

# NEIGHBORHOOD RESILIENCE IN THE CITY OF HOUSTON

## PLANNING GUIDE

April 2023



# RESILIENCE IN THE CITY OF HOUSTON

## A REPLICABLE FRAMEWORK FOR NEIGHBORHOOD RESILIENCE PLANS

### Resilience at the Neighborhood Scale

Houstonians are reminded regularly of the urgent need to build long-term resilience that is holistic, equitable and inclusive. While the disruptions from shocks like flooding, power loss, and extreme cold and heat may be experienced across the city, they are often amplified by local conditions. These conditions might include antiquated or inadequate infrastructure, poverty, environmental degradation, exposure to pollution, poor public health conditions and limited access to resources like healthy food, jobs, safe and affordable housing, and capital. For this reason, place-based solutions work best to build community resilience.

A Neighborhood Resilience Plan identifies solutions tailored to meet the needs of a specific community. It helps to affirm a community's shared vision, goals and priorities. It can be an effective tool for engaging partners and attracting and leveraging multiple sources of funding.

### A Neighborhood Resilience Plan

- incorporates climate adaptation and risk reduction, economic development, infrastructure modernization, and social empowerment into neighborhood specific strategies;
- establishes specific methods for tackling complex shocks and stresses, such as flood risk, subsidence, extreme heat, energy security, disinvestment, displacement, environmental injustice, and aging infrastructure;
- empowers neighborhoods to direct future neighborhood-based investments in the most effective ways possible to help reduce flooding, address vulnerability to climate and multiple hazards, improve quality of life and drive economic opportunity; and
- demonstrates to community members, practitioners, and policy makers how solutions can be integrated to achieve multiple benefits.

### Neighborhood Resilience Planning

The neighborhood resilience planning process is designed to be community driven, community shaped and community informed. It is also collaborative, requiring input and feedback from City of Houston Departments, outside agencies and non-profit organizations. Supporting the NRP is a science-based platform anchored by the City of Houston's Climate Impact Assessment (the science) and Resilient Houston (the platform). Together, this process and platform form a framework that supports neighborhood level problem solving while also learning from and sharing in the work of other neighborhoods.

For some communities, work towards resilience is already underway. In those cases, the Neighborhood Resilience Plan will confirm a community vision, goals, and priorities, tie together disparate efforts and or fill gaps in planning and implementation efforts. Other communities may have to start by establishing a vision and identifying needs. The NRP planning guide allows for adjustments to be made to meet the needs of each community.

The Neighborhood Resilience Planning Process includes the five components listed below.

- Setting up the planning process
- Public Engagement
- Technical Advisory Committee
- Plan Production
- Implementation and Reporting

### How to Use This Guide

The Neighborhood Resilience Planning Guide describes each of the components of the planning process including roles and responsibilities. It also organizes the process into a set of standard tasks for neighborhood and civic group ownership. It recommends the information or actions needed to begin that task and the expected outputs or deliverables. While the overall process doesn't change, details can be customized to fit the needs of the neighborhood.

### URBAN RESILIENCE

The capacity of individuals, communities, institutions, businesses and systems within an urban area to survive, adapt, and thrive no matter what kinds of chronic stresses and acute shocks they experience

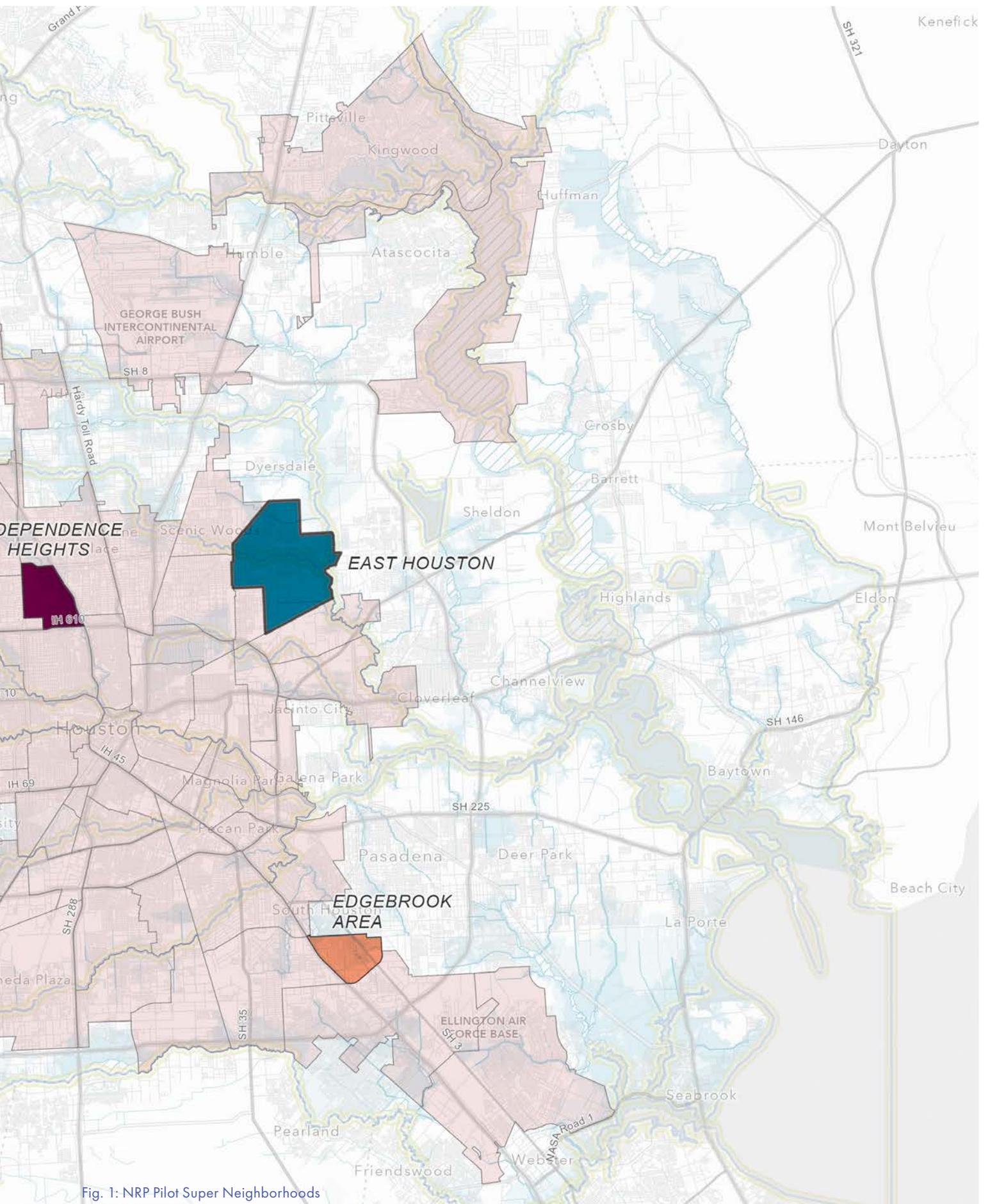


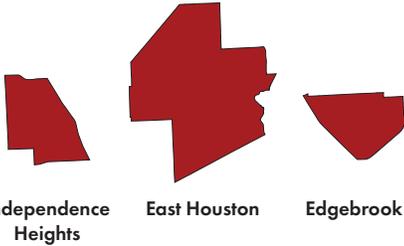
Fig. 1: NRP Pilot Super Neighborhoods

# NEIGHBORHOOD RESILIENCE PLANS

## PARTICIPANTS

### AN OPEN, INCLUSIVE, AND JUST PROCESS

Neighborhood Resilience Planning (NRP) requires creation of, and adherence to, a **Community Participation Plan (CPP)**, which provides guidance and an equitable process for stakeholder group engagements, helping to identify neighborhood-specific needs and priorities in concert with the larger goals of the NRP and Resilient Houston [See the resources section at the end of this document for the CPP].



### COMMUNITY STAKEHOLDERS

#### SUPER-NEIGHBORHOODS

Community Stakeholders are the individuals and groups who live and work in a Super Neighborhood, or other specified boundary. This cohort includes all residents, faith-based institutions, students, and other individuals, land-owners, or other organizations or businesses, with a deep cultural connection with the community and who wish to serve the best interests of the community.



### NEIGHBORHOOD SUPPORT TEAMS (NST)

#### COMMUNITY AMBASSADORS

NST volunteers are composed of neighborhood residents and community members who are interested in leading the effort to generate neighborhood-specific resilience plans. NST members are responsible for holding regular NST meetings, planning public meetings, holding workshops, and working with the City of Houston and/or other agencies to generate place-based solutions that will help the neighborhood respond and recover from climate related shocks and stresses.



### CITY of HOUSTON

#### PROGRAM SPONSOR

Neighborhood Resilience Planning is a program of the City of Houston. It is implemented by the Planning and Development Department at the direction of the Mayor's Office and in coordination with the Office of Resilience and Sustainability.



