empower people who may not have technical skills in design, but are inherently powerful and creative to take action.

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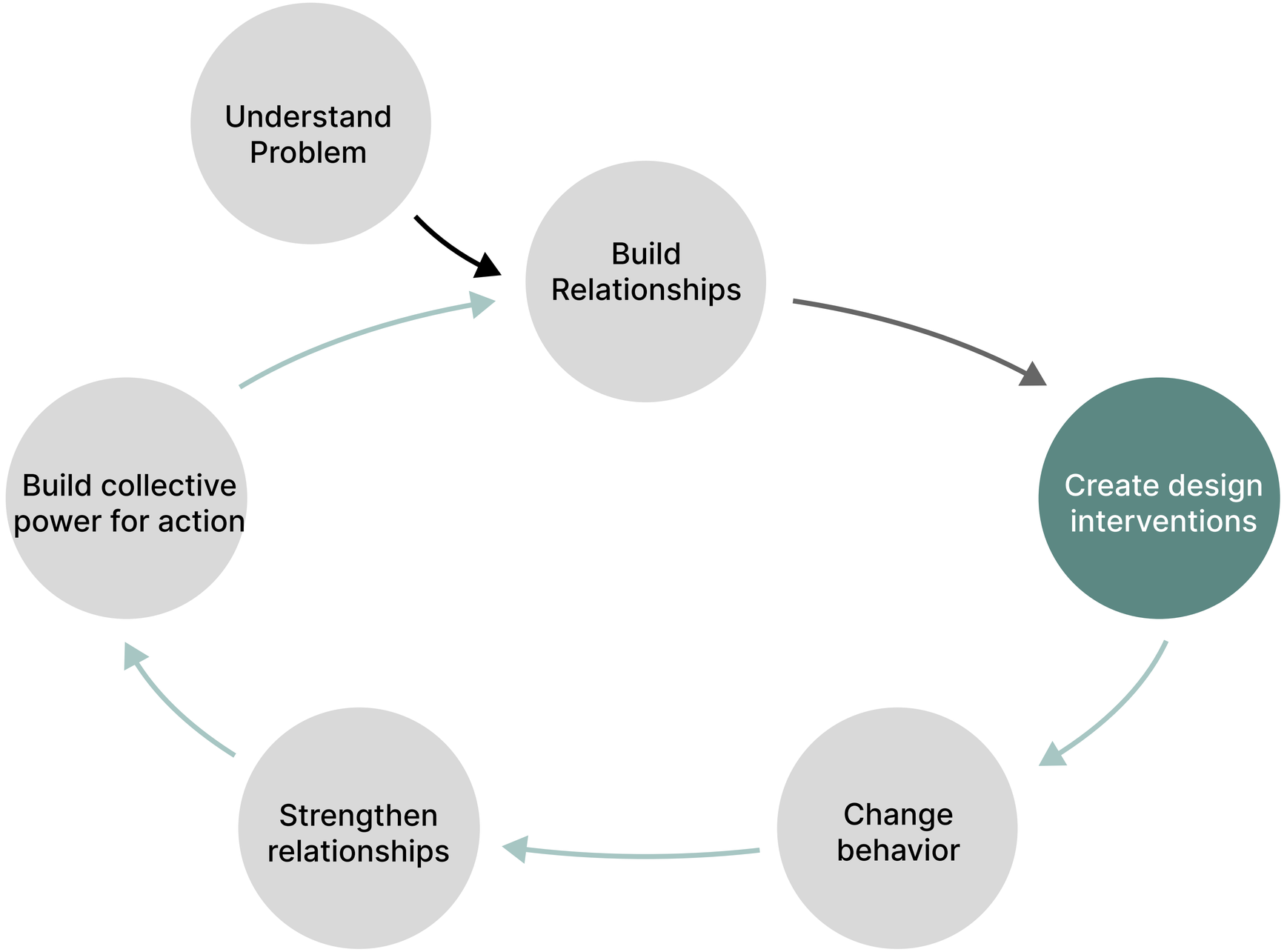
Appendix

A. Eastside Detroit Semi-Formal Social Structure
B. Co-Design Process 1
C. Co-Design Process 2
D. IAP2 Spectrum of Public Participation
E. Mapping Eastside Detroit's Community Engagement on the IAP2 Spectrum of Public Participation
F. Mapping Opportunities for Design Interventions
G. Cocoa & Comment Board
H. Cocoa & Comment Board
I. Cocoa & Comment Board
J. Map Your Neighborhood Board
K. Map Your Neighborhood Board
L. Water We Gonna Do? Game
M. Water We Gonna Do? Game
N. Water We Gonna Do? Game
O. Water We Gonna Do? Game

A. Eastside Detroit Semi-Formal Social Infrastructure



B. Co-design Process 1



Process Overview:

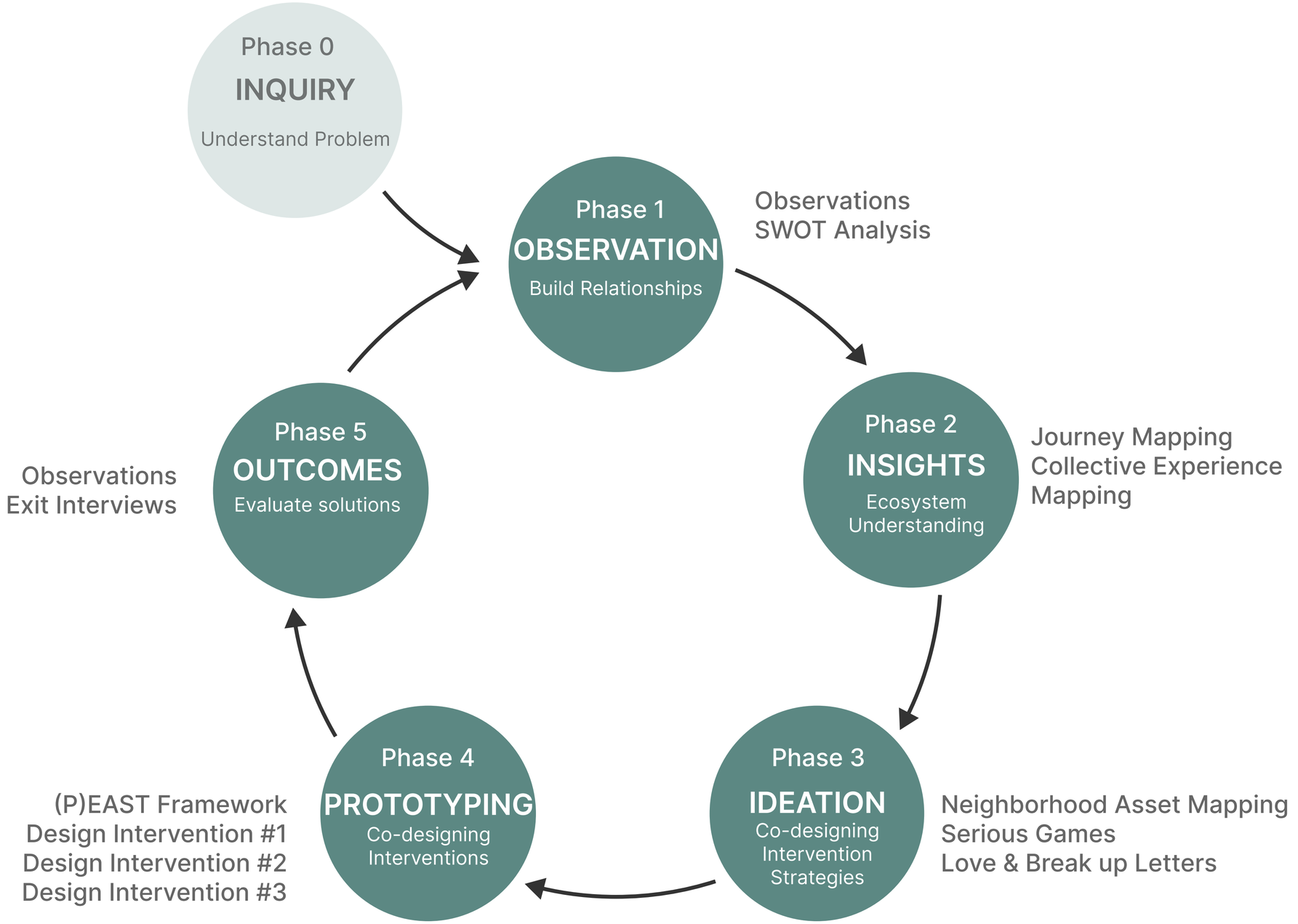
Co-Design

C. Co-design Process 2

Create design interventions

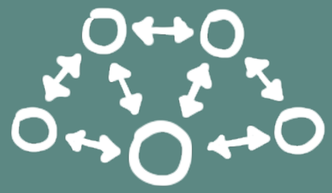
Process Overview:

Co-Design



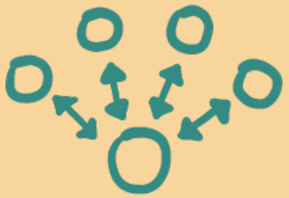
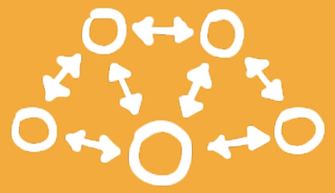
IAP2 Spectrum of Public Participation

Increasing level of public impact

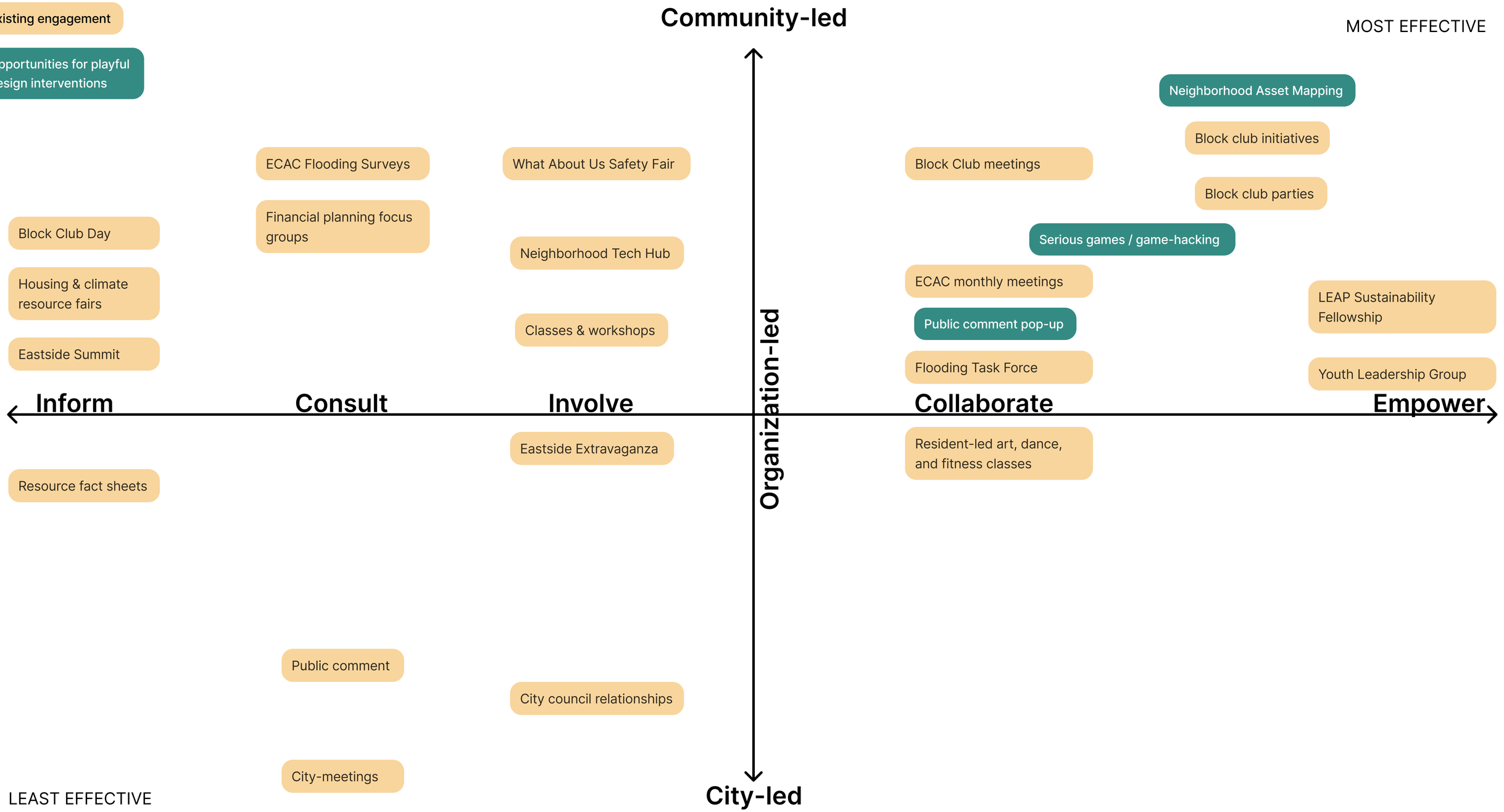
	INFORM	CONSULT	INVOLVE	(Co-design) COLLABORATE	(Co-design) EMPOWER
					