### TECHNICAL ADVISORY COMMITTEE (TAC)

#### SUBJECT MATTER EXPERTS

The Technical Advisory Committee is a multi-disciplinary group of City of Houston staff, regional agencies, and other organizations with subject matter expertise in civil engineering, finance, planning, GIS, and construction, among others. TAC meetings provide guidance and technical assistance throughout the planning effort.



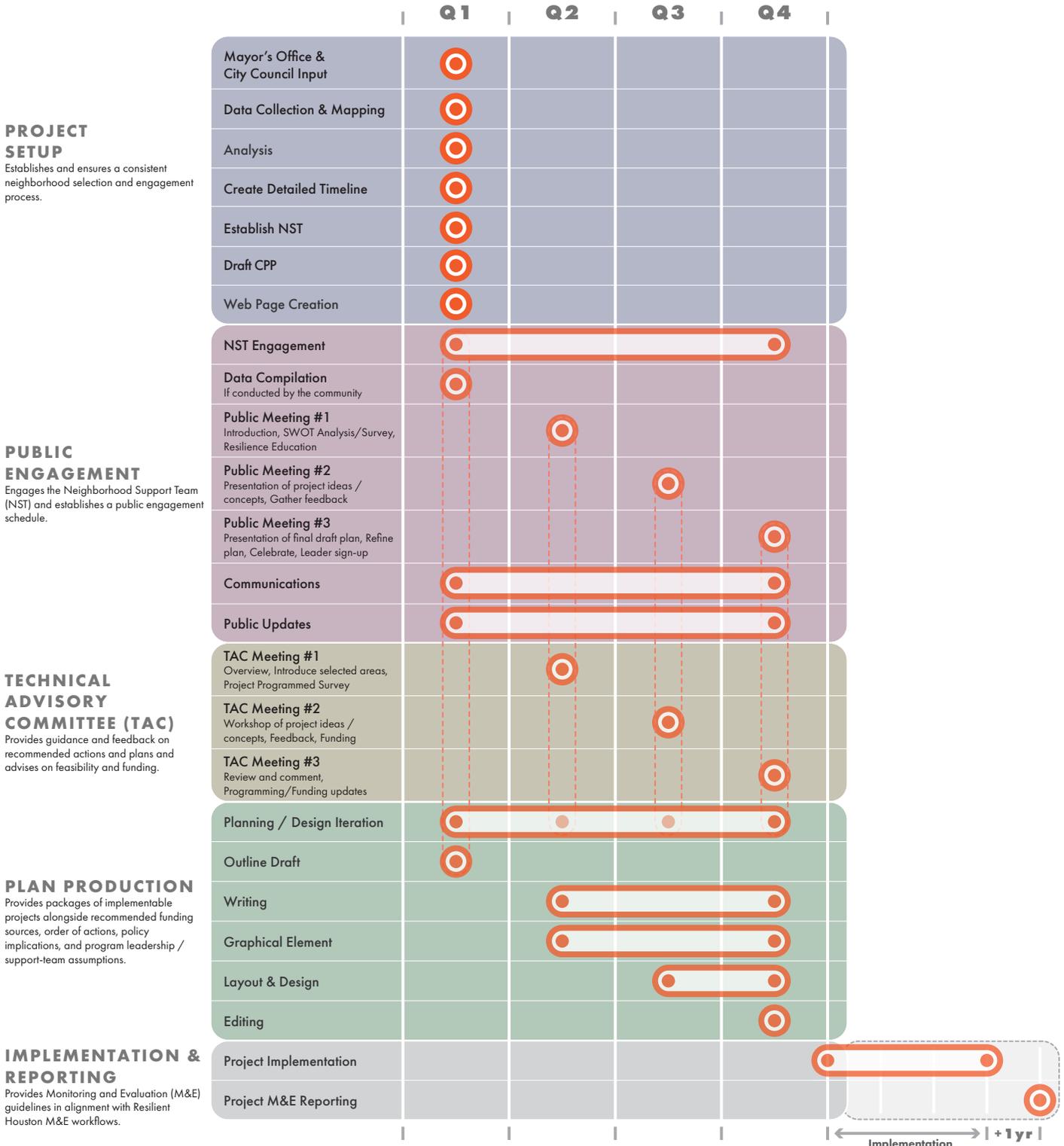
### PROFESSIONAL CONSULTANT TEAM (IF NEEDED)

#### CITY SUPPORT / ENGAGEMENT COORDINATION

Outside professional services may be considered by the City to support planning efforts through research, flood modeling, design, environmental studies, or community engagement, among other possible areas of focus. If the community elects to create a NRP with a consultant team of their choice, team expertise in community engagement, climate risk assessment, civil and hydraulic engineering, finance and funding, landscape architecture, housing, urban planning and design, architecture, and public health should be considered.

## PLANNING PROCESS

Neighborhood Resilience Planning is a community-driven, community-informed process that is anchored by the City of Houston’s (CoH) **Climate Impact Assessment** and **Resilient Houston** (See Resources). The CoH is responsible for hosting the Technical Advisory Committees (TAC) and managing the TAC outputs that inform the Neighborhood Support Teams (NST). CoH Planning and Development Department (P&D) or the participating communities (with CoH review and sign-off) host the NST meetings and manage the NST outputs that inform the Public Workshops and the TAC.



# PROJECT SETUP

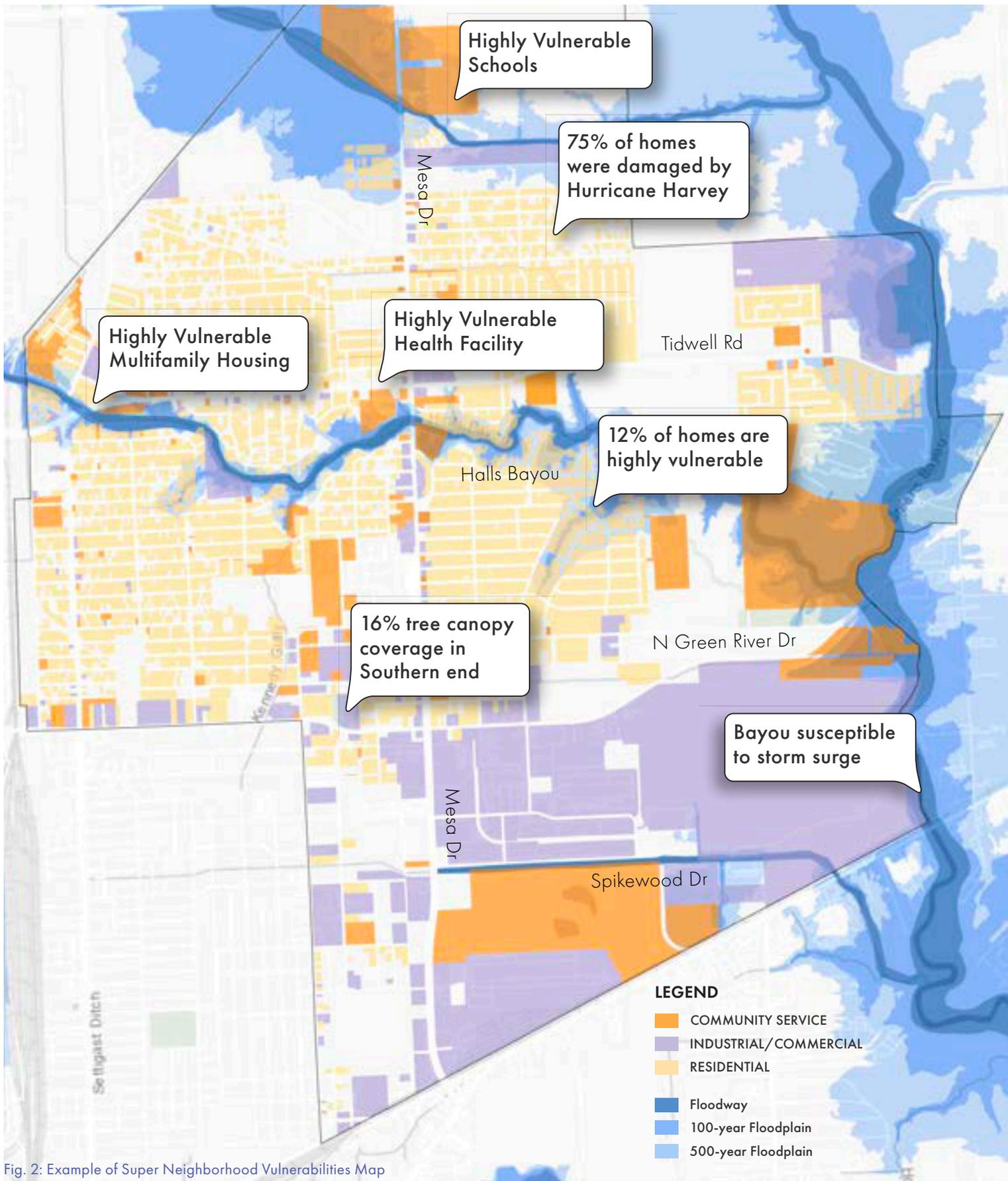


Fig. 2: Example of Super Neighborhood Vulnerabilities Map

# PROJECT SETUP

Establishes overall project plan, timeline, communications tools, and roles and responsibilities. Base data collection and analysis occurs and Community Participation Plan (CPP) is drafted.

| Q1 | Q2 | Q3 | Q4 |

Mayor's Office & City Council Input				
Data Collection & Mapping				
Analysis				
Create Detailed Timeline				
Establish NST				
Draft CPP				
Web Page Creation				

	lead	inputs	outputs
<b>Mayor's Office &amp; City Council Input</b>	Mayor, Mayor's Staff City Council	Final Neighborhood selection	Public announcement, City Council records / Meeting minutes
<b>Data Collection &amp; Mapping</b>	P&D	Spatial analysis; Demographic / Equity overlays	Assessment of existing conditions, maps for public meetings
<b>Analysis</b>	P&D	Existing conditions data and maps	Assessment of existing conditions, maps for public meetings
<b>Create Detailed Timeline</b>	P&D	Meetings, Known schedule conflicts, Target end date, Staff assigned	Gantt Chart
<b>Establish NST</b>	P&D	Community leaders contact info, 1-on-1 and Small group meetings	5-15 members committed to participating
<b>Draft CPP</b>	P&D	CPP template	CPP draft to finalize with NST
<b>Web Page Creation</b>	P&D	Create LTH** page, Constant Contact for emails	LTH** Page, emails, meeting videos

\* If community led  
 \*\* Let's Talk Houston

## Mayoral and Council Input

The Mayor's Office and City Council will review analyses from all super neighborhoods seeking CoH support to conduct Neighborhood Resilience Plans.

## Data Collection and Mapping

Demographic and socio-economic data are assembled and mapped. Other data sets are mapped including flooding, heat island, infrastructure, community facilities and institutions, parks, and amenities. Information about recent planning efforts and planned/programmed projects are collected.

## Analysis

Overlaying maps with the CDC's Social Vulnerability Index, a required screening from FEMA, and with Environmental Justice Screen, an EPA-hosted tool, provides insights on where compounding climate and other hazards coincide in the community.

## Detailed Timeline

A project management tool that visually represents important milestones and shows how tasks are dependent on one another.

## Establish Neighborhood Support Team (NST)

The NST guides participation efforts, serves as community ambassadors, memorializing past or ongoing community efforts, "nuancing" new content, and encouraging participation in activities, such as public meetings, workshops, and sticky events (Fig. 3). Pework with the NST will set the stage for future public meetings.

## Community Participation Plan (CPP)

Provides guidance and an equitable process for stakeholder engagements, helping identify neighborhood needs and priorities.

## Website Creation

Each Super Neighborhood developing a NRP will have a Let's Talk Houston website to enable communications with community members.

For Resources referenced, see the Resources Section.

# PUBLIC ENGAGEMENT

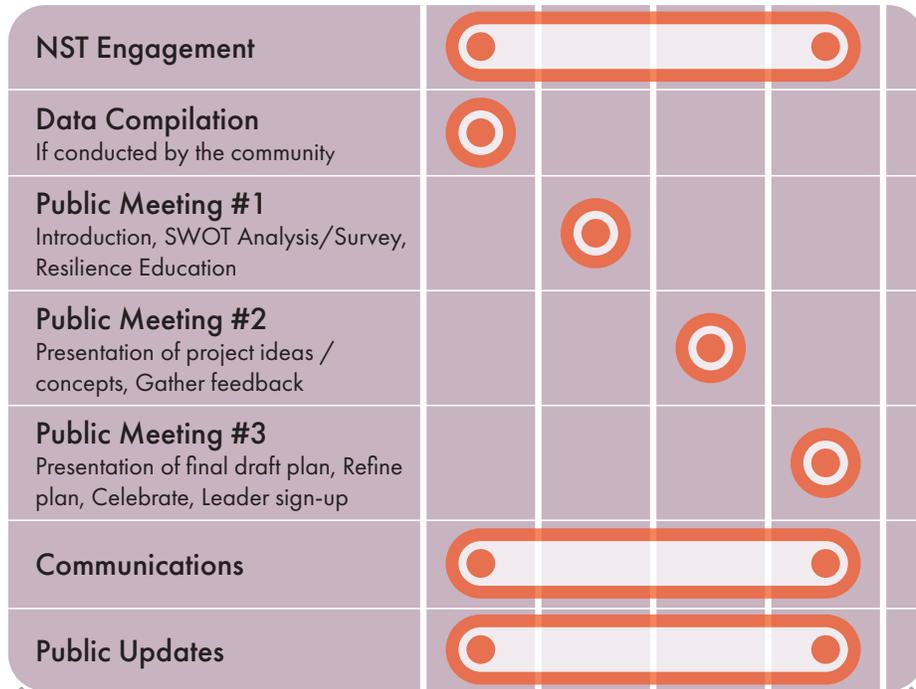


Fig. 3: Public Meeting

# PUBLIC ENGAGEMENT

Engages the Neighborhood Support Team (NST) and the public to identify Strengths, Weaknesses, Opportunities and Threats (SWOT) and to develop the action plan.

| Q1 | Q2 | Q3 | Q4 |



## Data Compilation

Following the initial analysis conducted during Project Setup, the CoH and/or the Super Neighborhood compile that analysis into public-facing resources to explain vulnerabilities and ongoing efforts to address those vulnerabilities.

## Public Meeting #1

Introduces the overall concept of the NRP and presents initial vulnerability analysis to the Community. The meeting provides an opportunity for the Community to offer contextual feedback to the data, help identify analytical bias, and provide feedback about additional neighborhood issues.

## Public Meeting #2

Introduces a draft neighborhood plan alongside specific project ideas, developed through the planning efforts of the TAC and neighborhoods. In addition to soliciting feedback on the proposed ideas, the meeting may also include a workshop encouraging the Community to propose additional project ideas.

## Public Meeting #3

Presents the final draft neighborhood plan, which incorporates previously developed Community feedback and project ideas. The meeting provides an opportunity for the Community to confirm that the plan is responsive to its needs. It's also a time to celebrate work completed to date.

## Communications

Throughout, the NRP team develops and distributes communications about the process, which can include monthly status updates in social media, civic clubs, churches, etc.

## Public Updates

Let's Talk Houston as well as Constant Contact provide consistent public updates.

For Resources referenced, see the Resources Section.

	lead	inputs	outputs
<b>NST Engagement</b>	P&D	Meetings: Introduction before & after each meeting	Comments guiding the next steps
<b>Data Compilation</b>	P&D or Community*	CoH Public Data	Maps for public meetings, Document
<b>Public Meeting #1</b>	P&D	Community Engagement Guide; Maps, SWOT survey	SWOT survey responses, Resilience HUB comments
<b>Public Meeting #2</b>	P&D	Community Engagement Guide; Project Ideas	Refined project lists
<b>Public Meeting #3</b>	P&D	Community Engagement Guide; NRP Draft	Final Projects / NRP
<b>Communications</b>	P&D or Community*	Prepare method of notice or tool for soliciting input	Fliers, Emails, Posters, Press Releases
<b>Public Updates</b>	P&D	Update LTH**, Forward via Constant Contact emails	LTH** updates, Emails, Video of meetings