CO-DESIGN GOAL	Provide public with balanced and objective information to assist them in understanding problem	Obtain public feedback on analysis, alternatives and decisions	Work directly with public throughout process to ensure public concerns and aspirations are considered and understood	Partner with public in each aspect of decision making	Place final decision making in the hands of the public

Mapping Eastside Detroit's Community Engagement on the IAP2 Spectrum of Public Participation

Increasing level of public impact

	INFORM	CONSULT	INVOLVE	(Co-design) COLLABORATE	(Co-design) EMPOWER
					
EXAMPLES	Resource fact sheets Housing & Climate resource fairs Block Club Day Eastside Summit	ECAC Flooding Surveys Financial Planning Focus Groups Public Comment City meetings	What About Us Health and Safety Fair Eastside Extravaganza Neighborhood Tech Hub Classes & Workshops	Flooding Task Force ECAC monthly meetings Block Club meetings Resident-led art, dance, and fitness classes	Block Club Initiatives Block Club Parties LEAP Sustainability Fellowship Youth Leadership Group

F. Mapping Opportunities for Design Interventions



G. Cocoa & Comment Board

FROM: YOU!

TO: CITY COUNCIL, DWSD, & GLWA

ECAC PROUDLY PRESENTS:

A VALENTINE'S DAY POP-UP EVENT



HOT COCOA & COMMENT

FEB 08, 2023 (6:30 - 8pm)
to
FEB 14, 2023

THE STOUDAMIRE
4401 Conner St.

COMMUNITY NIGHT • GAMES • HOT COCOA
PUBLIC COMMENT VALENTINES

Have you and your neighbors struggled with **flooding** in your neighborhood? Come join us for Community Night at the Stoudamire and make your voice heard by learning how to write a **public comment valentine to city council, DWSD, & GLWA** while enjoying some **hot cocoa!**

H. Cocoa & Comment Board

FROM: YOU!

WHO?

TO: CITY COUNCIL, DWSD, & GLWA

CITY COUNCIL



SCOTT BENSON
District 3



LATISHA JOHNSON
District 4



MARY SHEFFIELD
District 5



COLEMAN A. YOUNG II
At large



MARY WATERS
At large

DWSD



GARY BROWN
Director



MICHAEL EINHEUSER
Chairman

GLWA



GARY BROWN
Board member



SUZANNE COFFEY
CEO



FREMAN HENDRIX
Board chair

I. Cocoa & Comment Board

FROM: YOU!

ASKS:

TO: CITY COUNCIL, DWSD, & GLWA

CITY COUNCIL & DWSD

1 MORE EMERGENCY PREPAREDNESS EDUCATION, COMMUNICATION, & RESOURCES

- More methods of communication from government during an emergency to ensure everyone is reached, not just text or social media
- Door to door outreach programs focused on health, flooding preparation & cleanup. The City could contract local neighborhood groups and community organizations to do outreach

2 STREAMLINED ACCESS TO FLOOD RECOVERY INFORMATION

- Clear locations where residents can go for help after flood (ie a resilience hub)
- Clear & honest communication about what to do when a basement floods & how to take care of raw sewage
- Hard copies of resources & direct outreach, not just online

3 NEW & EXPANDED ASSISTANCE PROGRAMS FOR THE EASTSIDE

- Expand the Basement Backup Protection Program to include more Eastside neighborhoods & resources for household flood mitigation installations
- Develop new programs & resources that promote holistic recovery for: loss of personal property, appliance repair & replacement, trauma, recovery & emotional support
- Incorporate flood and climate resilience/adaptation into recovery efforts

4 INCREASED FUNDING & UPDATED POLICIES FOR GSI

- We want the City to prioritize and fund green infrastructure options for stormwater management, especially in low-density areas
- Amend the Post-Construction Stormwater Ordinance to allow developers to get credit for installing GSI off-site, especially in historically excluded communities

---

GLWA & DWSD

1 INCREASE CAPACITY OF REGIONAL STORMWATER RETENTION

- We want upstream communities to retain more of their stormwater during a rain event

2 MAINTAIN & UPDATE CURRENT INFRASTRUCTURE

- We want catch basins cleaned and vacuumed more regularly
- Clear communication how, where, and when infrastructure is being maintained
- Design new infrastructure projects that reflect climate change & increasing severity of rainfall events

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DWSD ONLY

1 CLEAR COMMUNICATION & TRANSPARENCY ON PLANS

- conduct an assessment of where infrastructure improvements are most needed and see plans that address these assets.

2 INCREASED USE OF GSI

- GSI should be strategically used to capture stormwater “upstream to lessen burden on whole system

J. Map Your Neighborhood Board

WHAT GOES INTO AN EMERGENCY KIT?



Water



Non-perishable food



Battery-powered radio



Flashlight



First aid kit



Batteries



Whistle



Mask



Plastic sheeting & Duct tape



Trash bags & moist towlettes



Wrench or pliers



Can opener



Local maps



Cell phone charger with backup battery



Water-resistant boots



Water-resistant gloves



Change of clothes



Important documents



Medication



Pet food

K. Map Your Neighborhood Board

WHAT SKILLS DO YOU HAVE DURING AN EMERGENCY?



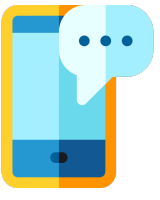
I can lift heavy things!



I'm a good communicator & can check in on others!



I stay alert! I can watch the TV for emergency alerts



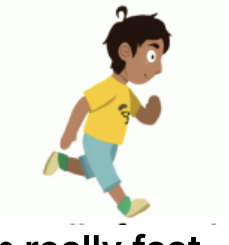
I'm good at using my phone - I can text & alert people



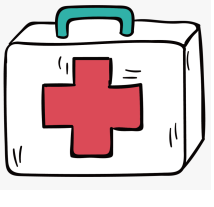
I'm good at calling for help from adults!



I'm brave!



I am really fast - I can evacuate quickly



I like to help & care about others!



I'm good at remaining calm under pressure

Write your own!

_____

_____

Water We Gonna Do?