\* If community led  
 \*\* Let's Talk Houston

# TECHNICAL ADVISORY COMMITTEE (TAC)

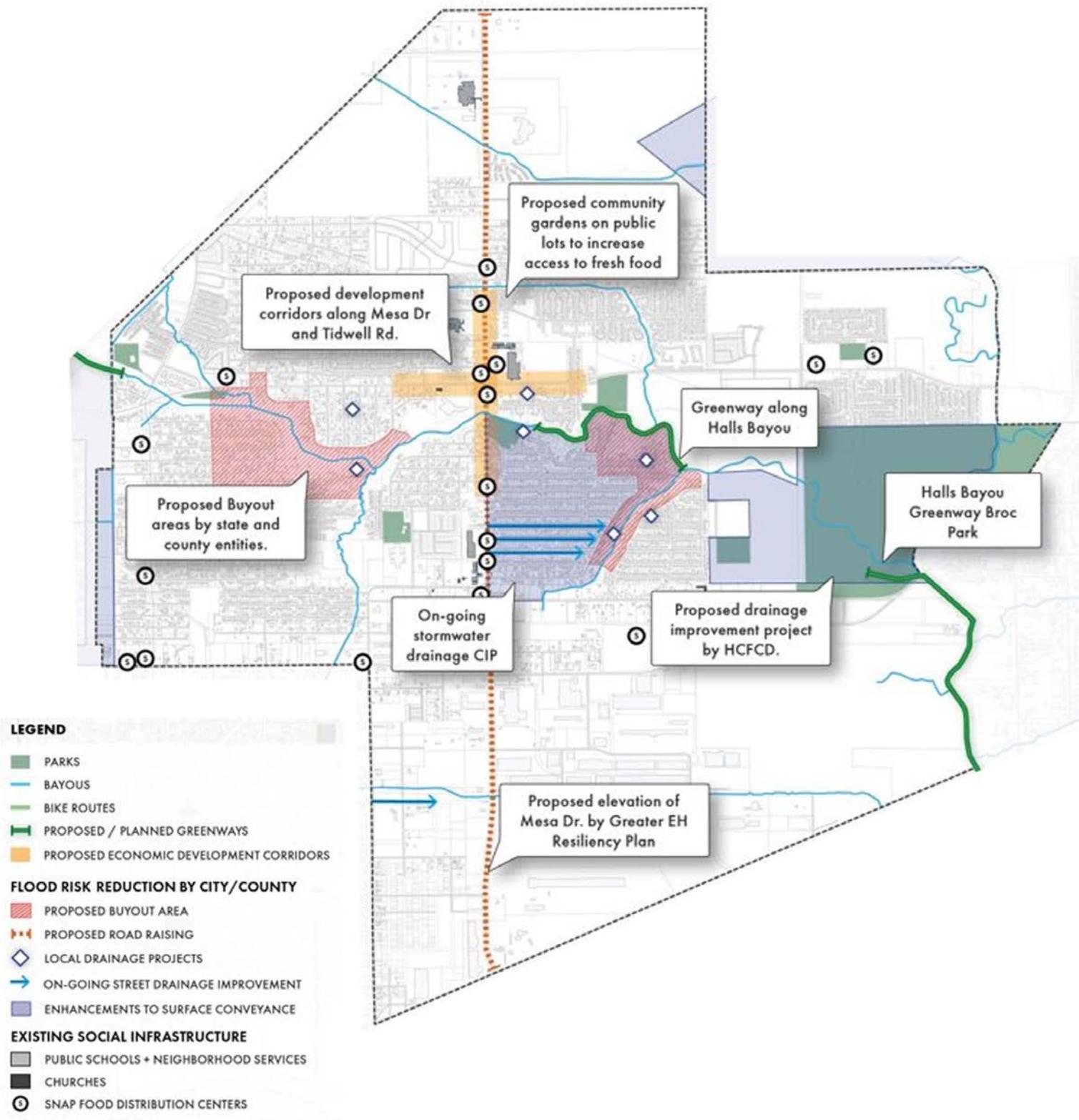


Fig. 5: Example of Neighborhood Plan Illustrating Planned or Ongoing Investments, Typical for TAC Meeting #1

# TECHNICAL ADVISORY COMMITTEE

Provides guidance and feedback on recommended actions and plans and advises on feasibility and funding.

## Q1 | Q2 | Q3 | Q4

<b>TAC Meeting #1</b> Overview, Introduce selected areas, Project programmed survey				
<b>TAC Meeting #2</b> Workshop of project ideas / concepts, Feedback, Funding				
<b>TAC Meeting #3</b> Review and comment, Programming/Funding updates				

	lead	inputs	outputs
<b>TAC Meeting #1</b>	P&D	Process overview, S/N background, Existing programmed project surveys	Documentation of programmed, budgeted, in-progress projects
<b>TAC Meeting #2</b>	P&D	Workshop support materials, Project typology examples	New project ideas, funding sources / partners, schedules, success metrics
<b>TAC Meeting #3</b>	P&D	Workshop support materials, Project & funding updates	TAC Implementation work plan

### TAC Meeting #1

The initial TAC meeting reminds members of the NRP process, introduces the selected Super Neighborhood(s) for the current cohort of planning, reviews the related vulnerabilities, and surveys TAC members about existing projects in those neighborhoods.

Existing projects are then referenced in subsequent work with NSTs and in concert with proposed new programs or projects within the Super Neighborhood [Fig. 4, 5]

### TAC Meeting #2

The second TAC meeting introduces initial project ideas and potential funding for these projects as well as other Houston partners who might work with the Super Neighborhoods to implement the projects.

TAC members then provide guidance on ways to improve proposed projects in concert with other planned investments and potential funding opportunities.

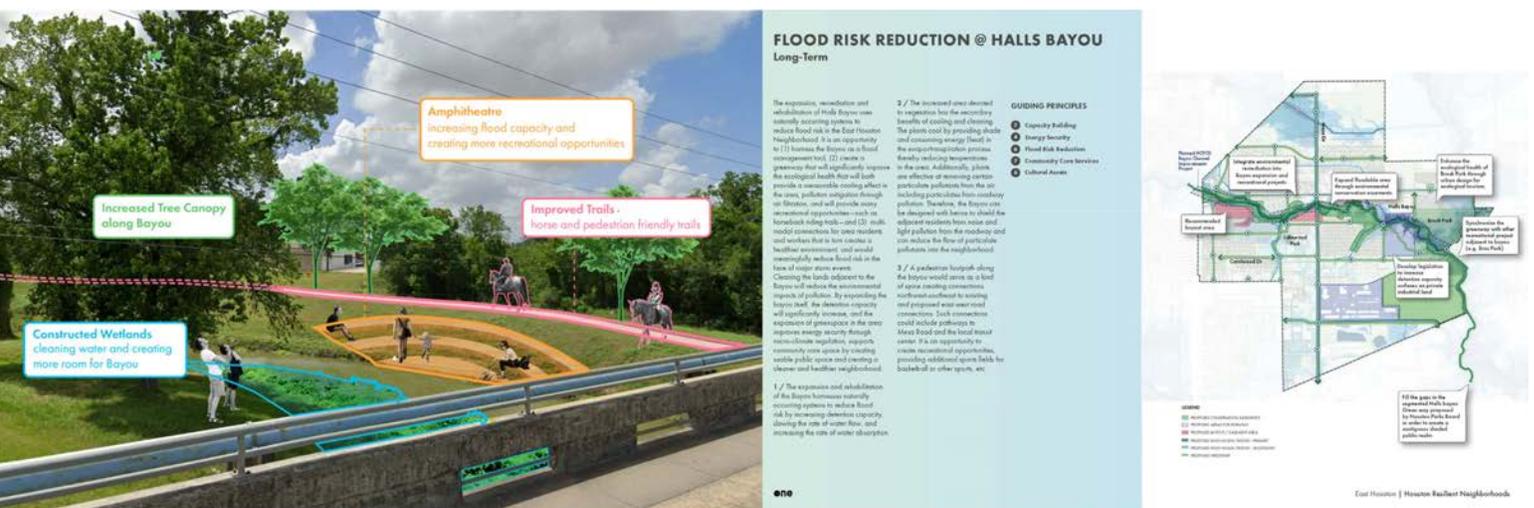
### TAC Meeting #3

The third TAC meeting presents the draft NRP for review and comment, alongside updates on funding and financing as well as partnerships.

TAC members offer ways to integrate the NRP activities within ongoing plans where possible, and ways to further develop and shepherd projects when integration within ongoing plans is not possible.

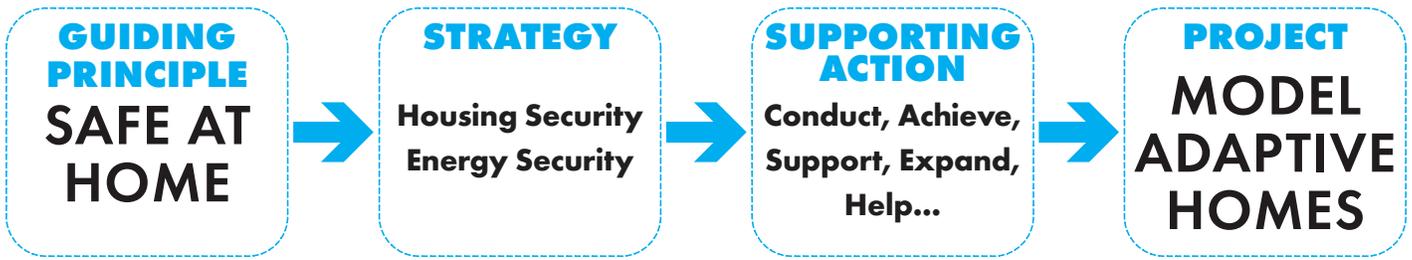
For Resources referenced, see the Resources Section.

Fig. 4: Example of Planned or Ongoing Investments, Typical for TAC Meeting #1



# PLAN PRODUCTION

Guiding Principles, Strategies, Supporting Actions, and Projects



## RESILIENT HOUSTON GOALS



## RESILIENT HOUSTON TARGETS

1; 7; 8; 10; 11; 12; 14; 17; 18

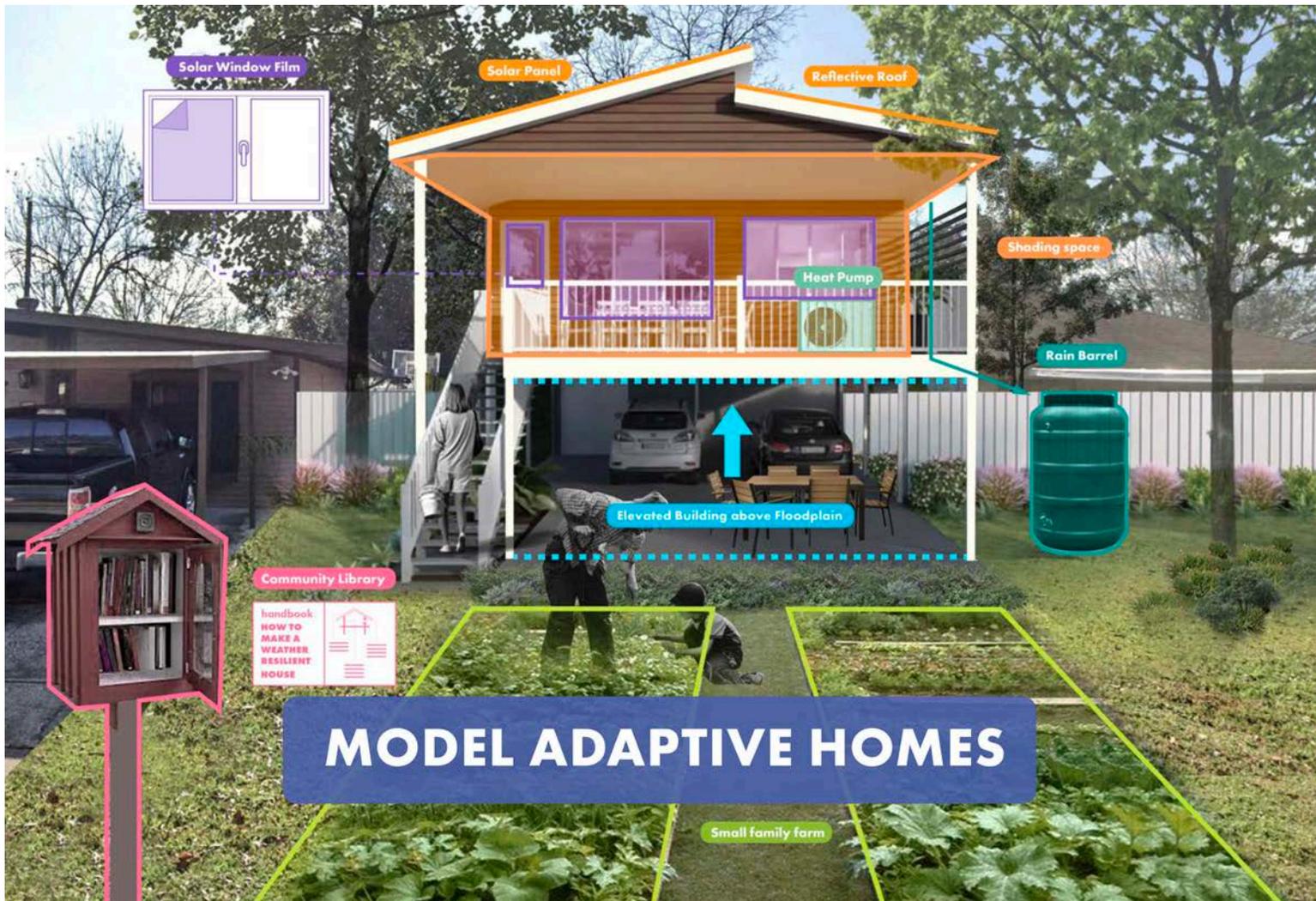
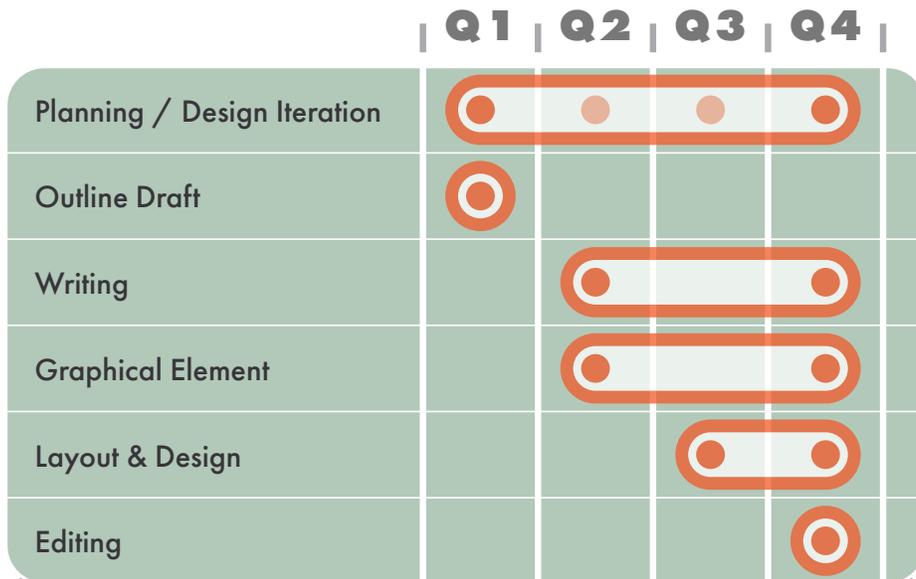


Fig. 6: Example of a Guiding Principle and the relationships between the principle, the projects, and Resilient Houston Goals and Targets

# PLAN PRODUCTION

Provides packages of implementable projects alongside, recommended funding sources, order of actions, policy implications, and program leadership / support-team assumptions.



	lead	inputs	outputs
<b>Planning / Design Iteration</b>	P&D	NST/TAC / Public Responses, Best Practices, Evaluation Criteria (see fig. 8)	Project Concepts, Neighborhood Plan
<b>Outline Draft</b>	P&D	NRP Template; NST/Public Priorities	Outline, Table of contents, Framework
<b>Writing</b>	P&D	NST/TAC/Public Comments	Draft language
<b>Graphical Element</b>	P&D	NRP Template, Project Concepts, Neighborhood specifics	Maps, Illustrations, Charts, Tables, Graphs
<b>Layout &amp; Design</b>	P&D	NRP Examples; Adobe InDesign Template	Neighborhood-Specific Content in template
<b>Editing</b>	P&D	CoH/NST/Public Feedback	Final document

## Planning / Design Iteration

Planning and design iteration begins with referencing the existing NRPs wherein guiding principles and replicable projects, such as a Model Adaptive Homes, are pertinent to all Houston neighborhoods. Further idea development, drawn from NST, Public, and TAC guidance on the most pressing needs for the neighborhood then introduces additional projects pertinent to the specific neighborhood. Design iteration underscores each step of the process.

## Outline Draft

Plan Production begins with an outline draft which provides the overall structure of the NRP, consistent with previously produced plans. The outline includes:

- The Process, which describes the NRP and details about the Super Neighborhood analyses
- The Neighborhood, which describes community engagement, community priorities, the vulnerability assessment, and key findings about neighborhood needs
- The Plan, which offers Guiding Principles [Fig. 6], replicable across all Super Neighborhoods, as well as neighborhood-specific projects
- Plan Implementation, which describes integration with ongoing CoH initiatives as well as the means for monitoring and evaluation alongside Resilient Houston

## Writing

Development of the outline includes drafting narratives that explain each major section, including proposed design solutions and connections to ongoing programs or projects within the neighborhood.

## Graphical Element

Graphics supporting the plan include maps and other illustrations that characterize the neighborhood, including its risks, ongoing investments, and proposed project designs or programs.

## Layout and Design

Final development of the plan migrates materials into the NRP template for consistency and readability.

## Editing

Final delivery of the plan includes integrating comments from CoH, Super Neighborhood and other community members and NST voices.

For Resources referenced, see the Resources Section.

# IMPLEMENTATION & REPORTING

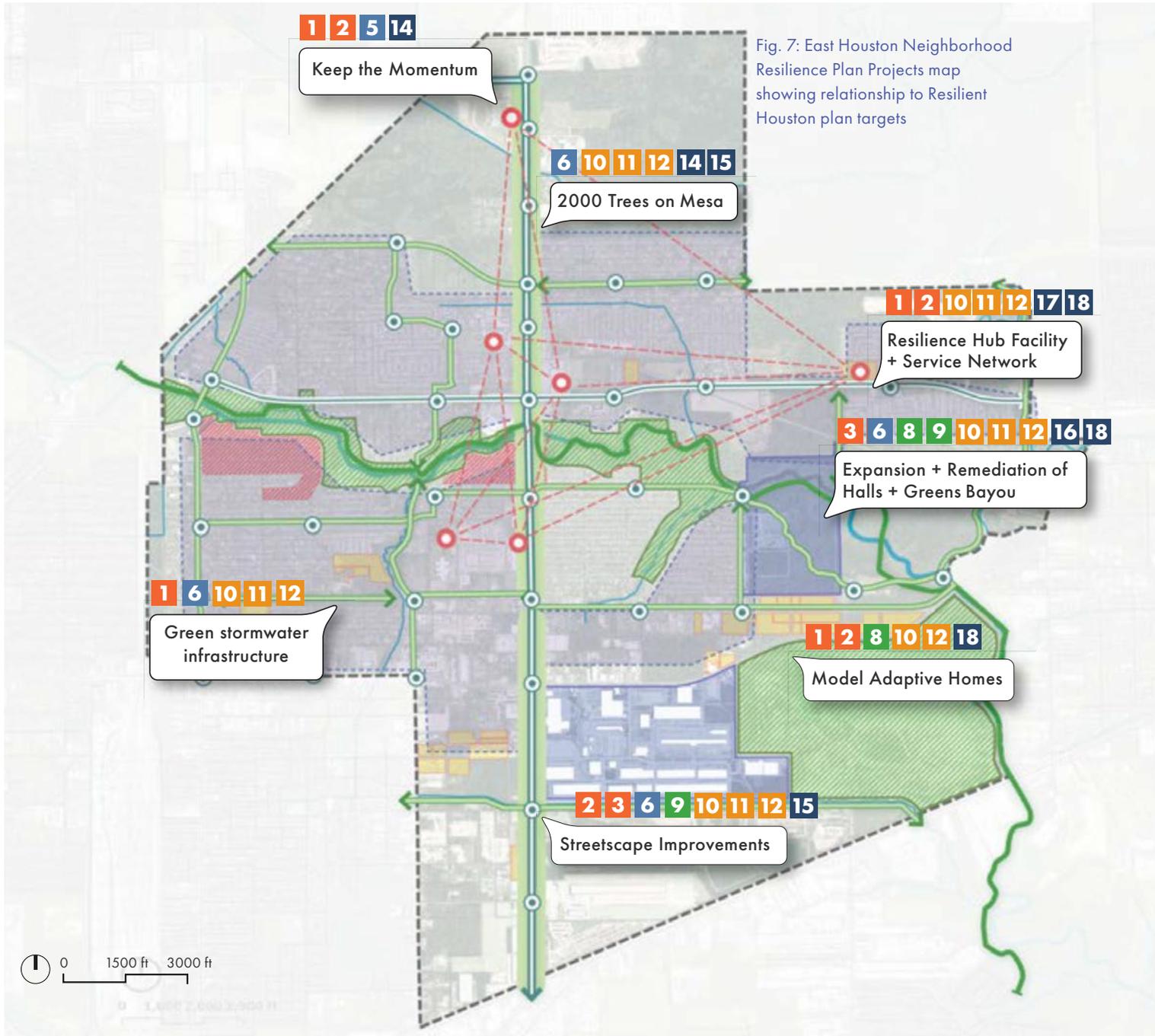


Fig. 7: East Houston Neighborhood Resilience Plan Projects map showing relationship to Resilient Houston plan targets

**LEGEND**

**KEEP THE MOMENTUM + RESILIENCE HUB FACILITY + SERVICE NETWORK**

- RESILIENCE HUBS CANDIDATES
- RESILIENCE SPOTS CANDIDATES

**MODEL ADAPTIVE HOMES + GREEN STORMWATER INFRASTRUCTURE**

- PROPOSED RELOCATION OF STRUCTURES FROM FLOODPLAIN / EASEMENT AREA
- POTENTIAL IN-FILL DEVELOPMENT AREAS

**STREETSCAPE IMPROVEMENTS + GREEN STORMWATER INFRASTRUCTURE**

- PROPOSED MULTI-MODAL TRANSIT - PRIMARY
- PROPOSED MULTI-MODAL TRANSIT - SECONDARY
- PROPOSED GREENWAY
- PROPOSED DRAINAGE IMPROVEMENT

**2000 TREES ON MESA**

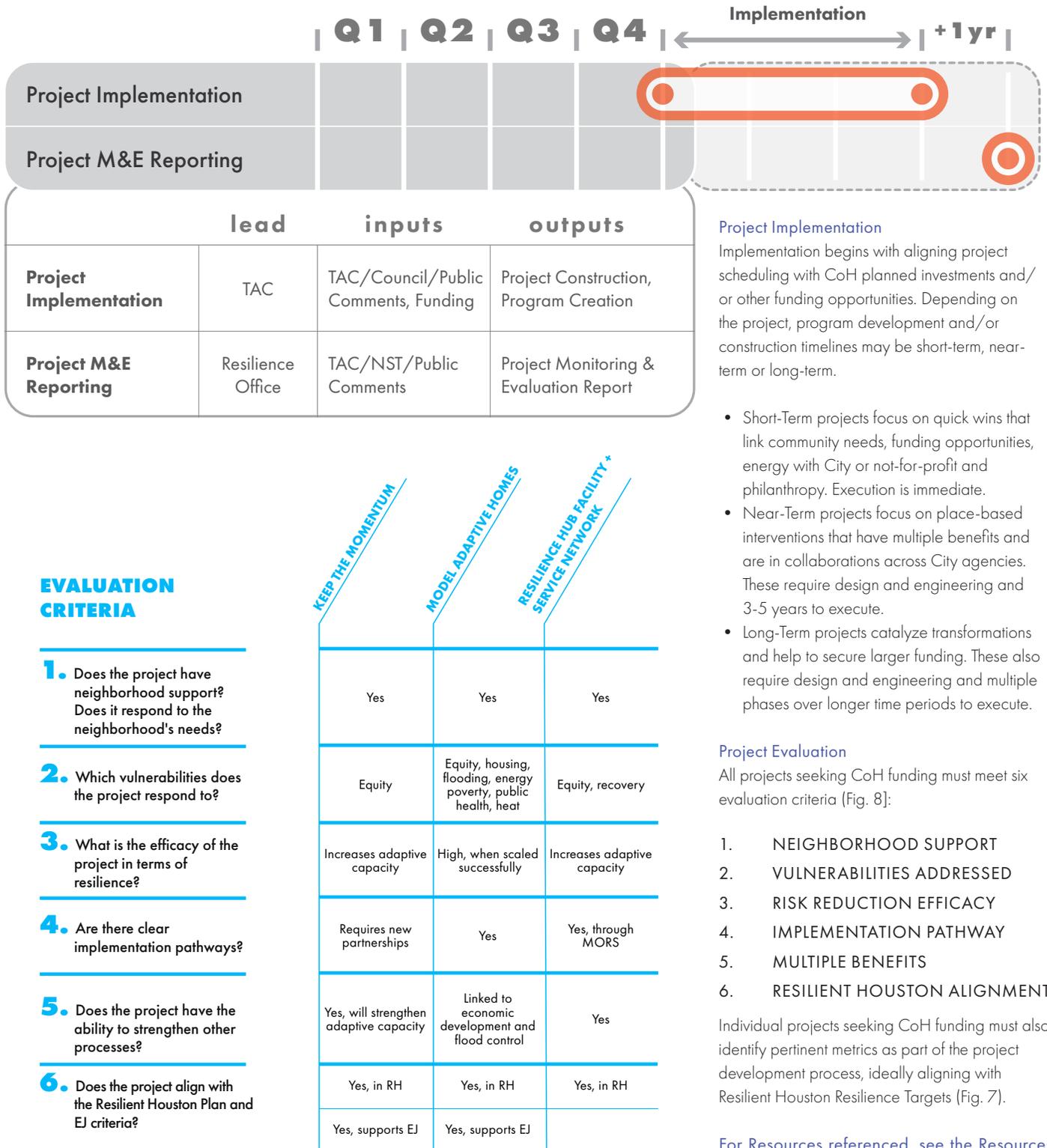
- 2000 TREES ON MESA STREET

**EXPANSION + REMEDIATION OF HALLS + GREENS BAYOU**

- PLANNED HCFCD BAYOU CHANNEL IMPROVEMENTS PROJECT
- PARKS
- BAYOU GREEN WAY
- PROPOSED CONSERVATION EASEMENTS
- PROPOSED AREAS FOR DEPAVING

# IMPLEMENTATION & REPORTING

Provides Monitoring and Evaluation (M&E) guidelines in alignment with Resilient Houston M&E workflows.



**Project Implementation**  
Implementation begins with aligning project scheduling with CoH planned investments and/or other funding opportunities. Depending on the project, program development and/or construction timelines may be short-term, near-term or long-term.

- Short-Term projects focus on quick wins that link community needs, funding opportunities, energy with City or not-for-profit and philanthropy. Execution is immediate.
- Near-Term projects focus on place-based interventions that have multiple benefits and are in collaborations across City agencies. These require design and engineering and 3-5 years to execute.
- Long-Term projects catalyze transformations and help to secure larger funding. These also require design and engineering and multiple phases over longer time periods to execute.

**Project Evaluation**  
All projects seeking CoH funding must meet six evaluation criteria (Fig. 8):

- NEIGHBORHOOD SUPPORT
- VULNERABILITIES ADDRESSED
- RISK REDUCTION EFFICACY
- IMPLEMENTATION PATHWAY
- MULTIPLE BENEFITS
- RESILIENT HOUSTON ALIGNMENT

Individual projects seeking CoH funding must also identify pertinent metrics as part of the project development process, ideally aligning with Resilient Houston Resilience Targets (Fig. 7).

For Resources referenced, see the Resources Section.

Fig. 8: Evaluation Criteria Matrix showing methodology for evaluating proposed projects for efficacy in realizing Resilient Houston Goals

# NRP RESOURCES

These resources provide quick access to the types of resources needed for each phase of the NRP process. Examples from previously completed NRPs as well as links to freely available public resources offer illustrations as to intent. As additional public resources become available, and as the CoH and its partners further develop Resilient Houston initiatives, these resources may be updated.

## NEIGHBORHOOD SELECTION

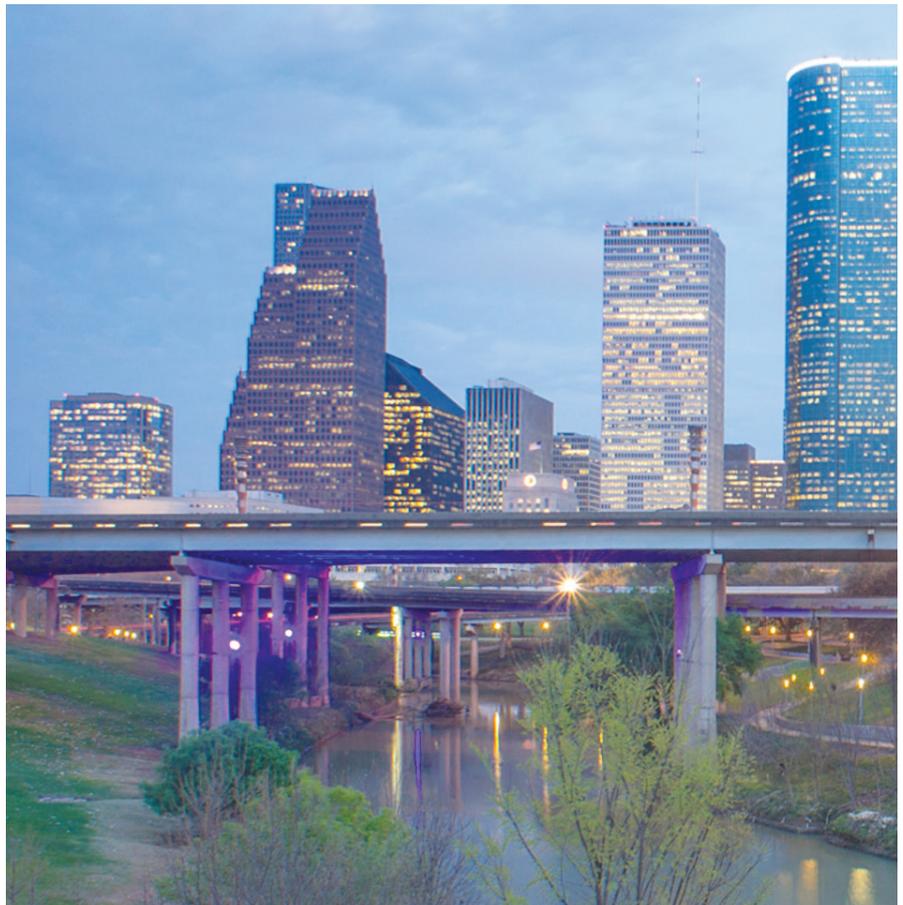
1. HOUSTON CLIMATE IMPACT ASSESSMENT <https://www.houstontx.gov/mayor/Climate-Impact-Assessment-2020-August.pdf>
2. HARRIS COUNTY FLOOD <https://www.hcfd.org/Resources/Interactive-Mapping-Tools>
3. HOUSTON HEAT VULNERABILITY ANALYSIS <https://publichealth.harriscountytx.gov/Services-Programs/All-Programs/Built-Environment-BE-Program/Climate-Program/Climate-and-Health-Vulnerability-Assessments/Extreme-Heat-Vulnerability-Assessment>
4. CDC SOCIAL VULNERABILITY INDEX [https://www.atsdr.cdc.gov/placeandhealth/svi/interactive\\_map.html](https://www.atsdr.cdc.gov/placeandhealth/svi/interactive_map.html)
5. EPA EJ SCREEN <https://ejscreen.epa.gov/mapper/>
6. CEQ CLIMATE AND ECONOMIC JUSTICE SCREENING TOOL <https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5>
7. SUPER NEIGHBORHOOD LAND USE PLANS <https://www.houstontx.gov/superneighborhoods/>
8. HOUSTON PUBLIC TRANSPORTATION MAPS <https://map.ridemetro.org/>
9. HOUSTON CAPITAL IMPROVEMENT PLANS <https://www.houstontx.gov/cip/>
10. LET'S TALK HOUSTON <https://www.letstalkhouston.org/>

## TECHNICAL ADVISORY COMMITTEE

1. HARRIS COUNTY FLOOD CONTROL DISTRICT CAPITAL IMPROVEMENT PLAN <https://www.hcfd.org/Activity/Capital-Improvement-Program>
2. CITY OF HOUSTON PUBLIC WORKS MAPPING APPLICATION <https://geohub.houstontx.gov/>
3. HOUSTON PARKS BOARD BAYOU GREENWAYS <https://houstonparksboard.org/initiatives/bayou-greenways/>

## IMPLEMENTATION AND REPORTING

1. RESILIENT HOUSTON RESILIENCE TARGETS <https://www.houstontx.gov/mayor/Resilient-Houston-20200402-single-page.pdf>



## STEPS TO RESILIENCE

### A NOAA / U.S. Climate Resilience Toolkit Resource

In 2022, the U.S. National Oceanic and Atmospheric Administration (NOAA) Climate Program Office released the Steps to Resilience StR framework as part of the U.S. Climate Resilience Toolkit (CRT). Intended as a practitioners guide for Community Resilience, the StR [Fig. 9] provides communities a risk assessment and decision framework that centers contextual guidance for the interpretation and use of climate science data in community-based decision making in resilience and adaptation planning. In 2023, federal agencies adopted this approach as a standardized process for resilience planning. The toolkit linked herein offers supplemental materials for use in the development of NRPs.

National Oceanic and Atmospheric Administration. Climate Program Office (2022)

### Implementing the Steps to Resilience: a Practitioner's Guide

Ned Gardiner, Matt Hutchins, Jim Fox, Aashka Patel, Kim Rhodes

Climate-Smart Communities Series ; vol. 6

DOI : <https://doi.org/10.25923/9hxx-2m82>

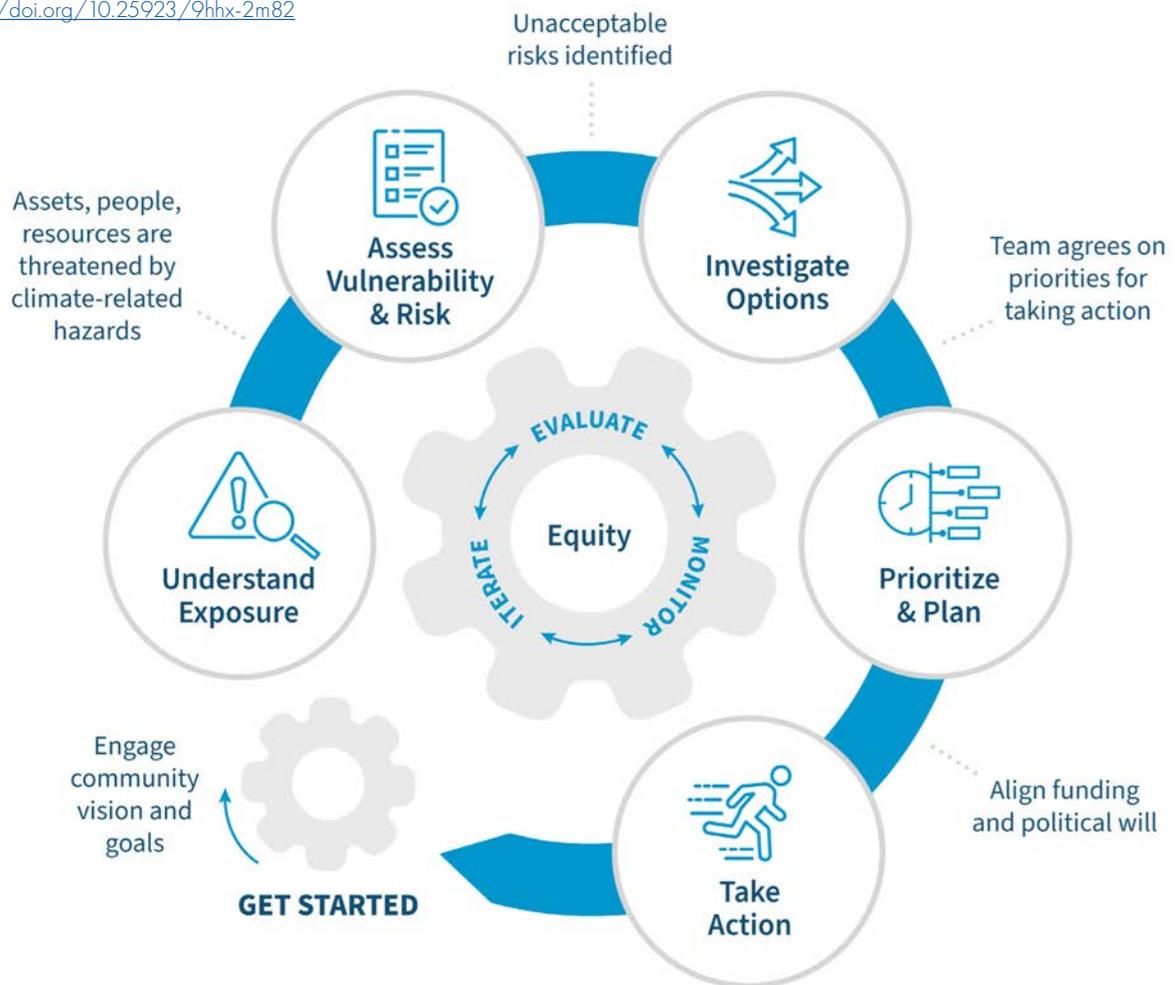
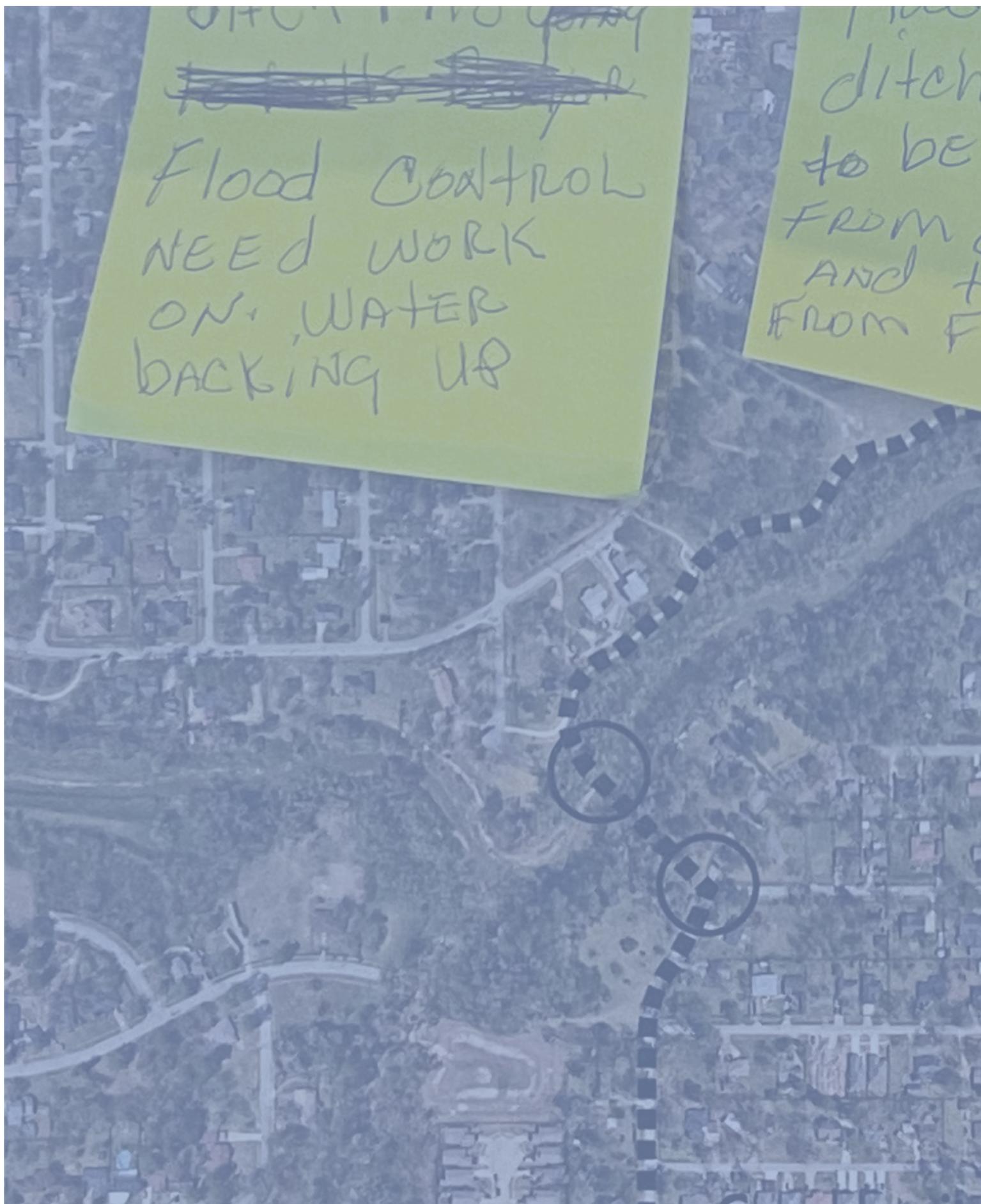


Fig. 9: The Steps to Resilience.  
Source: U.S. Climate Resilience Toolkit

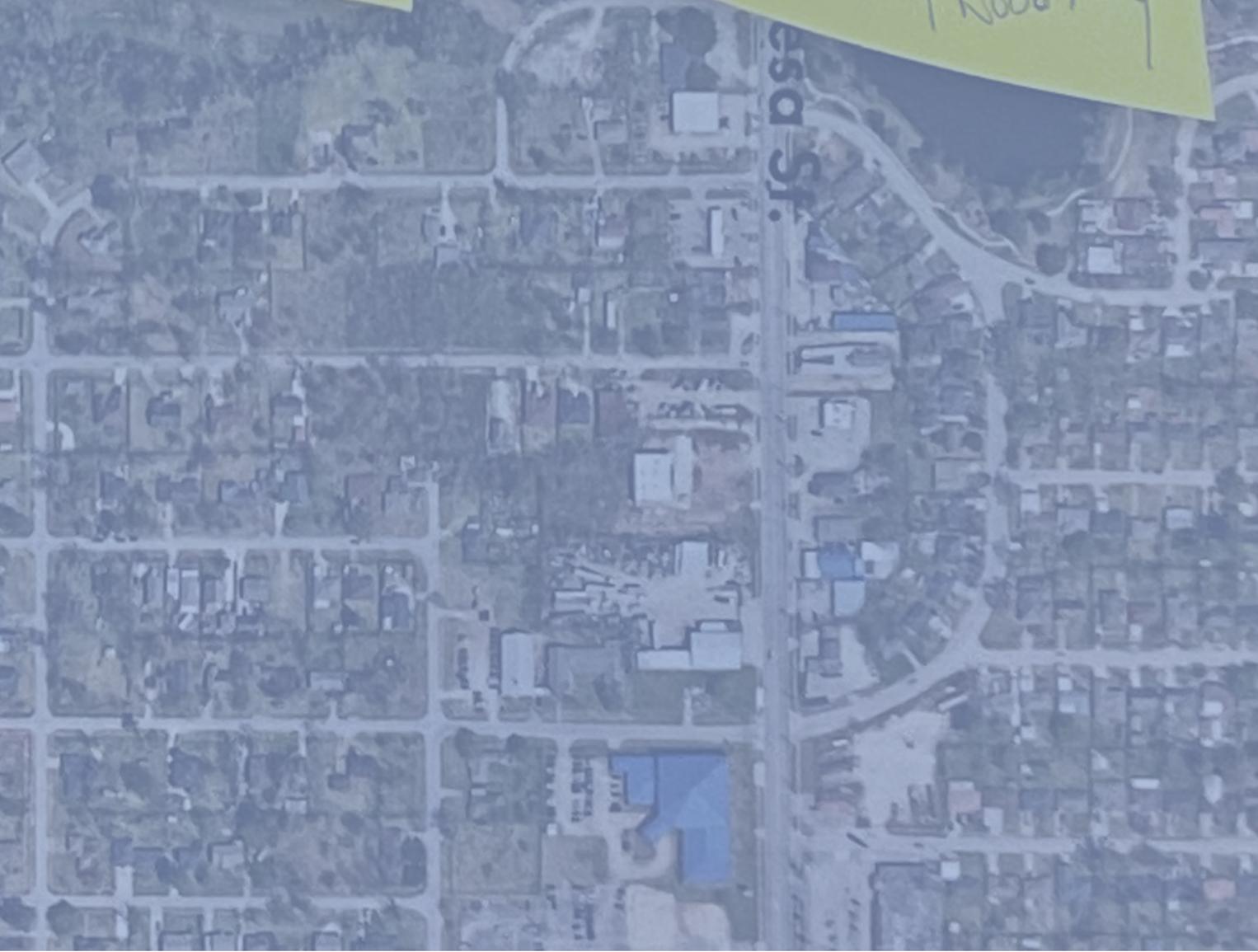
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Flood CONTROL  
NEED WORK  
ON WATER  
BACKING UP

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FROM



CONTRIBUTORS  
PIIG NEED  
CLEAN OUT  
DEBRIS  
BRUSH  
WOOD  
WATER

~~BRUSH~~ IN  
OFF ROAD DITCH  
PIIG - TREES ARE  
FALLING DOWN  
FROM ALL THE  
WATER FROM  
FLOODING





**PLANNING &  
DEVELOPMENT  
DEPARTMENT**



**one architecture**



**climate adaptation partners**  
resilience through collaborative partnerships