A game for flooding preparation

Draw pile







Start here

Preparation

Response

Recovery

Discard pile

Capacity Cards

Challenge Cards

Community Power Cards

Resilience

Finish

Capacity Card

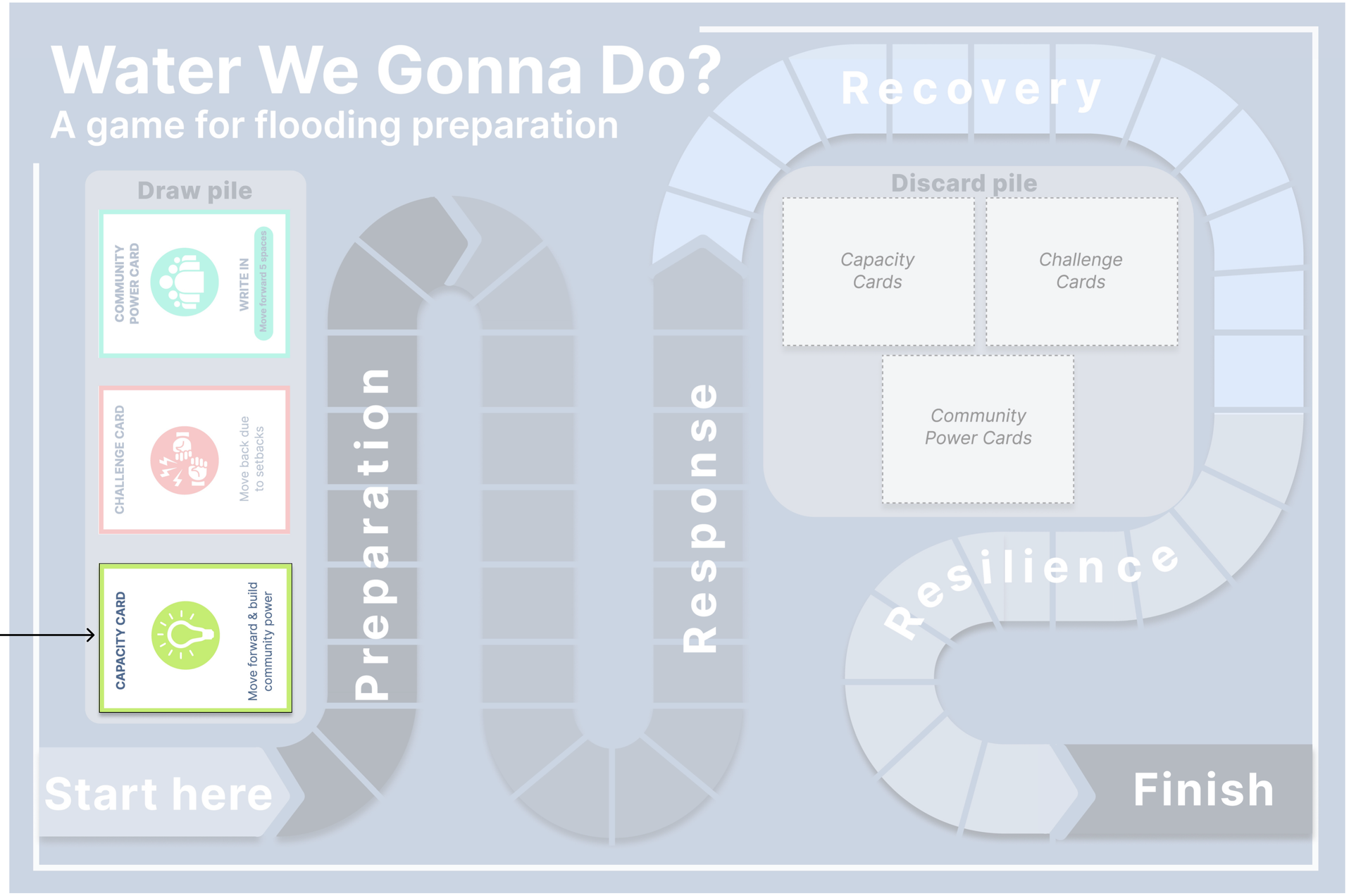
COMMUNITY

Did Someone Say Phone a Friend? 📞

Do this together!

Discuss as a group what types of communications channels everyone uses. Exchange numbers and start a text group chat, NextDoor group, or Whats App group

Move forward 4 spaces



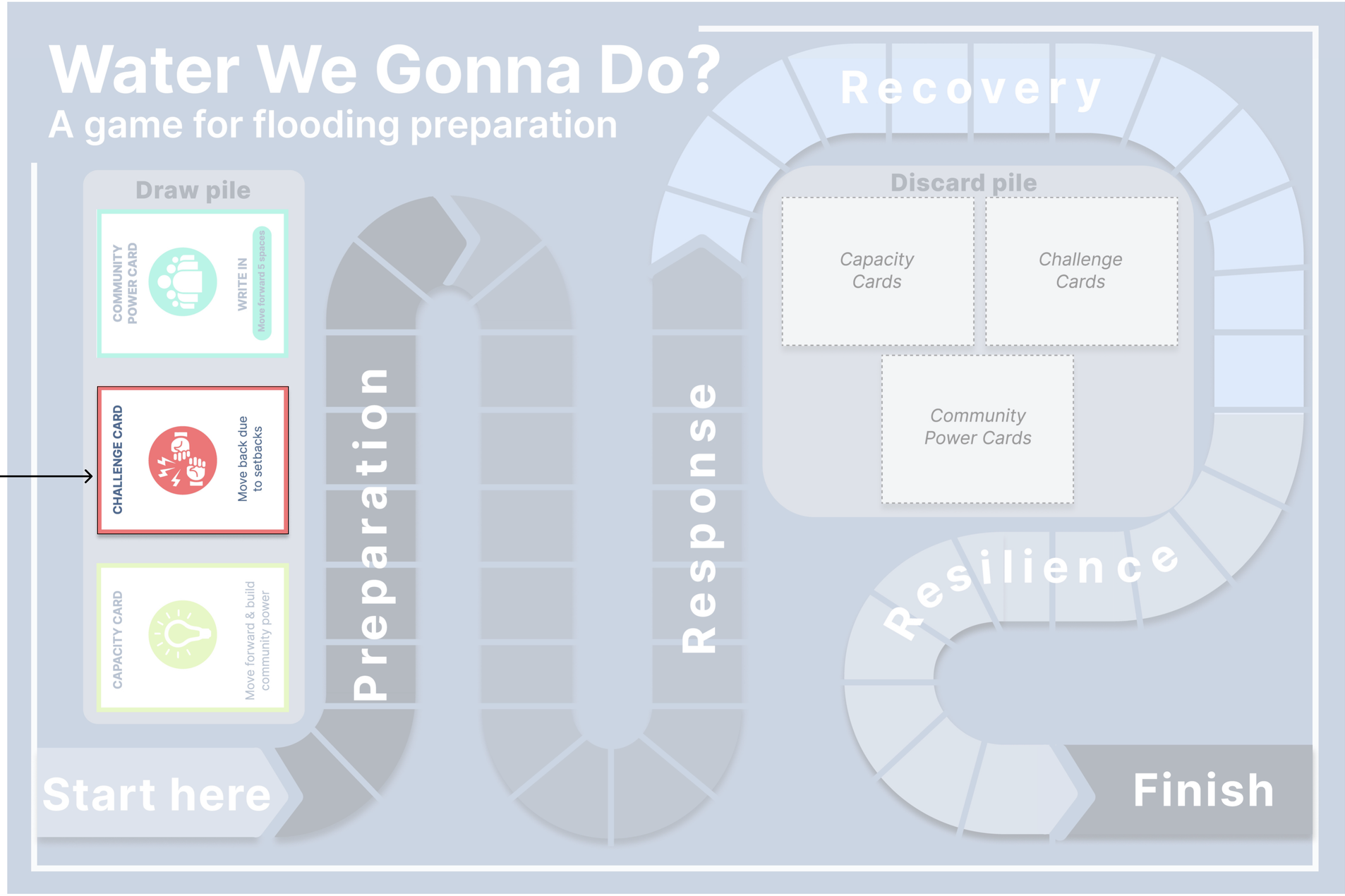
Challenge Card

CITY

What is...public engagement?

HUD is putting out a bill of 57.5 million for recovery funds for the 2021 flood but isn't listening to the public. They are met with angry public comments from hundreds of residents. Use a community power card to discuss how to build a campaign to protest this.

Move back 3 spaces



Community Power Card

COMMUNITY
POWER CARD

Who:

Target:

Action:

