



# GREATER FIFTH WARD RESILIENCE PLAN

JUNE 2024



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# EXECUTIVE SUMMARY

Resilient Houston, a plan published February 2020, is in direct response to the devastation and catastrophic flooding caused when one trillion gallons of rain fell on Houston during Hurricane Harvey in 2017. The plan defines 62 actions across 18 goals to enhance Houston’s resilience against acute shocks and chronic stresses, climate adaptation, and increasing energy demand.

The Fifth Ward Neighborhood Resilience Plan (FWNRP) implements a key target of Resilient Houston, to develop 50 neighborhood plans by 2030. It articulates a community-based vision of neighborhood resilience and makes recommendations for people-based and place-based strategies and actions to improve neighborhood resilience now and into the future. The vision and strategies in this plan come from several previous planning efforts led by community-based organizations in Fifth Ward. Rather than repeat this work, the FWNRP aligns the strategies with Resilient Houston goals and actions, assesses the community’s progress towards implementation, and determines how the City can assist with implementation.

The shared purpose of Resilient Houston and Neighborhood Resilience Plans is to reduce the impacts of stresses, and improve recovery from adverse events. Houstonians are consistently reminded of the urgent need for transformative change and for these changes to be built on long-term holistic, equitable, and inclusive strategies and actions, particularly in historically disadvantaged communities like Greater Fifth Ward.

The Greater Fifth Ward Neighborhood Resilience Plan takes direction from Resilient Houston by incorporating climate adaptation and risk reduction, infrastructure modernization, housing stability and security, environmental protection, social empowerment, and economic development into place-based



Mural at Finnegan Park Community Center

strategies for the community. This plan is a tool to direct neighborhood-based investments into practical and tangible projects to reduce flooding, manage heat, and address physical and social vulnerabilities to climate and other hazards. The plan continues the community’s work to improve the overall quality of life and economic opportunities in the community.

The Greater Fifth Ward Neighborhood Resilience Plan follows the Super Neighborhood 55 boundaries. The area is located east of downtown Houston and is bounded by Buffalo Bayou on the south, Lockwood Drive on the east, Liberty Road on the north, and Jensen Drive on the west. Located in primarily in City Council District B with a small portion located in District H, the Greater Fifth Ward neighborhood has been selected to develop a City of Houston resilience plan due to the high unmet need or, the amount of remaining need to address direct impacts caused by floodwater to homes (City of Houston

Local Housing Needs Assessment Hurricane Harvey Housing Recovery). After Hurricane Harvey, the unmet need in the neighborhood was approximately 95%. Greater Fifth Ward was also high on the social vulnerability index according to the latest data from the Center for Disease Control and Prevention (above 75%). Other factors include the presence of active and supportive civic organizations such as the Super Neighborhood and the Fifth Ward Community Redevelopment Corporation.

Over the course of a year, the planning team has been in dialogue with Fifth Ward community leaders as part of the formulation of the Fifth Ward Neighborhood Resilience Plan. With their guidance, the team determined that previous engagement efforts identified a shared vision, goals and actions. The team compiled this work in a single document and sought input and feedback from City staff on the strategies and actions through several Technical Advisory Committee (TAC) meetings

**“Enshrining equity and equitable outcomes in all policies and programs is an essential step toward addressing root causes of inequity, including historical disinvestment and disproportionate negative impacts for communities of color and our most vulnerable residents.”**

— Resilient Houston pg. 130

and final comments.

Through the community’s previous planning efforts, several neighborhood priorities were identified that collectively define the community’s vision for their neighborhood:

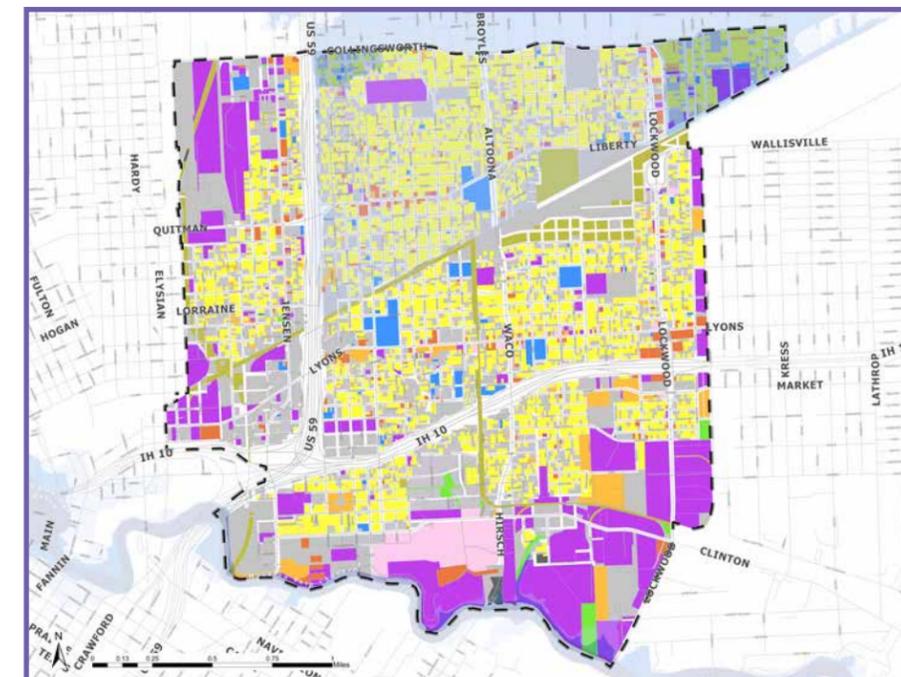
- LISC QLA – “collaborative effort between residents and local organizations collectively working together to create goals and initiatives to improve the quality of life of members in the community”
- Fabulous Fifth – “repositioning and revitalizing a deteriorated neighborhood of Houston that is a central part of the City’s Fifth Ward and its traditional ‘main street’ along the Lyons Avenue corridor”
- Livable Centers – “facilitate the creation of sustainable, viable, mixed-use, and mixed-income environments”
- Healthy Community – “create a collaborative and comprehensive approach to community health and community design that is based in partnership, and works across disciplines, policies and scales to generate real solutions”
- Cultural Arts – “to establish the 5th Ward’s Lyons Avenue Cultural Arts District, a living cultural arts district that is tied to the Lyons Avenue corridor,

intended to ensure feasibility, identify lead departments and agencies, and identify or allocate potential funds to implement projects.

The final plan was presented to the community for prioritization of projects

- 5th Ward’s main commercial corridor”
- Special District Study - “to improve the safety of pedestrians and bicyclists, provide greater connectivity within the study area, and reinforce the linkages to Downtown and other destinations such as Buffalo Bayou”
- Kashmere Gardens Complete Communities Action Plan - “to work towards achieving a more resilient, safe, prosperous, and healthy community”

This plan includes the vision and goals expressed by the community, a brief community history, existing conditions analysis, a description of the approach to community engagement, projects developed to further the vision and goals that will increase resilience, and the tools that lay the foundation for implementation. This plan is accompanied by several compendium documents that provide context on the importance of resiliency, scientific basis and analysis that supports this effort, global best practices to draw from, and a framework for organizations that wish to create their own neighborhood resilience plan. They include: Watershed Best Practices, Baseline Analysis, Funding Matrix, and the Neighborhood Resilience Planning Guide. These companion documents can be found on the [Planning & Development Department’s website](#).



**SURVIVE**  
**ADAPT**  
**THRIVE**

# WHAT IS NEIGHBORHOOD RESILIENCE?

Since 2000, the City of Houston has experienced 18 major weather events including flooding, extreme heat and cold, and drought. In August 2020, Houston's Climate Impact Assessment projected weather events would continue along this trajectory, or that the events would continue to intensify both in frequency and magnitude (*Climate Impact Assessment: 9*). These projections could mean more severe droughts, a rise in sea level, more intense coastal flooding, and increased intensity of storms. It is imperative that the community works consistently toward reducing the impact of future events.

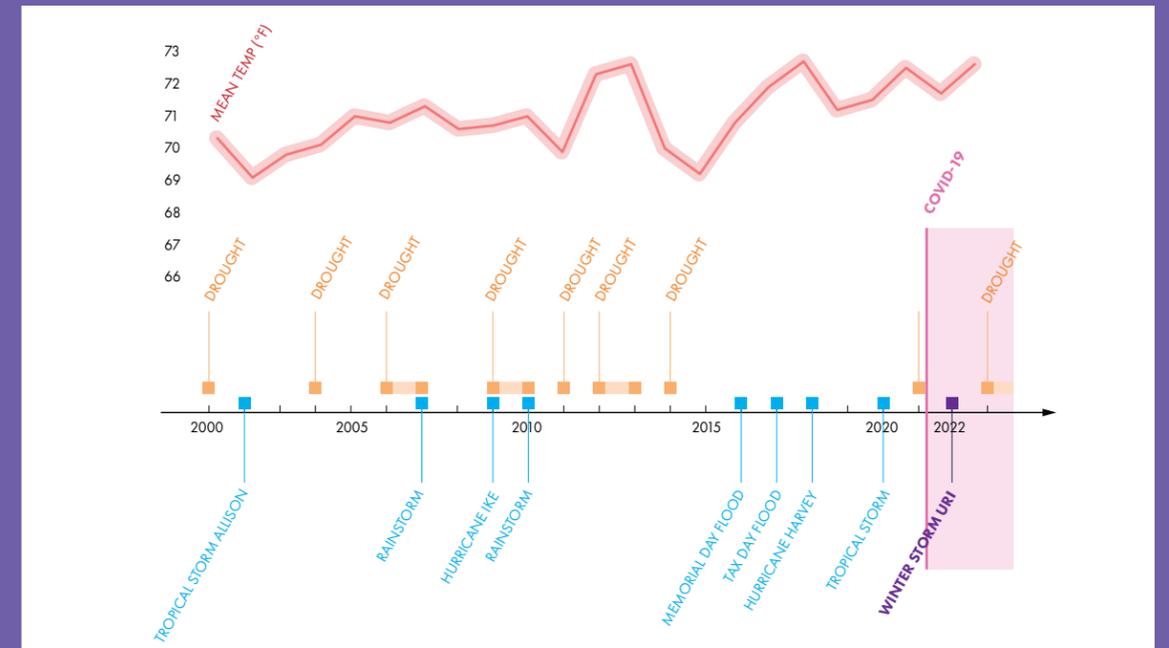
The neighborhood is experiencing a general warming trend and changing precipitation patterns. The City of Houston's *Climate Impact Assessment* published in August 2020 summarizes Houston's changing climate, finding that the City has already experienced:

- Increases in the average temperature of all seasons;
- Lengthening of summer, with summer beginning earlier and ending later;

- Increases in energy demand for cooling buildings for the spring, summer, and fall seasons;
- Increases in the number of hot days per year (defined here as maximum temperature above 100°F) and the number of warm nights per year (defined here as minimum temperature above 80°F);
- Increases in the temperature of the hottest days experienced each year;
- Longer multi-day heatwaves;
- Little change in total annual precipitation but a decrease in summer precipitation and increase in fall precipitation; and,
- Greater variability in day-to-day precipitation that includes both slight increases in number of dry days and increasing risk of drought due to soil moisture decreases resulting from higher temperatures, as well as increases in the precipitation falling during extreme precipitation events such as the wettest three-day period each year" (*Climate Impact Assessment: 7*).

In addition to weather events, stresses and shocks can include other types of events such as pandemics, economic changes such as rising energy prices, sudden spikes in housing demand, and exposure to environmental toxins. Each event adds to the nature and scope of what a resilience planning effort must consider.

Given the increased likelihood of extreme weather events, and the compounding effects of repeat or multiple events on a community, as well as underlying stresses, it is imperative that tangible action be taken now to reduce the impact of events and optimize recovery. This plan is a key step in taking action to mitigate the impacts of climate change and other extreme events on the community.



City of Houston's timeline of stresses + shocks between 2000, and today.

"**Temperatures** in Texas have risen almost 1.5 degrees Fahrenheit since the beginning of the 20th Century.

**Historically unprecedented warming** is projected during this century, with associated increases in extreme heat events."

"Although projected changes in annual precipitation are uncertain, increases in **extreme precipitation events** are projected. Higher temperatures will increase soil moisture loss during dry spells, increasing the intensity of naturally occurring **droughts**."

"Future changes in the number of land falling **hurricanes** in Texas are difficult to project. As the climate warms, hurricane rainfall rates, storm surge height due to sea level rise, and the intensity of the strongest hurricanes, are all projected to increase."

<https://statesummaries.ncics.org/chapter/tx/>

A **Neighborhood Resilience Plan** is a strategic action plan for government, community leaders and innovators looking to address core resilience issues facing their community. It has the flexibility to align both to Resilient Houston's goals and targets while also aligning to the unique physical characteristics and community priorities of the neighborhood. The plan guides the community, its leaders, and its elected representatives toward decisions that reduce and

mitigate neighborhood vulnerabilities. It provides the essential foundation for forming partnerships with local government, philanthropy, community-based organizations, and other institutions and organizations. To ensure that the community's vision and goals outlined in this plan are realized, ambitious performance targets, implementation timelines, and feasible funding strategies are embedded in the projects section.

This plan is designed to:

- Ensure the community is equipped with the best resilience knowledge, skills, and resources available.
- Enable the community to take ownership of their neighborhood by seeking grants and private partnerships;
- Support community advocacy in local government decision making processes; and,
- Identify strategies and projects that will create tangible change in the neighborhood.

# OTHER RESILIENCE EFFORTS

Neighborhood Resilience is also supported by planning and implementation that occurs city-wide, on the state level, and includes other governmental partners also focused on the health and resilience of Houstonians. The resilience work of all levels of government work together for the well-being, safety, and prosperity of its residents and businesses. Some of the resilience resources that are available include the following:

## Office of Emergency Management

The City's Office of Emergency Management (OEM) is committed to safeguarding the Houston community against all hazards and threats through coordinated planning and response. OEM is responsible for administering and keeping current the City's Emergency Management Plan, the recently updated Hazard Mitigation Action Plan (2023-28), Operational Plans, and more. As the chief coordinating office for the City of Houston during emergencies and special events, OEM operates the Emergency Operations Center where representatives from numerous agencies and stakeholders work together to ensure the safety and security of the event or operation. Through intentional and coordinated efforts, the City engaged with the most vulnerable communities to ensure their voices were represented in our hazard mitigation planning. Thanks to the diligent work of several partners under the leadership of OEM, the City of Houston is now recognized by the National Weather Service as a StormReady community, recognizing our efforts at mitigation and planning for the weather hazards in our region. The StormReady recognition has lowered insurance premiums in some communities.

[www.houstonoem.org](http://www.houstonoem.org)

## Preparedness Guide

When emergencies occur, our daily lives can be disrupted, having serious effects on our families, friends, and neighbors. This is why preparedness is so important. Having knowledge, skills, and abilities to quickly respond to a disaster is everyone's job. You can be prepared by following a four-step preparedness process: make a plan, have an emergency kit, be informed about disasters, and help members of your community prepare themselves. Download your Disaster Preparedness Guide and checklist today.

Preparedness Steps:

1. Make and Practice Your Family Emergency Plan
2. Build an Emergency Kit
3. Stay Informed
4. Know Your Neighbors

[www.houstontx.gov](http://www.houstontx.gov)

## Alert Houston (get alerts)

Receiving emergency notifications keeps you informed about what's happening during an emergency and how to stay safe. The City of Houston offers emergency alerts through the AlertHouston emergency notification system. People who live or work in Houston can receive emergency notifications via email, text message and through a mobile app. To find out more information about AlertHouston, and to sign up for alerts, visit [www.alerthouston.org](http://www.alerthouston.org).

Emergency information is also available online at [www.houstonemergency.org](http://www.houstonemergency.org) or [www.alerthouston.org](http://www.alerthouston.org).

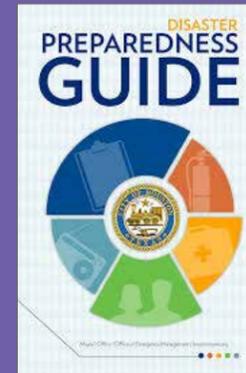
## Community Emergency Response Team (CERT)

The CERT Program was created in order to train citizens on how to help others without putting themselves in harm's way. The Federal Emergency Management Agency (FEMA) formalized the CERT program in 1993, and it is now available nationwide. Under the direction of local emergency responders, CERT teams help provide critical support by giving immediate assistance to victims, providing damage assessment information, and organizing other volunteers at a disaster site. The CERT curriculum is taught from an all-hazards approach and each community emphasizes the disasters, both natural and man-made, to which they are most vulnerable. Although preparedness steps may vary from community to community, the goal remains the same: "to do the most good for the most amount of people" in an emergency, such as in the event of a natural disaster.

CERT trains volunteers in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. The CERT trainings in the greater Houston area are listed on the Harris County Citizen Corps webpage. All CERT training is provided free-of-charge and is taught by local professionals. Trainees can attend the following:

- The National CERT program
- The organizational structure used by government agencies in disasters
- Basic first aid techniques
- Basic search and rescue techniques, and,
- Ways to ensure individuals are prepared for a disaster.

[www.harriscountycitizen corps.com/Training/CERT-Training](http://www.harriscountycitizen corps.com/Training/CERT-Training)



## Houston Community College

Houston Community College (HCC), in partnership with the City of Houston, offers resilience courses focused on building sustainable capacity. Through their One College-One Community approach, HCC leverages facilities across every neighborhood to strengthen localized disaster preparedness and recovery.

HCC launched a first-in-the nation "Resiliency Center of Excellence" to connect residents, employers, civic organizations, neighborhoods, and small businesses with fast-tracked education and certification to reduce loss of life and increase well-being and economic stability through risk mitigation. HCC's Resiliency Center includes:

- Public Safety and Rescue
- Disaster Case Management
- Enhanced Facility and Infrastructure Construction
- Medical Triage
- Data Science /Internet of Things/ Drones
- Debris Removal/Reuse
- Customized employer content to address persistent challenges from weather, health, and man-made perils, and other courses.

[www.hccs.edu](http://www.hccs.edu)

## Community Flood Resilience Task Force (CFRTF)

Since its establishment in 2020, the Harris County Community Flood Resilience Task Force (CFRTF) has been actively developing a comprehensive Flood Resilience Plan. This plan prioritizes infrastructure enhancements, including channel and drainage improvements, and equips communities with resources for flood risk management. It incorporates advanced flood modeling and monitoring technologies for better forecasting, and advocates using green spaces and wetlands for natural flood mitigation. Emphasizing collaboration, the plan involves partnerships with local, state, and federal agencies for a unified flood management approach. The CFRTF website provides additional support through annual reports, a flood resilience repository, a framework for flood mitigation project prioritization, the Flood Mitigation Benefit Index, and guidance for the Infrastructure Resilience Team.

[cfrtf.harriscountytexas.gov](http://cfrtf.harriscountytexas.gov)

## State of Texas Emergency Assistance Registry (STEAR)

The State of Texas' STEAR program is a free registry that provides local emergency planners and emergency responders with information on the needs in their community. Texas communities use the registry information in different ways. Registering yourself in the STEAR registry DOES NOT guarantee that you will receive a specific service during an emergency. Available services will vary by community. For more information on how your community will use information in the STEAR registry, contact your local emergency management office.

Who Should Register?

- People with disabilities
- People who are medically fragile
- People who have limited mobility
- People who have communication barriers
- People who require additional medical assistance during an emergency event
- People who require transportation assistance
- People who require personal care assistance

[www.tdem.texas.gov/response/state-of-texas-emergency-assistance-registry](http://www.tdem.texas.gov/response/state-of-texas-emergency-assistance-registry)

# A RESILIENT FIFTH WARD

Fifth Ward, established in 1866, has a rich history that mirrors the dynamic social and economic transformations of the area. Initially a mix of African-American and Anglo populations, it was an area where freedmen settled post-Civil War. The 1880s brought economic expansion through the Southern Pacific Railroad, but disasters such as fires in 1891 and 1912 caused great destruction and interrupted the community's growth. Over time, Fifth Ward became predominantly African-American, with the creation of Frenchtown in 1922, established by 500 blacks of French and Spanish descent from Louisiana. During this time, there was a proliferation of black-owned businesses and significant educational achievements, with Phillis Wheatley High School becoming one of the largest black high schools in America by 1927. The 1930s added to the ward's cultural legacy through entertainment venues and civic initiatives.



In 2019, following a study by the Texas Department of State Health Services, the

state of Texas declared Fifth Ward a cancer cluster as a result of years of creosote contamination from the old Southern Pacific rail yard. This substance has infiltrated the soil and groundwater, raising serious health concerns among residents. The community has also faced other environmental disasters, including the devastating floods caused by Hurricane Harvey in 2017. The storm

caused widespread damage and forced many residents to evacuate their homes. However, the local community and its leaders responded with remarkable resilience and determination, working together to rebuild and recover. In the wake of the storm, community members came together to help those in need, providing shelter, food, and other essential resources. Local organizations and

## PRIORITIES OF FIFTH WARD

Over the years, the Fifth Ward community has voiced their opinions regarding the vision they hold for their community.

The Greater Fifth Ward community's priorities have been consistent across several recent planning efforts and can be broken down into the following resilience categories.



### ECONOMIC

Restoring the neighborhood's local economic vitality.

### HEALTH

Creating comprehensive community health and safety initiatives.

### SOCIAL

Strengthening social connections to improve the community's quality of life.

### HOUSING

Creating sustainable, mixed-use and mixed-income environments.

### ENVIRONMENTAL

Improving the neighborhood environment and air quality.

### INFRASTRUCTURE

Improving mobility, green infrastructure, and preserving cultural history.

leaders played a critical role in coordinating relief efforts and advocating for the needs of the community.

In addition to their response to Hurricane Harvey, the community and its leaders continue to work to build resilience in the face of ongoing challenges and have developed significant capacity. This plan builds on the existing efforts and this strong resilience capacity in the neighborhood. For this community, working toward resilience means preparation for the types of events projected to occur.

Major events like public health pandemics, flooding events, prolonged heat waves, and other minor events are

projected to occur as the result of our changing climate. Preparation may reduce neighborhood risks, lessen impacts on the community, and help to optimize emergency response and recovery. This effort aims to improve community safety from climate risks by addressing past flood damage and finding ways to reduce energy costs. The plan recommends upgrades to stormwater systems to prevent street flooding and adding greenery and amenities for safer walking and biking, promoting community health and well-being. It also invests in building connections between community members to help each other in times of need.

Despite the challenges they face, the people of Greater Fifth Ward have shown a remarkable capacity for resilience and perseverance. By working together and advocating for their needs, they continue to build a brighter future for themselves and their community. The Greater Fifth Ward Neighborhood Resilience Plan is a key organizing tool to prepare for the community's future. The plan serves as a model for future neighborhood planning efforts that can be replicated at the community level, either independently, or in partnership with the City.

## Quotes from the Community

"There should be a community center/museum for residents to show visitors and newcomers our history."

"We would like more gardens so we can grow our own food."

"We want to see more beautification and less gentrification in our area."

"We should work to rename certain streets in our community."

"We want more facilities for our seniors."

# HOW TO USE THIS PLAN

## THIS PLAN GUIDES and SUPPORTS

decision-making for local investments in physical infrastructure, programs, and policies. The Fifth Ward Neighborhood Resilience Plan provides the foundation for forming collaborative partnerships with local government, philanthropy, community-based groups, and other organizations. The plan establishes a clear vision that the community can use to get organized and outlines a process which

various stakeholders can use to collaborate with the community to achieve shared goals. It does so by defining projects and programs for the neighborhood to plan for resilience challenges. It is a tool for the community to guide decision-making, identify stakeholder roles and responsibilities, and forge the partnerships and networks essential for mitigation and recovery.

### Community Members + Organizations

For community-based plan users, the neighborhood resilience action plan helps to engage various stakeholders productively and systematically, including local government, nonprofits, and other private interest groups. The plan provides a clear statement of what is needed to realize neighborhood resilience in Greater Fifth Ward. Having a clear statement of what is still needed in a City-led plan makes it clear to grant administrators and private partners how they can help the neighborhood. The plan provides a framework of strategies and actions to ensure shared understanding of the intended vision, goals and accountability—the who, when and how—among various stakeholders. By following the plan, these organizations can work relatively independently within the same framework.

### Community Advocates

Use this plan to attain procedural justice, or as a tool to advocate for community interests and priorities. Advocacy that is grounded in an agreed-upon plan document carries weight in conversations with local government and other private partners. The plan can guide decision making at Super Neighborhood Meetings, City Council Meetings, and other local government committees. It also serves as a means of constructively holding the community, partners, and local government accountable for their part in realizing this plan, by identifying project leads, timelines, and metrics for success. The plan is designed to support community-identified priorities and therefore is intended to be used by community-based organizations and community leaders to support their advocacy efforts. Advocacy efforts might include requesting funds by partnering with local donors, state and federal government. It may also include developing programs, or increasing service levels from City departments and agencies, or prioritizing physical infrastructure investments made by Harris County Flood Control and other governmental agencies. In these, and other advocacy efforts, the plan serves as the basis for implementing

broader change, provides assurances to organizations granting funding to CBOs such as local nonprofits, and other community driven initiatives.

### Community Partners

Partners outside the community and local government often have aligned interests, since resilience helps support property values. Resilience also strengthens local businesses, improves the environment

#### What is Resilience?

“Resilience is the capacity of a system, be it an individual, a forest, a city or an economy, to deal with change and continue to develop. It is about how humans and nature can use shocks and disturbances like a financial crisis or climate change to spur renewal and innovative thinking.”

<https://www.stockholmresilience.org/>

“Enhanced resilience allows better anticipation of disasters and better planning to reduce disaster losses—rather than waiting for an event to occur and paying for it afterward.”

<https://www.nationalacademies.org>

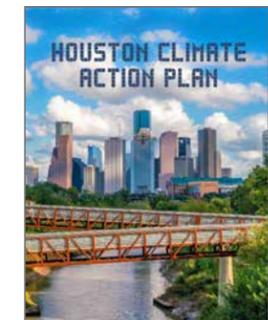


Black United Fund and EPA Tree Planting

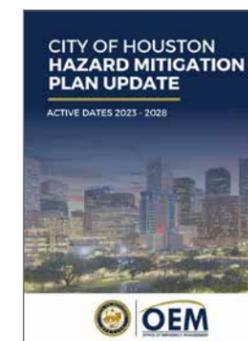
and ecology, builds equity, and in some cases, can serve as an economic stimulus tool. Shared goals between business interests and resilience efforts can be leveraged to ensure timely implementation of the neighborhood resilience action plan. Community partners should think of the Greater Fifth Ward Neighborhood Resilience Plan as a cohesive community-driven vision for how the area can endure during challenging times. The **Guiding Principles** lay out strategies and actions, along with key stakeholders and their responsibilities. Stakeholders, particularly private partners, can review the plan to better understand where additional support may be needed. Additionally, partners can review the projects and the implementation steps to find shared interests to pursue. The funding, metrics, and timelines support finding ways to optimize private interests with broader neighborhood resilience principles.



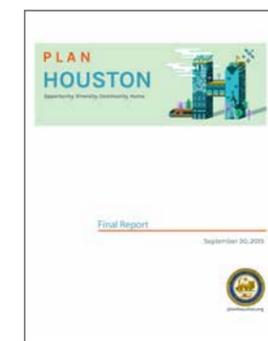
Resilient Houston, 2020



Houston Climate Action Plan, 2020



Hazard Mitigation Plan Update, 2023-2028



Plan Houston, 2015

# ASSESSMENT & FINDINGS

The assessment and findings provide the basis for plan recommendations, in combination with the community engagement findings. The assessment findings came from:

- Spatial analysis of flooding and extreme heat impacts on community assets and people;
- Conversations with the community on the impacts of, and recovery from Hurricane Harvey; and,
- Consideration of the compounding effects exacerbating chronic social stresses.

The community-identified priorities, including flooding, housing, public safety, and neighborhood capacity, provide the context

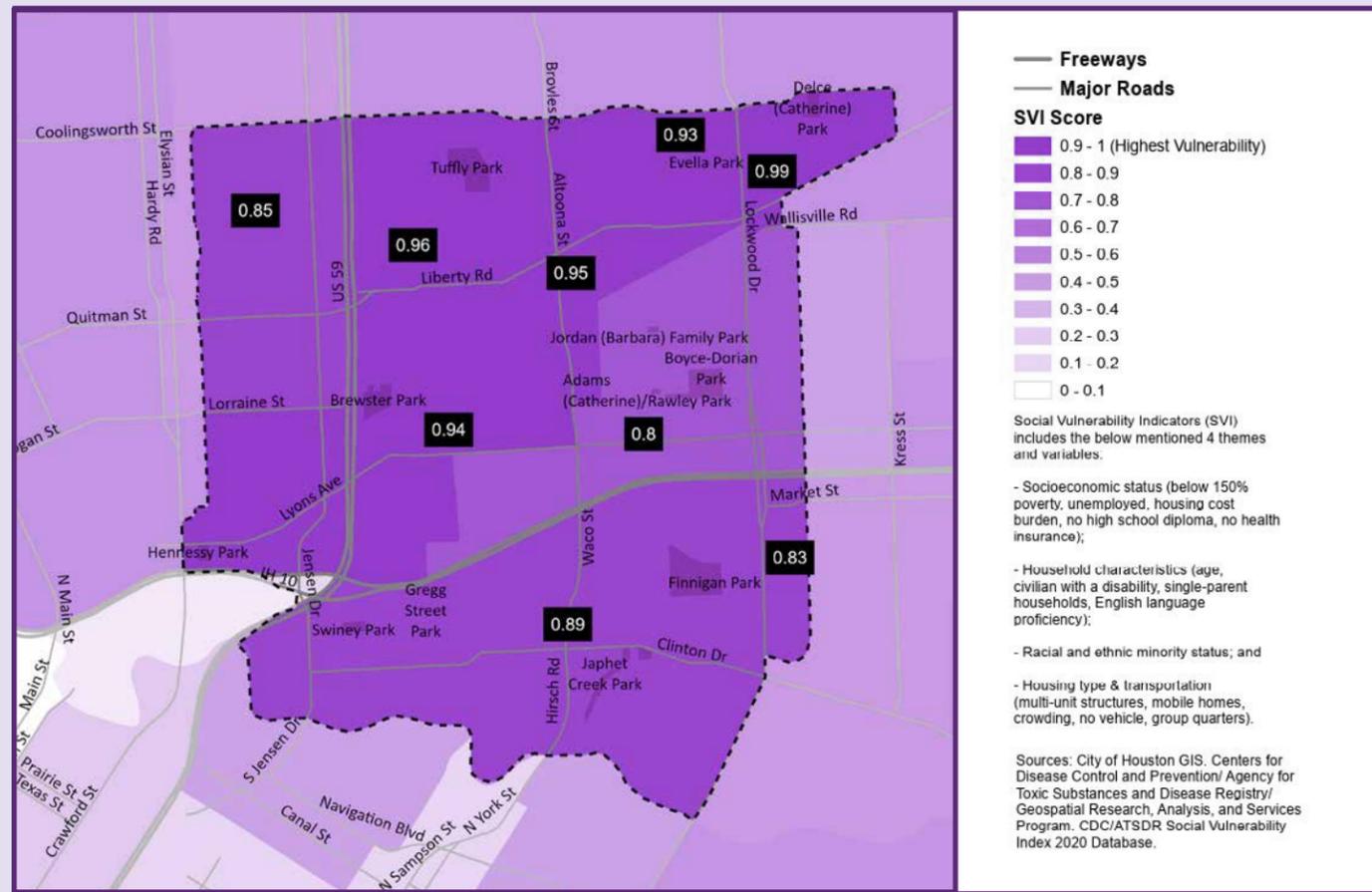
for analyzing the Greater Fifth Ward community's vulnerabilities. The findings largely align with the community's priorities, as discussed in the Community Engagement section. Heat vulnerability, and the general impacts of heat, are not as evident such as flooding or the condition of homes in the neighborhood. However, the City of Houston and HARC partnered with NOAA in 2020, to address heat, publishing resources via the H3AT program hosted by HARC. Flood vulnerability was estimated using the following assessment factors:

- Location relative to the FEMA National Flood Hazard Layer (NFHL), which

shows both the 1% and the 0.2% annual chance floodplain boundaries;

- The year the structure was constructed, which governs the nature of the floodplain regulations in affect at the time the structure was built; and,
- Whether the structure is considered a critical facility (such as a hospital, or nursing home).

"Highly vulnerable" assets are classified as having 'highly combined vulnerability and risk' to severe flooding based on the assessment factors previously outlined.



Social Vulnerability Index by Census Tract

## Summary

The vulnerability indicators consider three factors: the overall flood vulnerability of homes and businesses in the neighborhood, the individual factors of flood vulnerability related to homes in the neighborhood, and social vulnerability of residents living in the neighborhood.

The spatial analysis for determining relative levels of vulnerability takes into account location of parcels and structures, property use, and floodplain building requirements in place when the property was built. Despite there being properties at higher risk of flooding than some other areas in Houston, this should not overshadow the fact that virtually all of Houston is at risk of flooding.

At the neighborhood level, a portion of Greater Fifth Ward is highly vulnerable to and at risk of flood damage. Out of its 10,939 identified properties, 502 (5%) are subject to a 1% annual chance or higher of flooding (which exceeds the current standard of care for new development and civil infrastructure). This includes 307 residential properties (61%), 163 undeveloped properties (33%), and 17 industrial properties (3%). Of the 307 highly vulnerable residential properties, there are 300 single-family properties (98%) and 7 multi-family properties (2%).

Social vulnerability indicators, based on Census Bureau's American Community Survey (ACS) five-year estimates in 2020, identify approximately 15% of residents without access to a vehicle. Median household income in the neighborhood is about \$33,034 and about 34% of households pay more than 30% of their income for housing expenses. As such, these households are more likely to have difficulty affording other necessities like healthy food and healthcare. In fact, about 29% of residents do not have health insurance coverage. With less than 20% of residents aged 25 years and older holding a college education, employment

**Greater Fifth Ward properties highly vulnerable to and at risk of floodplain inundation**

**502** Total number of vulnerable properties

**307** 61% of all Residential Properties

**163** 33% of all Undeveloped Properties

**17** 3% of all Industrial Properties

**6** 1% of all Community Service Properties

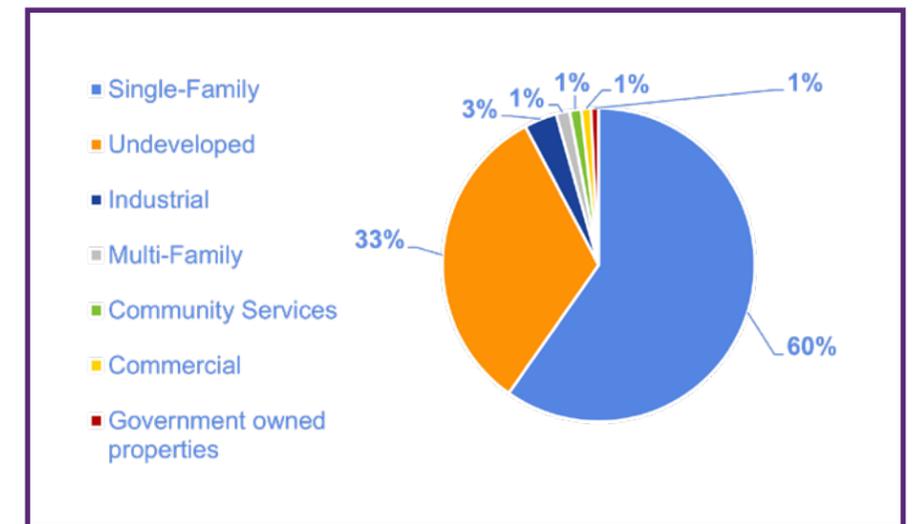
**5** 1% of all Government-Owned Properties

**4** 1% of all Commercial Properties

**Residential properties highly vulnerable to and at risk of floodplain inundation**

**98%** Single-Family

**2%** Multi-Family



Social Vulnerability by Land Use

# ASSESSMENT & FINDINGS

options and the types of jobs attainable are also limited. Furthermore, approximately 27% of households are without a computer with a broadband Internet subscription. When doing public outreach activities or awareness campaigns, it is important to consider other forms of communication to reach those with limited, or no digital access.

## Flood Vulnerability

Neighborhood flooding can occur from a variety of sources, including bayou flooding, extreme rain events, tropical storms, and hurricanes.

The physical characteristics of the neighborhood in terms of geography and climate include low-lying land that is experiencing subsidence, proximity to Buffalo and Hunting Bayous, and location that is downstream in the regional watershed. The Greater Fifth Ward faces flood risk given that the neighborhood is low-lying with a major waterway running through the area carrying regional stormwater to Galveston Bay, in combination with groundwater withdrawals that causes the ground to sink. Although not as heavily impacted as nearby neighborhoods in the northeast region, parts of

Greater Fifth Ward were flooded during Hurricane Harvey. Residents reported severe floods in the northern section of the neighborhood along Collingsworth Street. Various properties adjacent to Buffalo Bayou on the southern end of the neighborhood were also flooded by Harvey. Approximately 17% of the total properties were within or near the flood inundated areas.

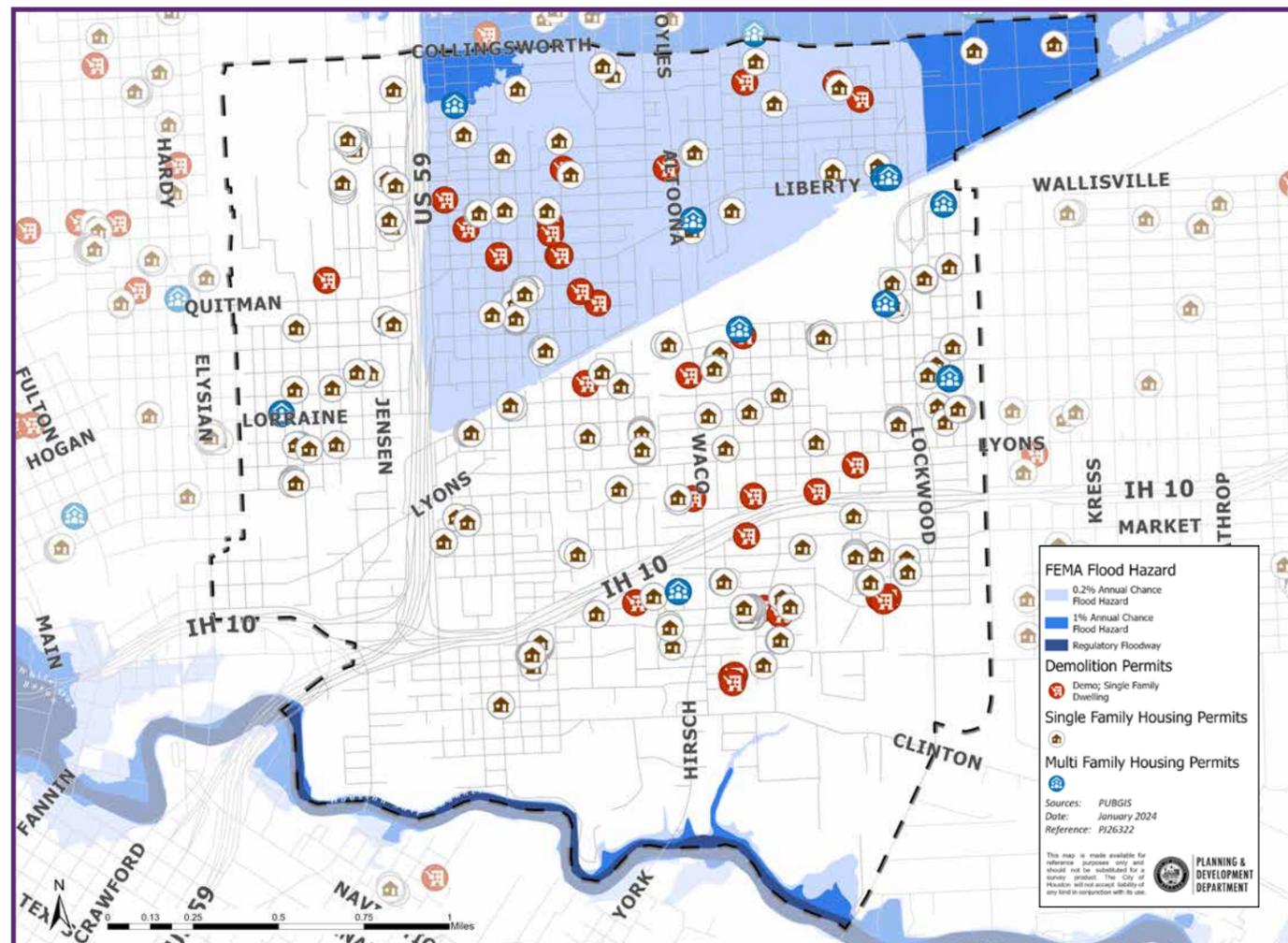
The physical characteristics of the neighborhood contribute to vulnerabilities. Houston neighborhoods that developed before the 1990s are more susceptible

to flooding from rainfall because the National Flood Insurance Act of 1968 did not lead to floodplain mapping in Houston until the late 1980s. After the adoption of flood maps in the 1990s, more stringent drainage requirements and floodplain permitting requirements were implemented. As a result of decades of development prior to today's standard restrictions:

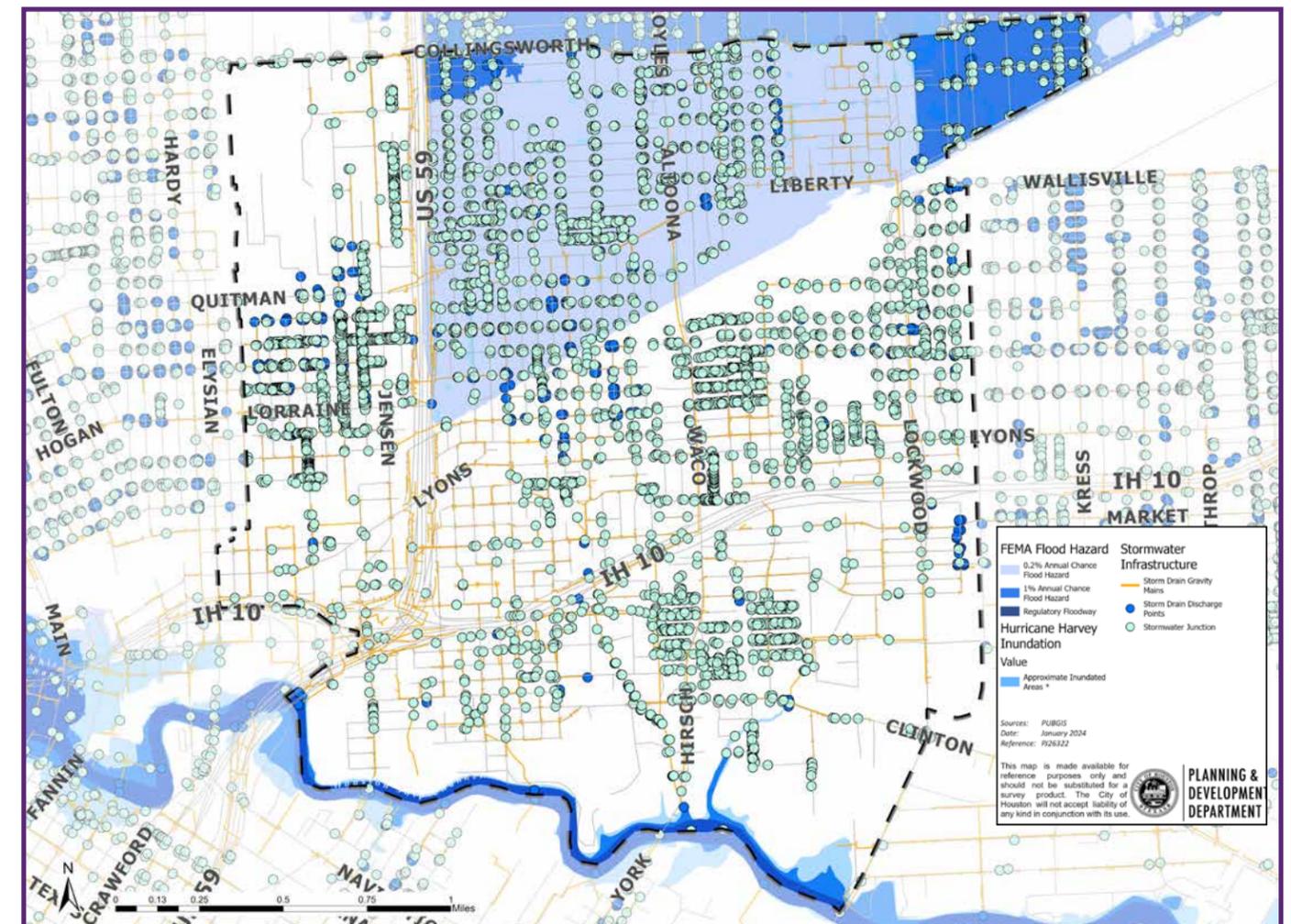
- buildings, roads, and other infrastructure, including the neighborhood drainage system, were built to substantially lower drainage standards than would be required today.

homes, schools, and other critical neighborhood services have been built in the floodplain and the floodway. Given the development pattern in the neighborhood, buildings within the 100-year and possibly 500-year flood plain are highly susceptible to flood events, and the local drainage system capacity is highly susceptible to rain events that cause neighborhood and street flooding. Changing rules and development patterns have also resulted in a limited tree canopy. The tendency

to clear properties of trees, shrubs, and other vegetation as part of a development has reduced the ability of vegetation to slow water flow and increase water absorption. The high percentage of impervious surfaces creates an effect called sheet flow, where water moves quickly across the impervious surface, and further contributes to the amount of stormwater runoff. It also contributes to increased water speed and volume during flooding events. Impervious surfaces such as concrete, asphalt, and building roofs are the major contributors to creating sheet flow, thereby increasing stormwater runoff that impacts the existing the neighborhood.



Permits Activity and Relationship to the Floodplain



Inundation, Stormwater and Flood Data

# ASSESSMENT & FINDINGS

## Housing

Approximately 61% of the properties vulnerable to flooding are residential, with the majority being single-family homes. These properties are located north of Liberty Road and near an old hazardous rail yard subject to creosote contaminants. On average, based on the census tracts covering the neighborhood, about 34% of the households are cost burdened as they pay over 30% of their income towards housing costs.

A driving factor of vulnerability is that approximately 65% of homes in the neighborhood were constructed before federal regulations came into place limiting the construction of homes and other structures in the floodplain. Today, federal regulations regularly require homes built or rebuilt on land in the floodplain to be elevated.

Housing vulnerability is worsened by a housing stock that is deteriorating due to slow recovery from previous disasters. Community members report many barriers to accessing recovery funds, including insurance requirements and a heavy paperwork burden that can require property titles and heirship rights. Property owners are often under- or uninsured and may not have sufficient personal funds to cover the high costs of home repair. The result is a continuation of unrepaired homes and unclaimed repair funds.

## Stormwater Infrastructure

The streets and local drainage systems were designed and installed prior to the adoption of more stringent drainage design requirements of the late 1990s. Considering the current design standards and the likelihood of extreme rainfall events, the local drainage systems are undersized and street flooding is likely. Residents have noted the storm water drainage capacity needs to increase on Bintliff Ditch and many of the local streets.

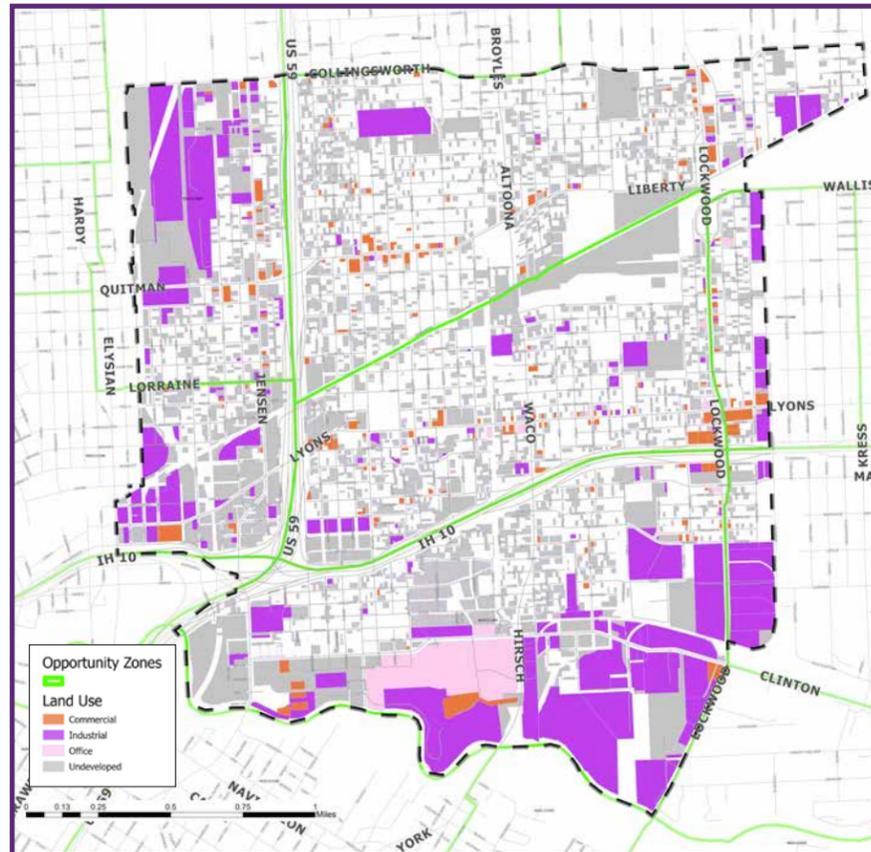
They suggested improving the streets by installing pervious materials or 12 by 12-foot drainage tiles and raising Fondren Road bridge above the floodway.

Like other neighborhoods in the City of Houston, Greater Fifth Ward has a combination of opened and closed

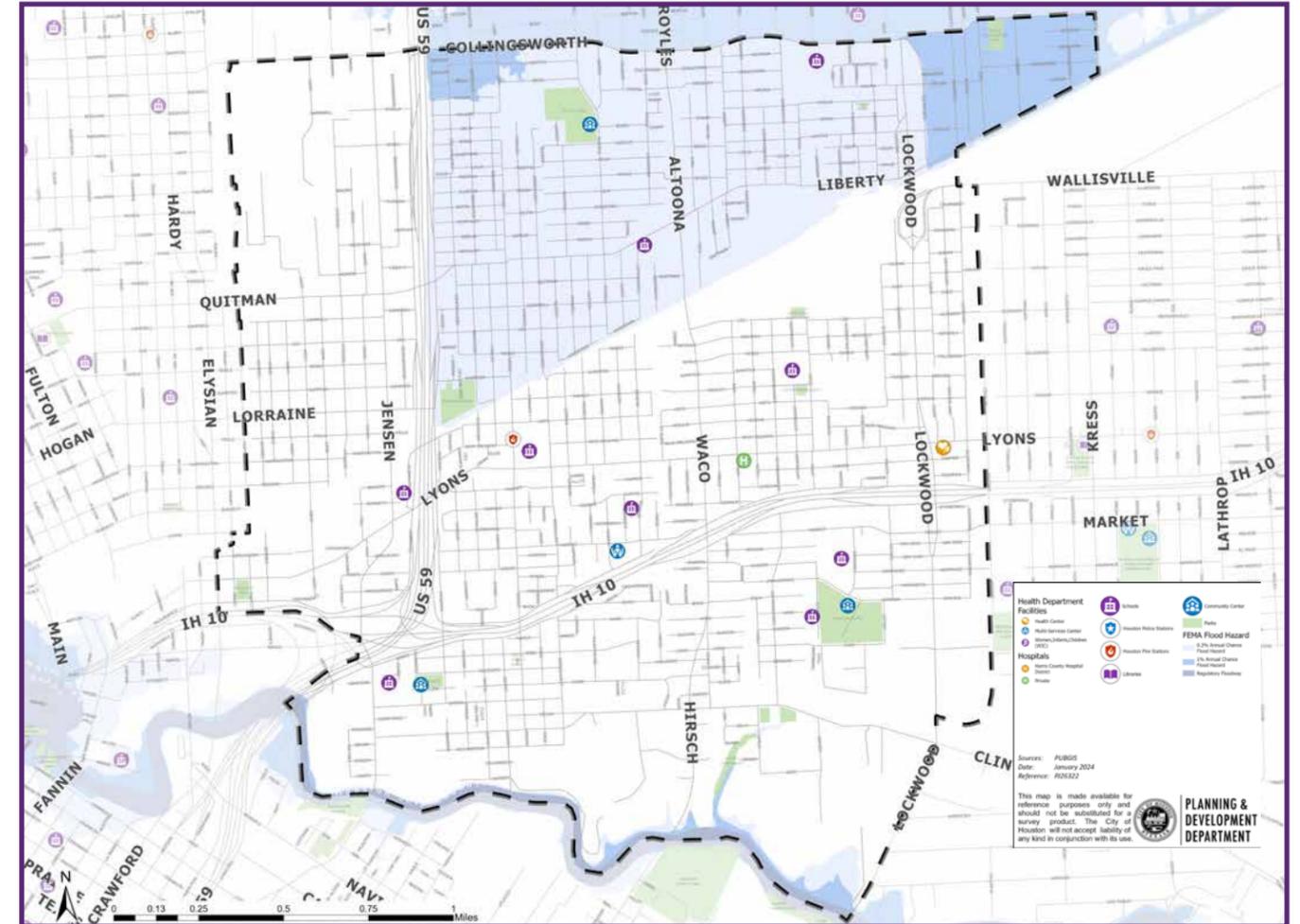
drainage systems. There are several open ditches along local streets east of I-69. Japhet Creek is a natural drainage channel that feeds into Buffalo Bayou and consists of a green space named Japhet Creek Park. The remainder of the neighborhood has underground drainage pipes to carry out stormwater.

**Drainage System** is infrastructure designed to drain excess rain and ground water from impervious surfaces. It includes some combination of: storm drains and sewers, surface water drains and sewers, open air ditches, bioswales, and bayous. If the rainfall intensity exceeds the capacity of the local drainage system, street and neighborhood flooding can occur.

**Storm Sewer** is grey infrastructure, or man-made infrastructure, designed to drain excess rain and ground water from impervious surfaces such as paved streets, car parks, parking lots, footpaths, sidewalks, and roofs. Storm sewers, and other grey infrastructure are typically made of concrete channels and pipes, and are often installed under ground.



Economic Opportunity



Facilities and flood data

## Community Services

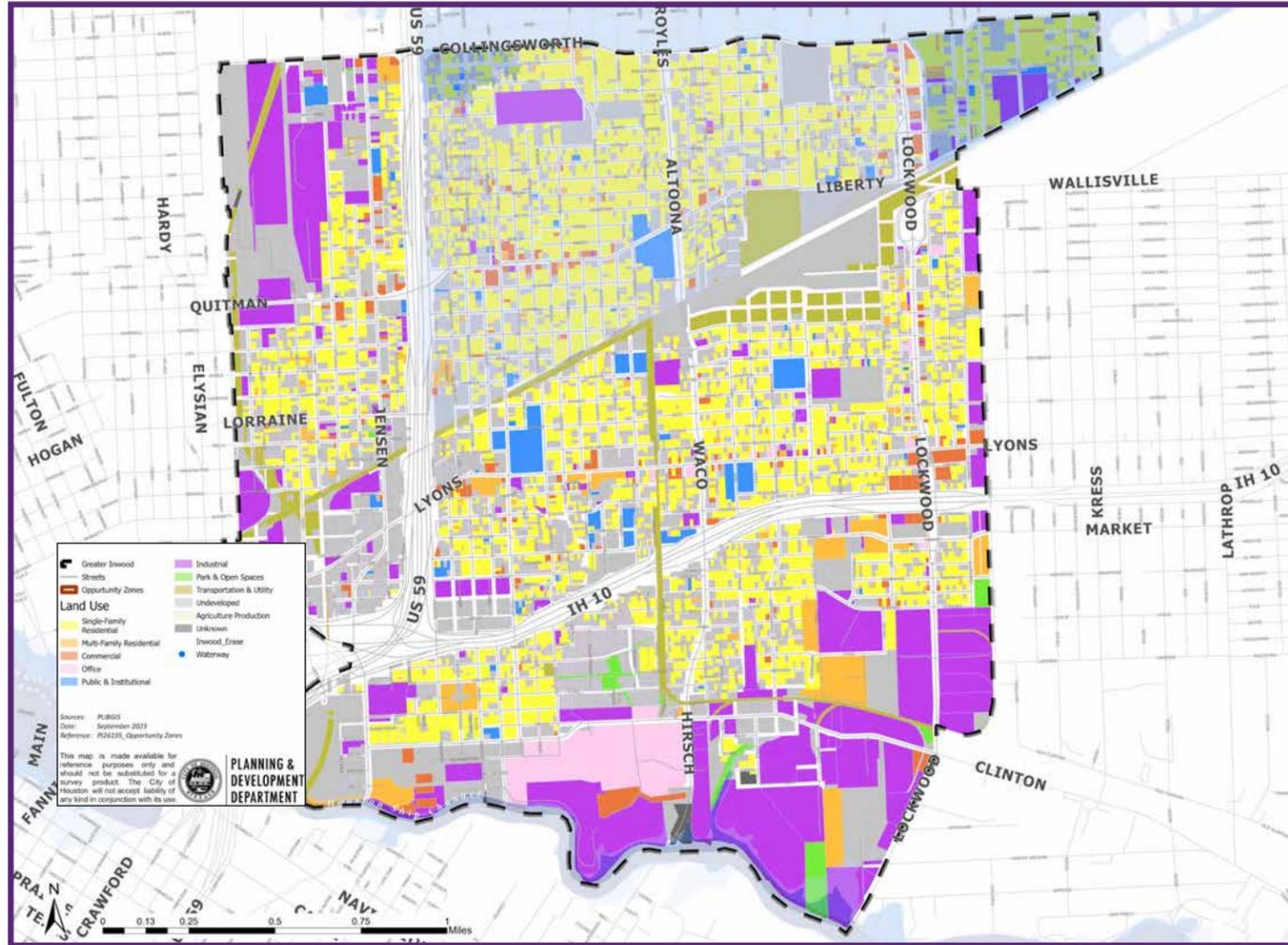
Six churches in the neighborhood are highly vulnerable to floods, which are:

- Nazareth Church/Iglesia Nazareth (3209 Brewster Street)
- Truth Temple Ministry #1 Inc. (3722 Collingsworth Street)
- Wells of Salvation Christian Center (3516 Rupert Street)
- Templo Pentecostes (3522 Dabney Street)
- New Direction Community Church (3301 Brewster Street)
- True Vine Church – God in Christ (3722 Sakowitz Street)

Please note that this may not be a complete list of vulnerable churches in the neighborhood. This is a list of churches that are within the 100-year floodplain.

Like housing, many community service facilities have been constructed before elevation regulations were first put in place in the 1980s. In addition, some community facilities are not weatherized to the extent necessary for the types of extreme heat and cold recently experienced, or do not have backup power supplies that would allow them to operate during a power outage.

# ASSESSMENT & FINDINGS



Land Use and Relationship to the Floodplain

## Heat Vulnerability

As part of the original Greater Fifth Ward neighborhood development, trees and vegetation were cleared to create wide streets, such as Liberty Road, Hirsch Road/Waco Street, Clinton Drive, and Lockwood Drive. Furthermore, the construction of I-10 and US 59/I-69 disrupted its original character and form. Despite this development pattern, the neighborhood maintains a relatively high tree equity score of 84 on average. This is largely attributed to existing green spaces such as the Buffalo Bayou hike and bike trail, Japhet Creek Park, Finnigan Park, Tully Park, and more. The moderate-to-high

tree canopy coverage in the neighborhood is in part due to tree cover on undeveloped land. New development on vacant land would likely reduce tree cover in the area.

The phenomenon where developed areas exhibit higher temperatures compared to undeveloped areas is known as Urban Heat Island (UHI) effect. The effect “occur[s] when cities replace natural land cover with dense concentrations of pavement, buildings, and other surfaces that absorb and retain heat. This effect increases energy costs (air conditioning), air pollution levels, and

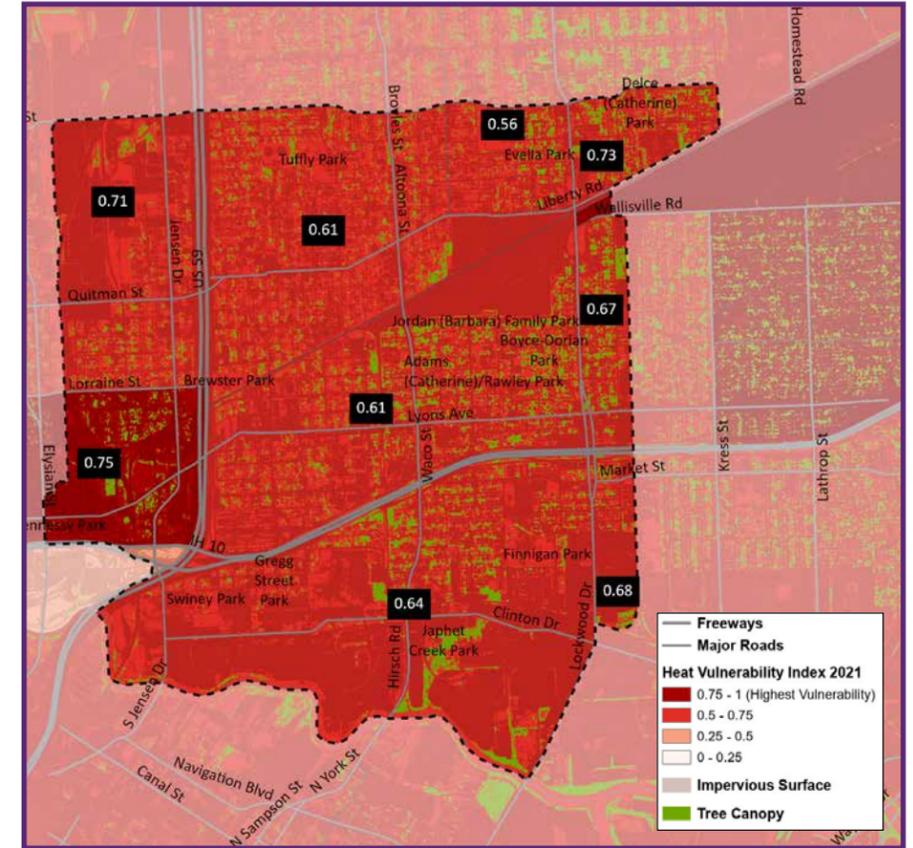
heat-related illness and mortality.” (United States Environmental Protection Agency, Green Infrastructure, Reduce Urban Heat Island Effect.)

Though Houston is no stranger to hot weather, urban heat is a growing risk in a warming climate. Acute heat events are the deadliest weather-related risk and unusually hot days also impact public health, education, and quality of life.

The 2021 Harris County Extreme Heat Vulnerability Assessment takes into account numerous environmental and social factors. The findings reveal a significant

percentage of the population in the neighborhood are highly vulnerable to heat-related issues. This includes individuals with limited access to air conditioning, and those with incomes below the federal poverty line, making the impact of rising energy costs more pronounced in this community. The assessment also identifies a significant number of people living with health risks such as heart disease and disabilities, and many without health insurance.

On the scale of 0 to 1, with 1 being the greatest vulnerability, Fifth Ward has on average a Heat Vulnerability Index of approximately 0.7. Severe heat exposures are predominately found near the industrial parts of the neighborhood. Although indoor temperatures are well-regulated in many households within the neighborhood, there are a number of households that are without air conditioning. According to Harris County Appraisal District property tax records from 2023, approximately 56% of the residential properties do not have an installed air conditioning system.



Heat Vulnerability by Census Tract



Greater Fifth Ward before Winter Storm Uri outage



Greater Fifth Ward after Winter Storm Uri outage

# ASSESSMENT & FINDINGS

Measures need to be taken to cool down outside temperatures during extreme heat events such as increasing tree coverage and pervious pavement materials. Community members have reported the need for more trees along major roads, and increased shaded areas at existing parks and bus stops. During extreme heat wave periods, all City libraries and multi-service centers, including Fifth Ward Multi-Service Center, operate as cooling sites for local residents and visitors.

## Chronic Social Stresses

The community has experienced chronic stresses related to the historic socio-

economic marginalization of community members. Members of the community have experienced food and energy insecurity, limited or no vehicle access, limited access to higher-paying jobs, and lack of health insurance coverage. In addition to these factors, the limited amount of core services present in the neighborhood has further exacerbated the day-to-day challenges of living in the neighborhood.

While the City is actively working to bring services to the community, large investments such as a community

multi-purpose space requires substantial planning to fund, design, and construct. Community members have built strong organizations in response to the local need, and the neighborhood is working hard to improve and maintain vital social services. However, the community needs additional support from the City for existing needs and to reduce vulnerabilities to shocks that may be experienced in the future.

Community members described food insecurity as one of the chronic social stresses. The 2019 USDA Food Access

Research Atlas designates several census tracts (based on 2010 geographies) in Greater Fifth Ward “Low-Income and Low-Access”, meaning an area with limited access to healthy food in combination with limited buying power. In each census tract, a significant number of residents is more than a 1/2 mile from the nearest supermarket. According to the 2020 CDC’s *Social Vulnerability Index* study, about 34% of households in the neighborhood spend more than 30% of their income on housing-related expenses. These households are more likely to experience challenges in affording other needs like healthy food and Internet access. Approximately 29% of residents don’t have health insurance, making it difficult for many to receive treatment and preventative care.

Two census tracts in the neighborhood contain some of the highest percentage of households without access to a vehicle underscoring the need for improved public transportation (source: 2020 CDC’s *Social Vulnerability Index*). Although multiple bus routes run through the area and the neighborhood is in close proximity to downtown, there is still room to improve their connections to job centers and other essential services. Nonetheless, like the rest of Houston, the land development pattern in the area is low-density and predominately car-oriented. There is a limited and disconnected sidewalk network that community members report as having inadequate ADA compliance at curbs and intersections. There is an existing trail network for pedestrians and bicyclists along Buffalo Bayou, with several proposed bikeways along major roads to improve connectivity.

## Public Health

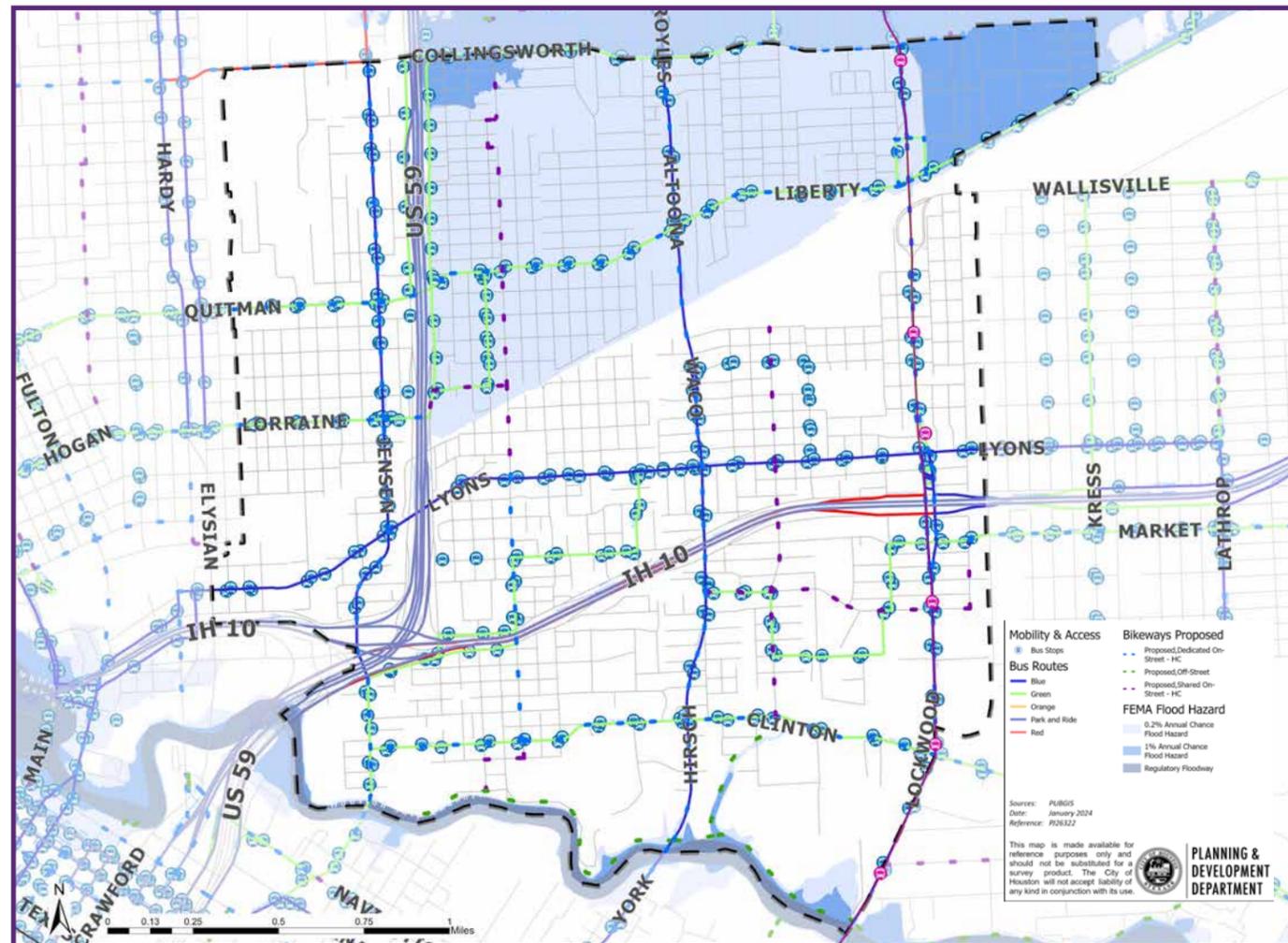
Several residential properties in the neighborhood are adjacent to heavy industrial areas creating an uneasy land-use conflict. Both active and inactive industrial properties emit pollutants into the air, water, and soil. In recent years, multiple studies have been conducted in the Fifth Ward and

other disadvantaged neighborhoods showing high rates of asthma and other respiratory health issues. According to a Houston study by the Environmental Defense Fund published in 2020, the nitrogen dioxide (NO<sub>2</sub>) levels were found to be 48% higher than the rest of the city. Residents face higher rates of asthma (11%, compared to 9%), Chronic Obstructive Pulmonary Disease (COPD) (10%, compared to 6%), coronary heart disease (9% compared to 5%) and stroke (6% compared to 3%) (“Finding pollution—and who it impacts most—in Houston,” June 3, 2020, *Environmental Defense Fund*).

A former rail yard and wood preservation site on Liberty Road owned by the Union Pacific Railroad Company and where a known contaminant called creosote was used has been a health and hazard concern in the community for many years. The site of the former industrial facility was designated as a cancer cluster in 2019 following a study by the Texas Department of State Health Services (DSHS), which found higher rates of respiratory cancers in the area compared to typical rates. These include elevated rates of childhood leukemia, and cancer of the esophagus, larynx, and lungs (“Assessment of the Occurrence of Cancer Houston, Texas 2000-2016,” August 13, 2019, *Texas Department of State Health Services*). Additional cancer cluster analyses were performed by DSHS at the Houston Health Department’s request and published in January of 2020. It provided cancer occurrence information based on each census tract studied (“Assessment of the Occurrence of Cancer Houston, Texas 2000-2016.” January 17, 2020, *Texas Department of State Health Services*). More details of the prevalence of cancer in each census tract were provided in an updated report in May of that year. Approximately 110 residential and commercial properties north of Liberty Road and near the rail yard have been subject to creosote plume contamination through groundwater and soil sample tests. The Houston Health

Department has been engaging with Fifth Ward community leaders and residents, including activist organization IMPACT Fifth Ward, to keep them informed on ongoing investigations, proposed actions taken by the City and other agencies, and to better understand their health needs.

The Health Department has conducted their own tests of soil samples around the rail yard, which found traces of dioxin, a highly toxic chemical compound. Attic dust wipe samples were taken from 19 residential properties located near the contamination site. Results showed that concentrations detected in attics located closest to the site were higher than those located in attics further from the site (Fifth Ward/Kashmere Gardens Union Pacific Railroad Site Contamination and Area Cancer Cluster, Houston, Health Department). More tests are being done to understand the presence of toxic chemicals in the area. In the fall of 2023, the U.S. Environmental Protection Agency (EPA) began a comprehensive three-part investigation in which they are overseeing Union Pacific in collecting samples from soils on over 300 properties surrounding the contaminated rail yard. The investigation is expected to run through the summer of 2024 and the EPA will evaluate the data to determine whether cleanup action is necessary to protect residents (“Environmental Protection Agency Launches Investigation to Address Fifth Ward Cancer Cluster Concerns”, October 24, 2023, Sherman Desselle, Fox26). In the meantime, the City of Houston created a Fifth Ward Voluntary Relocation Fund, allocating \$5 million from the general fund, to help relocate residents away from the cancer cluster area. To keep track of air quality, organizations such as Air Alliance Houston, the Texas Commission on Environmental Quality (TCEQ), and the Coalition for Community Organizations have installed air monitors in the community. Air quality monitoring in Greater Fifth Ward has expanded even further thanks to a recent \$500,000 grant the City of Houston received from the EPA (“EPA awards another \$500,000 grant for air-quality monitoring in Houston neighborhoods,” Adam Zuvanich, November 30, 2023, *Houston Public Media*).



Mobility and Flood Inundation

# COMMUNITY ENGAGEMENT



The planning process is founded on the principle of environmental justice, which demand the right of community members 'to participate as equal partners at every level of decision making, including needs assessment, planning, implementation, enforcement, and evaluation.'\* Engagement strategies and participation opportunities have been designed to be equitable so that all community member and stakeholder voices are intentionally sought, listened to, affirmed, and incorporated in the development of the neighborhood plan.

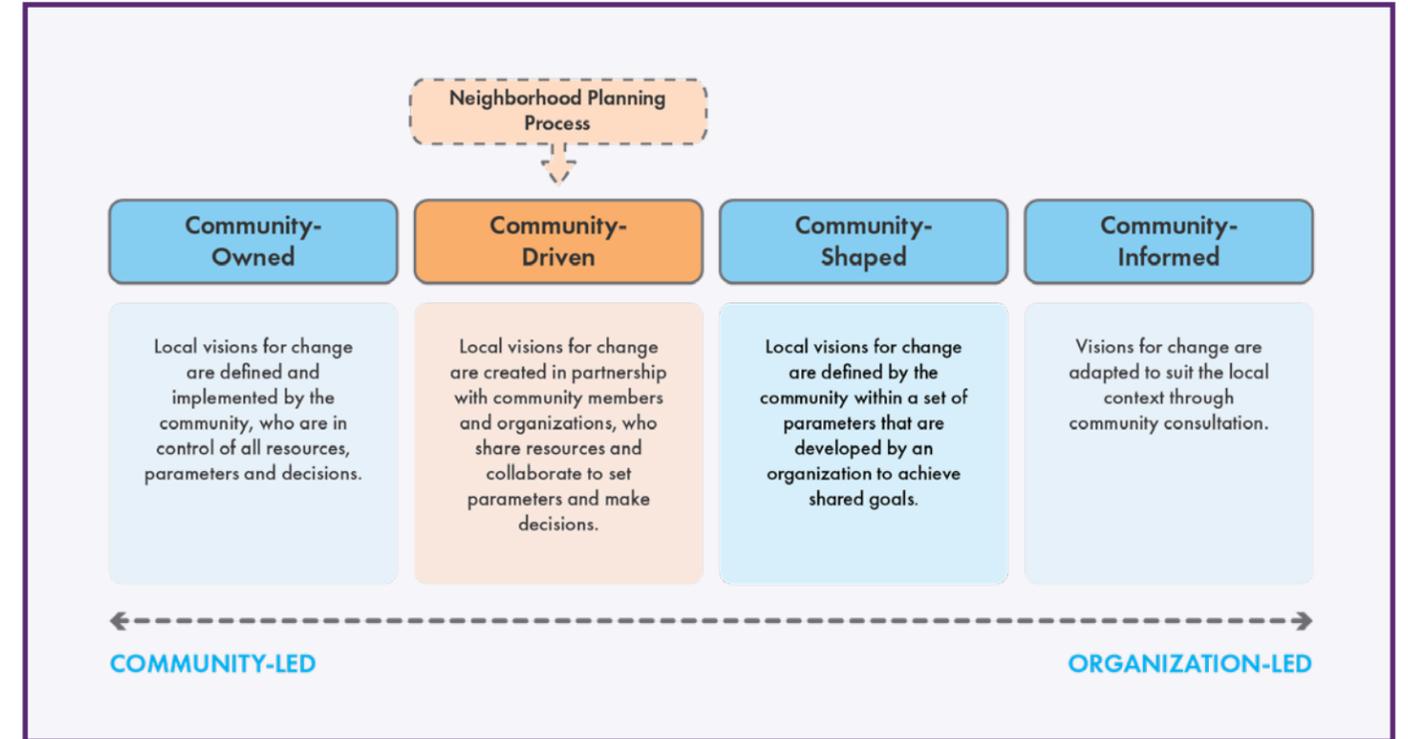
Community engagement for the Neighborhood Resilience Plan process took place between March 2023 and March 2024. The effort was guided by a Neighborhood Support Team (NST) made up of ten community members and leaders based on their willingness to serve, representation of broad community interests, and experience with community-level projects. NST members served as ambassadors for their community to



leverage their networks and encourage participation in the planning process. Members participated in three NSTs meetings, two public meetings (which

included Spanish translation), two surveys, and countless one-on-one conversations with community members.

\*From the Principles of Environmental Justice, Delegates to the First National People of Color Environmental Leadership Summit, October 24-27, 1991, in Washington, D.C.



The Attygale community participation spectrum states that four types of community interaction be used when creating a City-adopted planning document.



# COMMUNITY ENGAGEMENT



Previous plans drafted with the community were also consulted and factored into the creation of the NRP plan. These community-driven plans are listed in date order, from oldest to most recent:

- The Fifth Ward Pedestrian and Bicyclist Special District Study was created by the Houston-Galveston Area Council in 2011 with the goal of improving the safety of pedestrians and bicyclists, providing greater connectivity within the study area, and reinforcing linkages to Downtown and other destinations.
- The Fabulous Fifth: A Revitalization Strategy for Houston's Fifth Ward was done by the American Institute of Architects (AIA) Center for Communities by Design in 2012. This plan sought to provide strategic assistance in revitalizing the neighborhood.

- The Fifth Ward Healthy Community Design Ideas Book was put together by the Community Design Resource Center at the University of Houston in 2013 with the goal of identifying the determinants of health that can be impacted by community design and identified seven strategies for building healthy communities.
- The Fifth Ward/ Buffalo Bayou/ East End Livable Centers Study was organized by Asakura Robinson and the Houston-Galveston Area Council between 2014-2015. This plan was created to facilitate the creation of sustainable, viable, mixed-use, and mixed income environments.
- The Fifth Ward Cultural Arts District Plan was created in 2020 by the Fifth Ward CRC to support ongoing efforts

to revitalize the community. It plans explicitly for arts-based development and growth to strengthen the existing community fabric and identity and encourage a thriving, healthy, economically stable and balanced neighborhood.

- The Kashmere Gardens Complete Communities Action Plan, initiated by the City of Houston, was completed in 2020 and outlines goals and projects that work toward achieving a more resilient, safe, prosperous, and healthy community. A small portion of northern Fifth Ward was included in this plan.
- The LISC GO Neighborhood Quality of Life Agreement was completed in 2021 and is a collaborative effort between residents and local organizations collectively working together to create goals and initiatives to improve the quality of life of members in the community. It reflects a comprehensive effort to improve Fifth Ward through concerted community action and partnership.

The planning team reached out to the community through flyer distribution via social media, postings in community centers and businesses, newsletters, and in-person and online surveys on [LetsTalkHouston.org](https://lets.talk.houston.org). Ultimately, an estimated 100 people took at least one of the following actions: filled out online surveys, provided project feedback on physical project boards, or attended a virtual or in-person workshop or presentation. Including other recent efforts, the Greater Fifth Ward has engaged and informed thousands of people in its community improvement planning processes.

## Engagement Activities

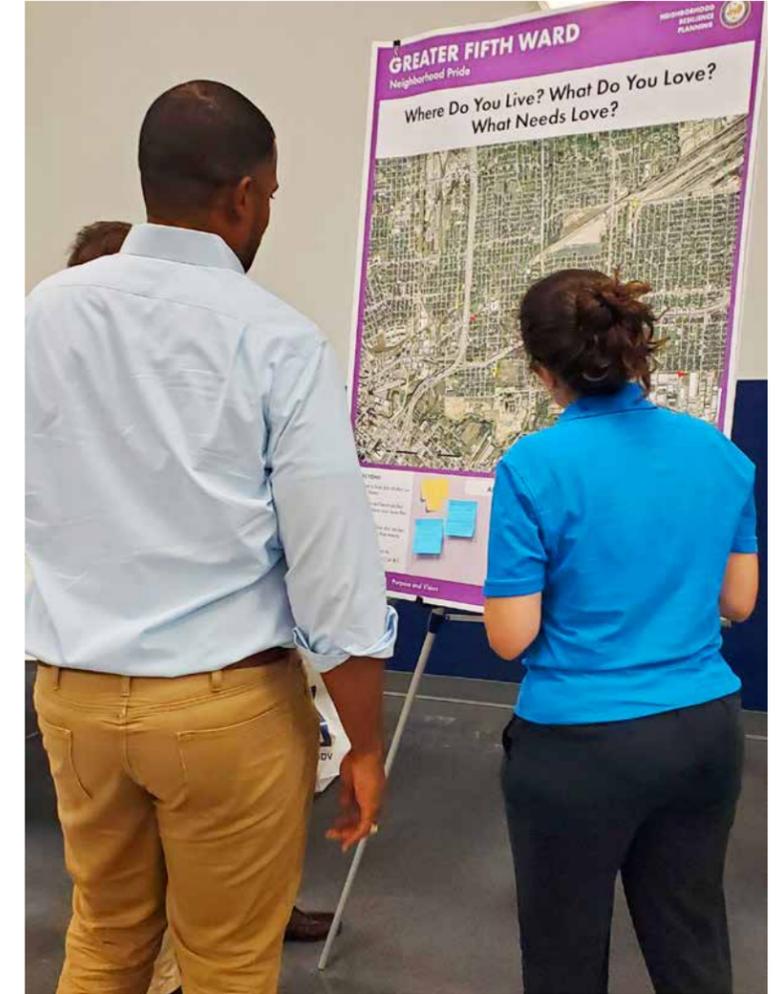
**3** Neighborhood Support Team Meetings

**2** public meetings

**9** Sticky events attended

**400** flyers distributed

**4,500** emails sent



# PROJECTS

Physical interventions such as completing a sidewalk network, and programmatic activities such as promoting resilience related public art can create a tangible change within neighborhoods. By addressing both physical and social aspects of resilience, the community adopts holistic and comprehensive approaches to improve Greater Fifth Ward.

Building upon existing planning efforts, numerous projects have been identified by the community. These projects are categorized based on the city's current capabilities, including department budgets, staffing, and

capital improvement projects. Future perspectives and resilience challenges of the neighborhood are also taken into account to ensure the long-term relevance of the neighborhood plan.

Looking ahead, the community envisions forming public-private partnerships to execute the aspirational goals of the plan, which may require additional staffing, funds, or expertise. Aspirational projects, such as riparian expansion and rehabilitation or innovative urban design practices to reduce stormwater runoff, are identified to significantly mitigate

the climate threat to the community's resilience. However, the implementation steps for these projects are not fully in place in the near term. While feasible, they will require ongoing collaboration between the City and the community to develop implementation pathways, particularly for funding and maintenance.

Projects will follow varying schedules and timelines depending on project complexity, funding, and staffing. For each project, necessary and recommended steps to realize resilience are outlined, City leads and critical non-gov-

ernmental partners are identified, anticipated project timelines are established, and metrics for success are described. Work on the implementation of community identified projects should commence at plan adoption or earlier, including those requiring non-governmental partners.

The following pages outline the projects identified and prioritized by the community. Project work already programmed, currently underway, or recently completed may also be found here.



Typical highway underpass pillars



Neighborhood beautification efforts resulted in expressively painted underpass pillars



# PROJECTS

HEALTH & SAFETY				HEALTH & SAFETY					
PROJECT	DESCRIPTION	STEPS		PARTNERS	CITY DEPARTMENTS	TIMELINE	PRIORITY	SOURCE	METRICS
Enhance Animal Welfare	Increase outreach to connect households with animal welfare resources, such as free or low-cost spay and neuter programs	<ol style="list-style-type: none"> <li>1. Provide education to community about who to contact about stray animals</li> <li>2. Partner with local organizations such as Barrio Dogs in the East End to increase awareness about spay and neuter programs</li> </ol>		Houston SPCA	Administration & Regulatory Affairs	Medium-term	Medium	LISC Quality of Life Agreement	<p>Number of reports of stray animals in the community.</p> <p>Resilient Houston Goal #6: We will ensure all neighborhoods are healthy, safe, and climate ready.</p>
Establish a Community Exercise Program	Create "5th Ward on the Move" to organize, promote, and implement regular walking, running, and biking activities	<ol style="list-style-type: none"> <li>1. Meet with community about interests in walking, running, biking, and other exercise</li> <li>2. Determine best route for group exercise</li> <li>3. Determine best day for members</li> <li>4. Request police escort to increase safety if needed</li> </ol>		Super Neighborhood, Local Community Organizations, Local Churches	Parks & Recreation Department	Short-term	Medium	LISC Quality of Life Agreement, Fabulous Fifth	<p>Number of community walking, running, or biking groups; Number of walking, running, and biking group participants.</p> <p>Resilient Houston Goal #6: We will ensure all neighborhoods are healthy, safe, and climate ready.</p>
Initiate Vacant Lot Activation	Develop temporary programs and strategies for vacant lots such as food truck markets, mobile produce delivery, health care, library services, pet care, and recycling, small pocket parks, public art, and temporary plazas	<ol style="list-style-type: none"> <li>1. Partner with Houston Land Bank and Houston Community Land Trust to utilize vacant lots</li> <li>2. Identify vacant lots owned by these organizations</li> <li>3. Assess each lot for size and restrictions</li> <li>4. If donated, use various funding sources such as grants to develop small pocket parks, public art, or temporary plazas on these lots</li> <li>5. Create guidelines and policies for temporary use of vacant lots including application processes, safety and health regulations, insurance requirements, permitting, etc.</li> </ol>		Houston Land Bank, Fifth Ward Community Redevelopment Corporation, Local community organizations	Parks & Recreation Department	Medium-term	High	Healthy Community Design Ideas, Nickel Climate Action Plan	<p>Number of activated vacant lots.</p> <p>Resilient Houston Goal #3: We will improve safety and well-being for all Houstonians.</p>

# PROJECTS

SOCIAL				SOCIAL					
PROJECT	DESCRIPTION	STEPS		PARTNERS	CITY DEPARTMENTS	TIMELINE	PRIORITY	SOURCE	METRICS
Develop Monthly Community Newsletter	Establish a monthly community newsletter with a calendar of events and resources for civic advocacy, community development, and healthy living.	<ol style="list-style-type: none"> <li>1. Develop a website that will host the newsletter</li> <li>2. Coordinate between community organizations to provide information to single source</li> </ol>		Local community organizations	Planning & Development Department	Short-term	High	LISC Quality of Life Agreement	<p>Number of community organizations that participate; Percentage increase in meeting attendance.</p> <p>Resilient Houston Goal #3: We will improve safety and well-being for all Houstonians.</p>
Create Community Emergency Response Team	Create a local CERT (Community Emergency Response Team).	<ol style="list-style-type: none"> <li>1. Sign up for Community Emergency Response Team (CERT) training by area civic leaders and others</li> <li>2. Designate a local Community Emergency Coordinator as a central point of contact before, during, and after a disaster</li> </ol>		Local community organizations, Local Churches	Mayor's Office of Public Safety & Homeland Security	Short-term	Medium	Kashmere Gardens Complete Communities Plan	<p>Number of emergency response teams created; Number of trainings for emergency response teams.</p> <p>Resilient Houston Goal #3: We will improve safety and well-being for all Houstonians.</p>
Increase Arts Programming	Locally taught arts classes and programming.	<ol style="list-style-type: none"> <li>1. Connect residents to existing locally taught arts classes and programming</li> <li>2. Expand available classes/programming</li> <li>3. Provide childcare for parents seeking to take advantage of these opportunities</li> </ol>		Fifth Ward Community Redevelopment Corporation	Mayor's Office of Cultural Affairs	Short-term	Medium	Cultural Arts District Plan	<p>Number of arts classes and programs.</p> <p>Resilient Houston Goal #5: We will invest in arts and culture to strengthen community resilience.</p>
Increase Neighborhood Connection	An urban park constructed under the freeway would connect the east and west sections of Fifth Ward.	<ol style="list-style-type: none"> <li>1. Reach out to TXDOT about feasibility of urban park underneath freeway</li> <li>2. Reach out to Houston Parks Board for preferred implementation process</li> <li>3. Coordinate with dedicated community team to carry out project</li> <li>4. Fundraise to provide resources for the project</li> <li>5. Construct an urban park</li> </ol>		TXDOT, Houston Parks Board	Mayor's Office of Cultural Affairs, Parks & Recreation Department	Long-term	Low/Med	Healthy Community Design Ideas	<p>Square footage of new park space added under freeways.</p> <p>Resilient Houston Goal #6: We will ensure all neighborhoods are healthy, safe, and climate ready.</p>

# PROJECTS

HOUSING				HOUSING					
PROJECT	DESCRIPTION	STEPS		PARTNERS	CITY DEPARTMENTS	TIMELINE	PRIORITY	SOURCE	METRICS
Develop a Single-Family Infill Strategy	Develop a single-family home infill strategy for vacant lots in partnership with local developers and non-profit organizations, including the Houston Land Bank, and explore a community owned land bank or trust to preserve affordability.	<ol style="list-style-type: none"> <li>1. Partner with Houston Land Bank and Houston Community Land Trust to increase awareness around their programming</li> <li>2. Identify vacant lots owned by these organizations</li> <li>3. Assess each lot for restrictions</li> <li>4. If donated, use various funding sources such as grants to develop single-family homes on these lots</li> </ol>		Houston Land Bank, Houston Community Land Trust	Housing & Community Development	Medium-term	High	LISC Quality Life Agreement, Fabulous Fifth, Livable Centers	<p>Number of vacant lots turned into development projects.</p> <p>Resilient Houston Goal #3: We will expand access to wealth-building and employment opportunities.</p>
Increase Multi-family Housing Investment	Invest in New Multi-family Housing by developing an acquisition and pre-development fund/4% Tax Credit Gap Equity fund.	<ol style="list-style-type: none"> <li>1. Complete market analysis and need assessment</li> <li>2. Engage stakeholders</li> <li>3. Identify potential capital sources.</li> <li>4. Structure pre-development fund or tax credit program</li> <li>5. Develop partnerships with financial institutions and developers</li> <li>6. Ensure compliance with existing policies in local and state government</li> <li>7. Launch fund or tax credit program</li> </ol>		Fifth Ward Community Redevelopment Corporation, Local Developers	Housing & Community Development, Mayors Office of Economic Development	Long-term	High	Fabulous Fifth	<p>Dollar amount raised for pre-development fund; Number of multi-family units created through the fund.</p> <p>Resilient Houston Goal #3: We will improve safety and well-being for all Houstonians.</p>
Create a Mixed-Income and Multi-Generation Neighborhood	Create a mixed-income and multi-generational neighborhood such as housing for young singles, families, empty nesters, and seniors.	<ol style="list-style-type: none"> <li>1. Identify which housing typologies are needed most in the neighborhood</li> <li>2. Advocate for mixed-use development within the community with tax incentives</li> <li>3. Form partnership with developers and non-profits to encourage mixed-income development</li> </ol>		Developer, Houston Land Bank	Housing & Community Development	Long-term	High	Healthy Community Design Ideas	<p>Number of new housing types found in neighborhood such as duplexes and ADUs.</p> <p>Resilient Houston Goal #3: We will improve safety and well-being for all Houstonians.</p>

# PROJECTS

ENVIRONMENTAL			ENVIRONMENTAL						
PROJECT	DESCRIPTION	STEPS		PARTNERS	CITY DEPARTMENTS	TIMELINE	PRIORITY	SOURCE	METRICS
Organize Neighborhood Clean-ups	Organize and implement neighborhood clean-ups with teams of youth, civic clubs, church groups, or Adopt-a-Block partners.	<ol style="list-style-type: none"> <li>1. Organize dedicated team of community members</li> <li>2. Determine date and locale</li> <li>3. Reach out to Department of Neighborhoods at least one month in advance and Houston Tool Bank to Reserve tools needed</li> <li>4. Coordinate with Solid Waste Department for trash pickup</li> <li>5. Advertise clean up day</li> <li>6. Conduct the cleanup</li> </ol>		Keep Houston Beautiful, Houston Tool Bank	Solid Waste Department	Short-term	High	LISC Quality of Life Agreement	<p>Number of community cleanups organized; Amount of waste removed from cleanups; Community participation rate.</p> <p>Resilient Houston Goal #6: We will ensure all neighborhoods are healthy, safe, and climate ready.</p>
Expand Parks and Community Garden Network	Expand small park and community garden network within the community.	<ol style="list-style-type: none"> <li>1. Gather interest</li> <li>2. Connect with Houston Parks and Recreation Department for support and guidance</li> <li>3. Locate a suitable site for the garden</li> <li>4. Develop a plan for the garden layout</li> <li>5. Prepare the land with any necessary infrastructure</li> <li>6. Plant the garden and maintain it regularly</li> </ol>		Local Community Organizations	Parks & Recreation Department	Medium-term	High	Fabulous Fifth, Livable Centers, Nickel Climate Action Plan	<p>Number of vacant lots converted to small parks or community gardens.</p> <p>Resilient Houston Goal #6: We will ensure all neighborhoods are healthy, safe, and climate ready.</p>
Reduce Air Pollutants	Enhance air quality in the Fifth Ward by reducing air pollutants, promoting green transportation, and raising awareness about the importance of clean air for community health and well-being.	<ol style="list-style-type: none"> <li>1. Partner with local organizations working to improve air quality</li> <li>2. Host informational sessions and workshops to inform community about air quality and promote green transportation</li> <li>3. Share information about tax incentives for green transportation</li> </ol>		Coalition of Community Organizations, Coalition for Environment, Equity, & Resilience	Health Department	Medium-term	High	Nickel Climate Action Plan	<p>Number of informational sessions regarding reducing air pollutants; Number of pollutants in air-quality reports.</p> <p>Resilient Houston Goal #6: We will ensure all neighborhoods are healthy, safe, and climate ready.</p>
Improve Existing Parks	Develop a strategy to prioritize improvements at existing parks in collaboration with community members, including advocating for additional maintenance, updated and accessible playground equipment, sports facilities, family-friendly spaces, restrooms, lighting, trees, shade structures, blue phones, and exercise equipment.	<ol style="list-style-type: none"> <li>1. Assess current conditions of existing parks</li> <li>2. Identify what facilities and equipment need improvement</li> <li>3. Engage with community to determine how improvements should be prioritized</li> <li>4. Identify funding resources for improvements</li> <li>5. Create an improvement plan and build support by sharing it with community, local government, and potential funding partners</li> </ol>		Houston Land Bank, Trees for Houston	Parks & Recreation Department	Short-term	High	LISC Quality of Life Agreement	<p>Number of complaints regarding parks conditions.</p> <p>Resilient Houston Goal #6: We will ensure all neighborhoods are healthy, safe, and climate ready.</p>

# PROJECTS

ECONOMIC				ECONOMIC					
PROJECT	DESCRIPTION	STEPS		PARTNERS	CITY DEPARTMENTS	TIMELINE	PRIORITY	SOURCE	METRICS
Create a Mutual Aid Network	Create a 5th Ward Mutual Aid Network through partnerships with community-based institutions and organizations to address basic needs, such as transportation, Internet access, technology, food, childcare, and emergency financial assistance.	<ol style="list-style-type: none"> <li>1. Identify key needs in community through surveys and community meetings</li> <li>2. Map existing resources and services provided by community organizations</li> <li>3. Build a coalition of partners committed to mutual support and resource sharing</li> <li>4. Set up effective communication channels among partners</li> <li>5. Develop a framework for how the mutual aid network will operate</li> <li>6. Inform the community about the network and how to use it</li> </ol>		Black United Fund, Super Neighborhood, Houston Tool Bank	Mayor's Office of Assistance	Long-term	High	LISC Quality of Life Agreement	<p>Number of community members assisted through mutual aid network; Dollar amount given through mutual aid network.</p> <p>Resilient Houston Goal #4: Encourage community leadership, stewardship, and participation.</p>
Create an Economic Development Plan	Create an inclusive and community-led economic development plan that supports a resilient local economy.	<ol style="list-style-type: none"> <li>1. Gather community input regarding community economic aspirations</li> <li>2. Conduct economic assessment</li> <li>3. Identify economic opportunities and challenges</li> <li>4. Set clear goals and objectives for neighborhood</li> <li>5. Develop strategies and actions for goals</li> <li>6. Establish partnerships with local organizations and businesses to support the plan</li> <li>7. Develop implementation plan with timelines and metrics</li> <li>8. Launch economic development plan</li> </ol>		Chamber of Commerce	Mayor's Office of Economic Development, Planning & Development Department	Medium-term	High	LISC Quality of Life Agreement	<p>Number of jobs created and retained in community; Number of new businesses established; Amount of capital available to local businesses; Number of participants in workforce development programs.</p> <p>Resilient Houston Goal #2: We will expand access to wealth-building and employment opportunities.</p>
Utilize Minimum Lot Size and Minimum Building Line Designations	Pursue Minimum Lot Size & Minimum Building Line designations to protect the neighborhood character.	<ol style="list-style-type: none"> <li>1. Identify which areas would like to pursue these designations.</li> <li>2. Planning Department staff will host information sessions</li> <li>3. Visit the Planning and Development website and download the application</li> <li>4. Follow required procedures including collecting required signatures</li> <li>5. Submit completed application to the Planning &amp; Development Department</li> </ol>		Property Owners, Super Neighborhoods, Civic clubs	Planning & Development Department	Short-term	Med/High	Livable Centers	<p>Number of successful minimum lot size and minimum building line designations; Percentage of blocks with established minimum lot sizes.</p> <p>Resilient Houston Goal #4: Encourage community leadership, stewardship, and participation.</p>

# PROJECTS

ECONOMIC				ECONOMIC					
PROJECT	DESCRIPTION	STEPS		PARTNERS	CITY DEPARTMENTS	TIMELINE	PRIORITY	SOURCE	METRICS
Increase Access to Computers	Identify partners to provide free laptops or computers to area families	<ol style="list-style-type: none"> <li>1. Define the need and scope of the program</li> <li>2. Look for potential partners and pitch the program</li> <li>3. Implement the program</li> <li>4. Monitor the program</li> </ol>		Local Community Development Corporations, ION	Mayor's Office of Innovation	Short-term	Med/High	LISC Quality of Life Agreement	<p>Number of free laptops or computers given to community members.</p> <p>Resilient Houston Goal #18: We will leverage existing and new investments and partnerships.</p>
Increase Vocational and Professional Training	Support existing maker spaces and create a business incubator to attract and retain talent, and offer vocational and professional training	<ol style="list-style-type: none"> <li>1. Assess current maker spaces and determine what they need to thrive</li> <li>2. Engage with stakeholders to get feedback on needs and opportunities</li> <li>3. Define objectives and services to provide to existing maker spaces</li> <li>4. Foster partnerships with local educational institutions, industry experts, and business leaders</li> <li>5. Launch training programs</li> <li>6. Market programs to community</li> </ol>		Chamber of Commerce, Fifth Ward Community Redevelopment Corporation, Hester House, East River CBA	Planning & Development Department	Medium-term	High	Livable Centers, Cultural Arts District Plan	<p>Number of businesses that go through business incubator; Number of trainings provided to community.</p> <p>Resilient Houston Goal #2: We will expand access to wealth-building and employment opportunities.</p>
Increase Storefront Activation	Support pop-up shops and redevelopment of vacant storefront spaces	<ol style="list-style-type: none"> <li>1. Assess vacant and underutilized storefronts in community</li> <li>2. Engage property owners to gauge interest in participation and offer incentives</li> <li>3. Engage community to gather ideas and support for redevelopment and pop-ups they would like to see</li> <li>4. Develop a program framework including application processes, duration of pop-ups, support services offered, etc.</li> <li>5. Work with local government to streamline any necessary permit approval</li> <li>6. Market pop-ups and redevelopment in the community</li> </ol>		Fifth Ward Community Redevelopment Corporation	Planning & Development Department	Medium-term	Med/High	Cultural Arts	<p>Number of pop-ups created or redeveloped units.</p> <p>Resilient Houston Goal #5: We will invest in arts and culture to strengthen community resilience.</p>
Create Commercial Kitchen Spaces	Area churches with commercial kitchens could incubate local chefs and restaurants. Vacant buildings could become small business incubator spaces, or pop-up stores	<ol style="list-style-type: none"> <li>1. Identify local churches with commercial kitchens or vacant buildings in the neighborhood</li> <li>2. Reach out to owner to gauge interest in a partnership</li> </ol>		Local churches, Fifth Ward Community Redevelopment Corporation, Local community organizations	Planning & Development Department	Medium-term	High	Healthy Community Design Ideas, Nickel Climate Action Plan	<p>Number of commercial kitchens created; Number of vacant buildings turned into incubator spaces or pop-up stores.</p> <p>Resilient Houston Goal #2: We will expand access to wealth-building and employment opportunities.</p>

# PROJECTS

INFRASTRUCTURE				INFRASTRUCTURE					
PROJECT	DESCRIPTION	STEPS		PARTNERS	CITY DEPARTMENTS	TIMELINE	PRIORITY	SOURCE	METRICS
Expand Public Art	Advocate for shade, shelters, seating, lighting, and public art at area bus stops; the improvement of area bus stops shade, seating, lighting, splash guards, and public art located a safe distance from the curb	<ol style="list-style-type: none"> <li>1. Identify which area bus stops are the priority for community</li> <li>2. Coordinate with METRO to understand improvement process</li> <li>3. Research and determine budget for the proposed improvements</li> <li>4. Identify funding sources</li> </ol>		METRO	Mayor's Office of Cultural Affairs	Short-term	High	LISC Quality of Life Agreement, Nickel Climate Action Plan	<p>Number of bus stops improved; Number of public art installations completed at bus stops.</p> <p>Resilient Houston Goal #3: We will improve safety and well-being for all Houstonians.</p>
Increase Stormwater Improvements	Prioritize and implement improvements to street and drainage infrastructure based on asset mapping, existing plans and studies, and stakeholder input	<ol style="list-style-type: none"> <li>1. Coordinate with community members to identify which streets have drainage issues</li> <li>2. Share with Public Works</li> </ol>		Local community organizations	Houston Public Works	Short-term	High	LISC Quality of Life Agreement, Nickel Climate Action Plan	<p>Number of street and drainage infrastructure improvements completed.</p> <p>Resilient Houston Goal #11: We will modernize Houston's infrastructure to address the challenges of the future.</p>
Increase Tree Canopy	Prioritize and develop streetscaping along major corridors, including landscaping, state of the art lighting, public art, and other amenities	<ol style="list-style-type: none"> <li>1. Reach out to Trees for Houston</li> <li>2. Pledge as a volunteer for tree-planting endeavors</li> <li>3. Make a tree request for community spaces</li> </ol>		Local community organizations, Trees for Houston	Houston Public Works, Mayor's Office of Cultural Affairs	Medium-term	High	LISC Quality of Life Agreement, Fabulous Fifth, Cultural Arts District Plan	<p>Number of major corridors improved with landscaping or public art; Number of trees planted along major corridors; Survival rate of planted trees, Number of public art installations along major corridors.</p> <p>Resilient Houston Goal #5: We will invest in arts and culture to strengthen community resilience.</p>
Install Wayfinding and Interpretive Signage	Design and install wayfinding and interpretive signage (maps and kiosks) in partnership with local artists to highlight community amenities, history, culture, untold stories, and other information	<ol style="list-style-type: none"> <li>1. Designate a team to gather historical information</li> <li>2. Coordinate with TIRZ and local community organizations to determine feasibility</li> <li>3. Identify artists and sign companies to complete project</li> <li>4. Identify funding sources</li> </ol>		East River Development, TIRZ	Houston Public Works, Mayor's Office of Cultural Affairs	Medium-term	Medium	LISC Quality of Life Agreement, Cultural Arts District Plan	<p>Number of wayfinding and interpretive signs placed throughout the community.</p> <p>Resilient Houston Goal #3: We will improve safety and well-being for all Houstonians.</p>

# PROJECTS

INFRASTRUCTURE				INFRASTRUCTURE					
PROJECT	DESCRIPTION	STEPS		PARTNERS	CITY DEPARTMENTS	TIMELINE	PRIORITY	SOURCE	METRICS
Enhance Community Gateways	Design and install gateways at the Lockwood, Waco, and Gregg bridges over I-10, including permanent or temporary public art and lighting	<ol style="list-style-type: none"> <li>1. Coordinate with city departments to determine process for installing public art and lighting in desired locations</li> <li>2. Coordinate with TIRZ and local community organizations to determine feasibility</li> <li>3. Identify artists and companies to complete project</li> <li>4. Identify funding sources</li> </ol>		TIRZ	Houston Public Works, Mayor's Office of Cultural Affairs, Department of Neighborhoods	Long-term	Med/High	LISC Quality of Life Agreement, Cultural Arts District Plan	<p>Number of gateways installed.</p> <p>Resilient Houston Goal #11: We will modernize Houston's infrastructure to address the challenges of the future.</p>
Expand Waste Services	Expand the waste services to include organics pickup and/or drop-off programs to provide options for separating and managing organic waste, thereby preventing it from entering landfills and contributing to methane emissions	<ol style="list-style-type: none"> <li>1. Engage local government to gather input and build support for program</li> <li>2. Determine infrastructure and logistics needed for the collection and disposal of organic waste</li> <li>3. Identify area to begin pilot program with limited participants.</li> <li>4. Develop education and outreach plan to inform residents about program benefits</li> </ol>		Local community organizations	Solid Waste Management	Medium-term	Medium	Nickel Climate Action Plan	<p>Amount of organic material picked up and diverted from landfill.</p> <p>Resilient Houston Goal #6: We will ensure all neighborhoods are healthy, safe, and climate ready.</p>
Expand Sidewalk Network	Improve and expand the sidewalk network to connect all neighborhood amenities including parks, the Multi-Service Center, library, and local schools	<ol style="list-style-type: none"> <li>1. Assess current conditions of sidewalk network</li> <li>2. Identify potential areas of expansions</li> <li>3. Engage with Houston Transportation and Public Works Departments about proposed improvements</li> <li>4. Encourage community to advocate for improvements</li> </ol>		Local community organizations	Houston Public Works, Transportation	Long-term	High	LISC Quality of Life Agreement, Fabulous Fifth, Livable Centers, Special District Study, Nickel Climate Action Plan	<p>Number of lineal feet of sidewalk added to the community.</p> <p>Resilient Houston Goal #3: We will improve safety and well-being for all Houstonians.</p>
Increase Green Stormwater Infrastructure Projects	Develop incentives and policies to promote green stormwater infrastructure projects	<ol style="list-style-type: none"> <li>1. Educate community on benefits of green stormwater infrastructure</li> <li>2. Partner with Public Works Department to take advantage of any green stormwater infrastructure incentives</li> <li>3. Work together to implement green stormwater projects</li> </ol>		Local community organizations	Houston Public Works, Administration & Regulatory Affairs	Medium-term	High	Kashmere Gardens Complete Communities Plan	<p>Number of new green stormwater infrastructure projects.</p> <p>Resilient Houston Goal #3: We will improve safety and well-being for all Houstonians.</p>
Expand Hike and Bike Network	Prioritize and advocate for new bike routes and hike and bike trails to connect parks, schools, neighborhood amenities, and the existing Buffalo Bayou trail network	<ol style="list-style-type: none"> <li>1. Assess conditions of current hike and bike trails</li> <li>2. Identify areas of improved connectivity</li> <li>3. Work with community to determine which bike routes and trails to prioritize</li> <li>4. Identify funding sources</li> <li>5. Share results with the HPW Transportation division</li> </ol>		Local community organizations	Houston Public Works, Transportation	Short-term	High	LISC Quality of Life Agreement, Livable Centers, Nickel Climate Action Plan	<p>Number of new bike routes and trails created within community.</p> <p>Resilient Houston Goal #3: We will improve safety and well-being for all Houstonians.</p>

# NEXT STEPS & IMPLEMENTATION

With any plan, the work continues long after the plan is adopted. Ongoing work is carried out—by both the Greater Fifth Ward community and the city—to implement the city-committed projects, and work toward realizing the aspirational projects proposed in this document.

## Funding + Adoption

Once a plan is adopted, existing funds are allocated and additional funds are sought to cover remaining project costs. Departmental budgets, the capital improvements project, and other internal city sources have been tentatively identified for “city committed” projects. Additional funding is necessary to implement “aspirational” projects.

The Funding Matrix, a living document provided as an addendum to this document, outlines a number of external funding sources and other funding mechanisms, like development impact fees, Tax Increment Reinvestment Zones (TIRZ) and management districts. City staff are a critical part of securing funding, but this plan will support community leaders with guidance on how to seek funding for their neighborhood projects and programs.

## Monitoring + Evaluation

After projects have been implemented, tracking progress and the impact of the projects through metrics is important. The metrics have been identified to help evaluate and monitor the efficacy of each plan’s projects in achieving the neighborhood’s vision for resilience.

Metrics can show whether the neighborhood resiliency projects are working as intended. If the metrics indicated sub-optimal progress or impact, stakeholders can change course and recalibrate project priorities.

## Living Document

This plan is designed as a living document intended to keep up with best practices and maintain relevancy to the neighborhood. Part of ensuring the continued resonance and relevance of the document is keeping the document up to date through periodic minor modifications for small and substantively inconsequential changes, or minor and major amendments for small to large content changes or additions.

There are two types of document updates. The first is a staff-initiated update, where city staff identify a need to update the plan document. The second is a community-initiated update, where a community leader or leaders propose a change to the plan. The process for carrying forward a proposed plan update is the same for both staff-initiated and community-initiated proposals. In both cases, proposals are presented to the Super Neighborhood and must receive majority recommendation to carry forward a proposed updated plan to city council for adoption. Community-initiated proposals must receive support from the Planning and Development Department and any other impacted city department or division for their proposed change prior to seeking a Super Neighborhood recommendation.

**Minor Modifications** minimally affect the plan’s vision and the associated projects, and are conducted to improve the plan’s accuracy, efficacy, and fundability.

**Major Modifications** are somewhat impactful to the overarching plan vision and projects. They are conducted to adjust the scope and type of work proposed to improve the plan’s accuracy, efficacy, and fundability.

**Minor Amendments** include minimal adjustments to the plan that impact but does not substantially alter the underlying assumptions of the community engagement findings, vulnerability assessment, resilience vision, or recommended projects, but are necessary for plan accuracy, efficacy, and fundability. An example of a minor amendment is a data update.

**Major Amendments** substantially adjust the plan that alters the underlying assumptions of the community engagement findings, vulnerability assessment, resilience vision, or recommended projects, and are necessary to carry out for plan accuracy, efficacy, and fundability. Examples can include adding or substantially changing projects based on changes in laws, unexpected disasters, or new process and technological developments.

**Supplemental Attachments** minimally affect the plan’s vision and the associated projects and are provided to add substantial new data or findings. A supplement expands the plan’s scope and will typically be accompanied by a minor or major amendment. The attachment is intended to improve the plan’s accuracy, efficacy, and fundability. Keeping the document regularly updated will support neighborhood resilience for years, even decades, to come.



# APPENDIX

## ACRONYMS

<b>AC or A/C</b>	Air Conditioning	<b>IDM</b>	Infrastructure Design Manual
<b>ACS</b>	American Community Survey	<b>LEED</b>	Leadership in Energy and Environmental Design
<b>ADA</b>	American Disabilities Act	<b>LIHTC</b>	Low-Income Housing Tax Credit
<b>ARA</b>	Administration & Regulatory Affairs	<b>LISC</b>	Local Initiatives Support Corporation
<b>CASPER</b>	Community Assessment for Public Health Emergency Response	<b>LMI</b>	Low-to-Moderate-Income
<b>CBO</b>	Community-Based Organization	<b>MOCC</b>	Mayor's Office of Complete Communities
<b>CDC</b>	Community Development Corporation	<b>MOED</b>	Mayor's Office of Economic Development
<b>CE</b>	Community Engagement	<b>MOCA</b>	Mayors Office of Cultural Affairs
<b>CEAP</b>	Comprehensive Energy Assistance Program	<b>MORS</b>	Mayor's Office of Resilience and Sustainability
<b>CHDO</b>	Community Housing Development Organization	<b>NGO</b>	Nonprofit Government Organization
<b>CIP</b>	Capital Improvements Program	<b>NOFA</b>	Notice of Funding Availability
<b>CPP</b>	Community Participation Plan	<b>NRP</b>	Neighborhood Resilience Plan
<b>CRO</b>	Chief Resilience Officer	<b>NST</b>	Neighborhood Support Team
<b>DON</b>	Department of Neighborhoods	<b>OBO</b>	Office Of Business Opportunity
<b>ECHO</b>	Elder Cottage House Opportunity	<b>OEM</b>	Office of Emergency Management
<b>GI</b>	Green Infrastructure	<b>PD</b>	Planning and Development Department
<b>GSI</b>	Green Stormwater Infrastructure	<b>PROW</b>	Public Right-of-Way
<b>HAP</b>	Homeowners Assistance Program	<b>QAP</b>	Qualified Allocation Plan
<b>HCD</b>	Housing and Community Development	<b>ROW</b>	Right-of-Way
<b>HFD</b>	Houston Fire Department	<b>SBA</b>	Small Business Administration
<b>HHD</b>	Houston Health Department	<b>SWAT</b>	Stormwater Action Team
<b>HPARD</b>	Houston Parks and Recreation Department	<b>SWD</b>	Solid Waste Department
<b>HPL</b>	Houston Public Library	<b>TAC</b>	Technical Advisory Committee
<b>HPW</b>	Houston Public Works	<b>TIRZ</b>	Tax Increment Reinvestment Zone
<b>HVAC</b>	Heating, Ventilation, and Air Conditioning	<b>VAD</b>	Vacant, Abandoned, and Deteriorated
<b>HVI</b>	Heat Vulnerability Index		
<b>ICC</b>	Increased Cost of Compliance		

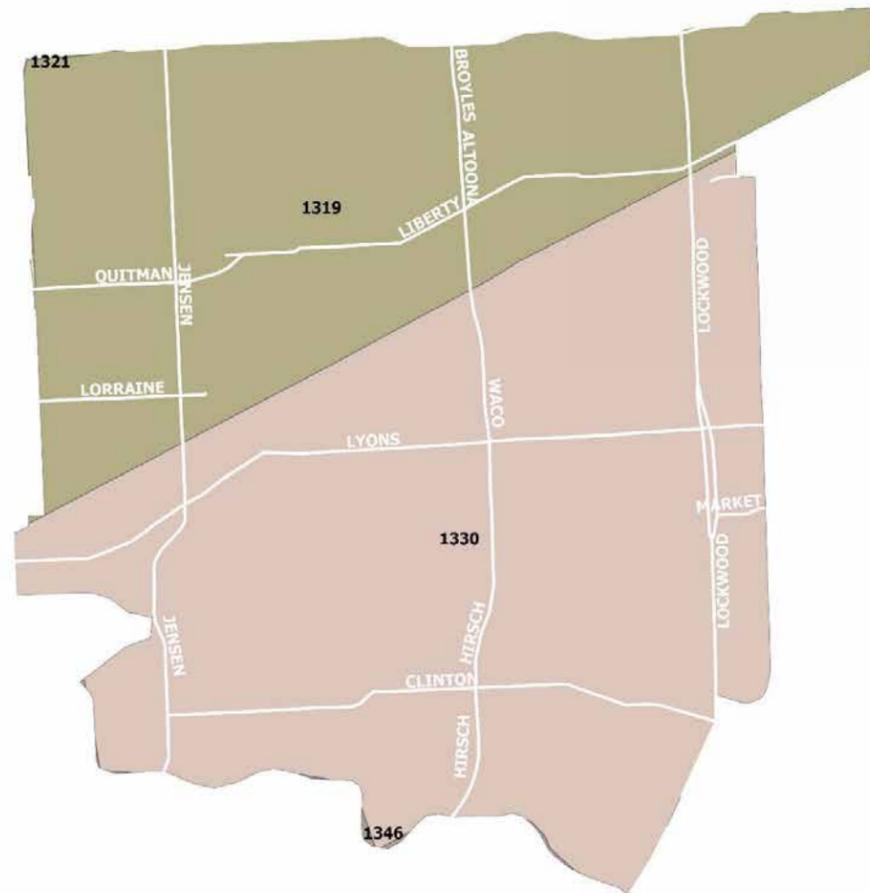
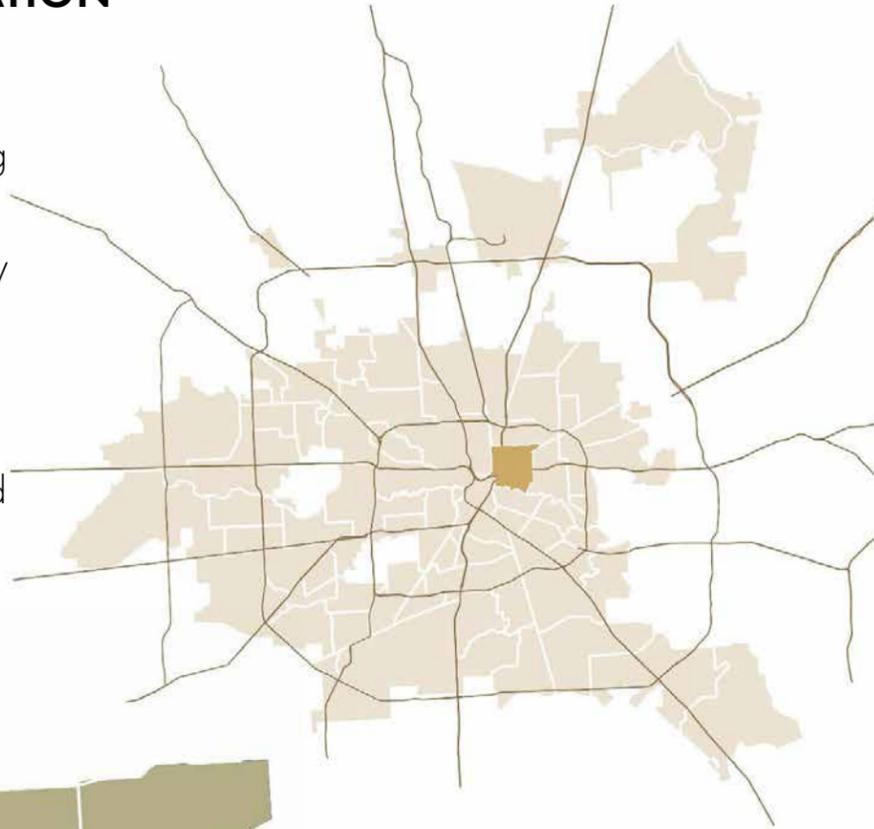
## DEPARTMENT & OFFICE ACRONYMS

<b>311</b>	Help and Information
<b>CC</b>	Civic Club
<b>CDBG</b>	Community Development Block Grant
<b>CDBG-DR</b>	Community Development Block Grant Disaster Recovery
<b>CDBG-MIT</b>	Community Development Block Grant Mitigation
<b>CFRTF</b>	Harris County Community Flood Resilience Task Force
<b>COH</b>	City of Houston
<b>DC PSC</b>	District of Columbia Public Service Commission
<b>DC SEU</b>	District of Columbia Sustainable Energy Utility
<b>DOEE</b>	Department of Energy and Environment
<b>DON</b>	Department of Neighborhoods
<b>EPA</b>	Environmental Protection Agency
<b>FEMA</b>	Federal Emergency Management Agency
<b>GCPD</b>	Gulf Coast Protection District
<b>GLO</b>	Texas General Land Office
<b>HARC</b>	Houston Advanced Research Center
<b>HCDD</b>	Housing and Community Development Department
<b>HCFCDD</b>	Harris County Flood Control District
<b>HCHA</b>	Harris County Housing Authority
<b>HEF</b>	Houston Equity Fund
<b>HHA</b>	Houston Housing Authority
<b>HHS</b>	Health and Human Services
<b>HPCD</b>	Houston Planning and Community Development
<b>HPRD</b>	Houston Parks and Recreation Department
<b>HUD</b>	Housing and Urban Development
<b>ISD or Houston ISD</b>	Houston Independent School District
<b>LTH</b>	Let's Talk Houston
<b>METRO</b>	Metropolitan Transit Authority of Harris County
<b>MOCA</b>	Mayor's Office of Cultural Affairs
<b>MOR</b>	Mayor's Office of Resilience
<b>MORS</b>	Mayor's Office of Resilience and Sustainability
<b>NHPD</b>	National Housing Preservation Database
<b>OEM</b>	Office of Emergency Management
<b>PD</b>	Planning and Development Department
<b>PW or HPW</b>	Houston Public Works
<b>SN</b>	Super Neighborhood
<b>SNC</b>	Super Neighborhood Council
<b>SWMD</b>	Solid Waste Management Department
<b>TDHCA</b>	Texas Department of Housing and Community Affairs
<b>TX-PACE</b>	Texas Property Assessed Clean Energy
<b>TxDOT</b>	Texas Department of Transportation
<b>US HUD</b>	United States Housing and Urban Development

# APPENDIX

## NEIGHBORHOOD INFORMATION

The Neighborhood Resilience Planning study for Greater Fifth Ward is east of downtown Houston and is bounded by Buffalo Bayou on the south, Lockwood Drive on the east, Liberty Road on the north, and Jensen Drive on the west. Data included here has been compiled from the latest American Community Survey five-year estimates in 2022.



Fifth Ward has its origins on the north bank of Buffalo Bayou. Originally a multi-racial community, Fifth Ward quickly became one of the centers of Houston's African-American community. Its main commercial streets, Lyons and Jensen provided retail outlets and entertainment for the residents. Fifth Ward is approximately 3,190 acres (5 sq. miles).

## DATA SNAPSHOT

	GREATER FIFTH WARD 2022		CITY OF HOUSTON 2022	
	Number	Percentage	Number	Percentage
Total Population	18,881	1%	2,296,253	100%
Race/Ethnicity				
White Alone	943	5%	541,798	23%
Black or African American Alone	8,003	42%	505,308	22%
Asian Alone	330	2%	156,724	7%
Hispanic or Latino	9,249	49%	1,029,429	45%
Other	356	2%	62,994	3%
Age				
17 Years or Younger	4,088	22%	549,788	24%
18-64 Years Old	12,558	66%	1,480,407	64%
65 Years or Older	2,235	12%	266,058	12%
Place of Birth				
Foreign Born Residents	3,867	20%	664,495	29%
Means of Transportation to Work 16 Years +				
Drove Alone/Carpooled	8,362	100%	1,105,088	100%
Public Transportation (excluding taxicab)	6,932	83%	902,593	82%
Other (Walk, Bicycle, Work at Home, etc.)	526	6%	37,336	3%
	904	11%	165,159	15%
Educational Attainment 25 Years +				
No High School Diploma	12,971	100%	1,513,104	100%
High School Graduate (includes equivalency)	3,910	30%	308,350	20%
Some College (no degree)	4,195	32%	329,224	22%
Associate's Degree	1,915	15%	254,030	17%
Bachelor's Degree or Higher	841	7%	89,537	6%
	2,110	16%	531,963	35%
Median Household Income	\$39,893		\$60,440	
Households Below Poverty	2,095	30%	157,268	18%
Housing Units				
Occupied	8,237	100%	1,006,392	100%
Vacant Housing Units	7,082	86%	897,510	89%
	1,155	14%	108,882	11%
Occupied Housing (owners and renters)				
Percent Owners	7,082	100%	897,510	100%
Percent Renters	2,818	40%	376,562	42%
	4,263	60%	520,948	58%

# APPENDIX

## RESILIENCE DEFINITIONS & CONCEPTS

**Climate Adaptation** refers to changes in social, economic, and ecological systems in response to climatic risks and their effects.

**Climate Resilience** is the ability to anticipate, absorb, accommodate, and recover from adverse climate impacts.

### RELATED TERMS

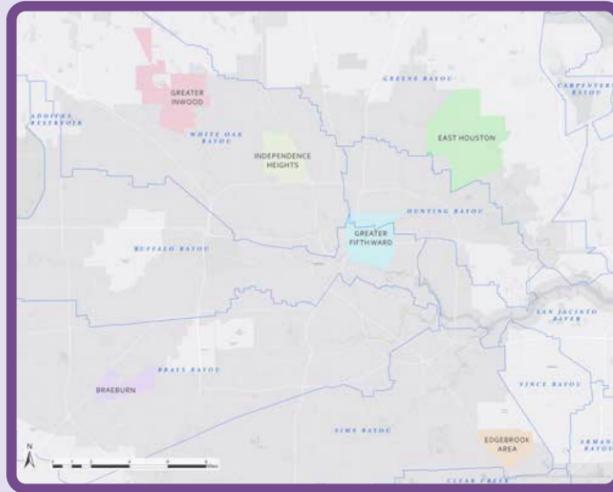
A **Climate Hazard** is a physical process or event that can harm human health, livelihoods, or natural resources. Examples are flooding, extreme heat, or hurricanes.

**Flooding** (also “Inundation”) a great flow or overflow of water, especially over land not usually submerged

A **Flash Flood** is a sudden local flood, typically due to a heavy rainfall or other cause.

**Nuisance Flooding** refers to low levels of inundation (typically due to high tides) that do not pose significant threats to public safety or cause major property damage, but can disrupt routine day-to-day activities, putting added strain on infrastructure systems such as roadways and sewers, and causing minor property damage.

**Adaptive Capacity** is the, “ability of a human or natural system to adjust to climate change (including climate variability and extremes) by moderating potential damages, taking advantage of opportunities, or coping with the consequences.” <https://www.epa.gov>



Watershed Map

**Subsidence** is the sinking of the ground because of underground material movement—it is most often caused by the removal of water, oil, natural gas, or mineral resources out of the ground by pumping, fracking, or mining activities.

**Extreme Heat** is defined as summertime temperatures that are much hotter and/or humid than average.

### SEVERE WEATHER

**Extreme Events** are occurrences of unexpected or unusually severe weather or climate conditions that can cause devastating impacts on communities and agricultural and natural ecosystems.

An **Acute Extreme Weather Event** is an extreme weather event that takes place in a relatively short period of time, such as a tropical storm or cloudburst flooding event.

A housing recovery from Hurricane Harvey involves two strategies: rehabilitation and weatherization of homes.

- **Rehabilitation** means repairing the home from damage that occurred as the result of an event. This can mean repairing or replacing the roof, removing and replacing flood damaged materials such as plasterboard and floors, and removing and replacing damaged systems such as appliances including heaters and AC units. Often rehabbing flood damaged homes requires extensive mold remediation, even in areas of the home that were not touched by floodwaters.
- **Weatherization** means improving the home’s construction and systems to improve energy efficiency by updating windows, doors, wall and attic insulation; removing the home and its critical systems from the floodplain through home elevation, flood barriers, and other strategies; adding climate adaptation solutions such as backup power supplies, green infrastructure for cooling, and others. Frequently, weatherizing home improvements are carried out at the same time as post-disaster home rehabilitation.

**Chronic Extreme Weather Event** is an extreme weather event that takes place in a relatively long period of time, such as a heat wave or drought.

### WATERSHED PLANNING & FLOODING

**Watersheds** (also called drainage basin, drainage areas, or catchments) are areas of land where all surface runoff that is created within that area drains to one common point. As water that is draining towards the ocean and is always conveying towards the lowest point in elevation, water will start in a large number of small streams at the top of watersheds (“tributaries”), and streams will continually combine and become rivers as the streams pick up more water along the way.

Watersheds are defined on the borders by “ridges” or hills where if a raindrop falls on the point, both elevations on either side are lower than the high point and water could drain to either side. Areas in the lower part of watersheds will have

larger volumes of water in higher concentrations of volume, as water accumulates as it moves toward the ocean. Watersheds are defined by the drainage area that reach one specific point, watersheds can be defined on several scales, depending on which common outlet point is picked for analysis.

**Waterway** is a river, canal, or other route for travel by water.

**Riparian Zones** or areas, are lands that occur along the edges of rivers, streams, lakes, and other water bodies.

**Floodplain** is any land area susceptible to being inundated by floodwaters from any source. This can include coastal areas impacted by storm surge, land along a river or bayou that is flooded when that waterway rises out of its banks, or low-lying land that fills with water when it rains. Flooding occurs in a wide range of landscapes due to rainfall or storm surge. The floodplain is land that has been or may be covered by floodwater during a regional flood. The floodplain includes the floodway and flood fringe areas. These areas are labeled on the Flood Insurance Rate Maps as A, AE, A1-30, AO or AH zones.

# APPENDIX

**Floodway** is the channel of a river or other water course and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. The floodway is the channel of a river or stream and those portions of the floodplain adjoining the channel required to carry the regional flood discharge. The floodway is the most dangerous part of the floodplain—it is associated with moving water.

**Base Flood Elevation** or BFE is the elevation determined by FEMA to which flood water is expected to rise during the base flood.

**Design Flood Elevation** or DFE the elevation of the highest flood that a retrofitting method is designed to protect against. Homes are elevated to the DFE for example.

**Storm sewers** are typically a connected network of subsurface concrete pipes.

## GREEN INFRASTRUCTURE & NATURAL PROCESSES

**Ecosystem Services** are the goods and services provided by ecosystems to humans. Ecosystem services make human life possible by, for example, providing nutritious food and clean water, regulating disease and climate, supporting the pollination of crops and soil formation, and providing recreational, cultural and spiritual benefits.

**Gray Stormwater Infrastructure** is a network of at-grade and below-grade drainage channels that make up a storm-water drainage system. It is referred to as “grey” infrastructure because the system is typically made out of concrete.

**Green Infrastructure** is the harnessing of ecological systems to improve urban ecology.

**Green Stormwater Infrastructure** refers to a variety of practices that restore or mimic natural hydrological processes. While “gray” stormwater infrastructure is designed to convey stormwater away from the built environment, green infrastructure uses soils, vegetation, landscape forms, and other media to manage rainwater where it falls through capture, storage, and evapotranspiration. By integrating natural processes into the built environment, green infrastructure provides a wide

**1% or 0.2% Chance of Flood** indicates there is a 1% or 0.2% chance of flood; The Federal Emergency Management Association (FEMA) maintains nation-wide floodplain maps that identify properties located in what they consider to be the floodplain. The floodplain is mapped in terms of a 100 year or 1% chance of flood every year, and a 500 year or a .2% chance of flood every year. Properties located in the 100-year and the 500-year floodplain, as identified by FEMA, are those referred to when we say, **“a home is located in the floodplain.”** The FEMA designation carries regulatory and insurance implications, as well implications for recovery funds.

**100-Year Floodplain** means there is at least a 1% chance each year that the property will flood

**500-Year Floodplain** means there is at least a .2% chance each year that the property will flood

A **Drainage System** is comprised of ditches, and traditional underground storm sewers. If the rainfall intensity exceeds the capacity of the local drainage system, street and neighborhood flooding can occur.

variety of community benefits, including reducing stormwater flooding impacts, improving water and air quality, reducing urban heat island effects, creating habitat for pollinators and other wildlife, and providing aesthetics and recreation. Evapotranspiration is the sum of all processes by which water moves from the land surface to the atmosphere via evaporation and transpiration. It is what allows trees to cool the surrounding air.

**Phytoremediation** is a plant-based approach, which involves the use of plants to extract and remove elemental pollutants or lower their bioavailability in soil.

## HEAT & ENERGY

**Brownout** is a drop in voltage in an electrical power supply system. Unintentional brownouts can be caused by excessive electricity demand, severe weather events, or a malfunction or error affecting electrical grid control or monitoring systems. Intentional brownouts are used for load reduction in an emergency, or to prevent a total grid power outage due to high demand.

**Service Network** is a structure that brings together several entities to deliver a particular service. In the context of this report, service network builds on the City’s Resilience Hubs project to extend the facilities and service network that support unique preparation, response and recovery from stresses and shocks in the specific neighborhood they serve.

**Urban Heat Island Effect** an urban or metropolitan area that is significantly warmer than its surrounding rural areas due to the lack of shade, prevalence of heat absorbing materials, and other human activities such as manufacturing.

**Weatherization** means improving a building’s energy performance primarily by reducing heat loss or heat gain due to leakage at the building envelope. It can also include other performance improvements that reduce energy demand such as upgrading appliances and systems. For example, reducing unwanted heat gain by installing a cool roof or planting trees along the southern building exposure.

**Flood Vulnerable** means properties are identified as being ‘highly vulnerable’ to flood through a neighborhood vulnerability assessment carried out as part of the neighborhood planning process. Vulnerability is assessed by considering multiple factors, such as parcel and building location relative to the geographic boundaries of the FEMA floodplain, type of property use and elevation requirements in place when the property was built.

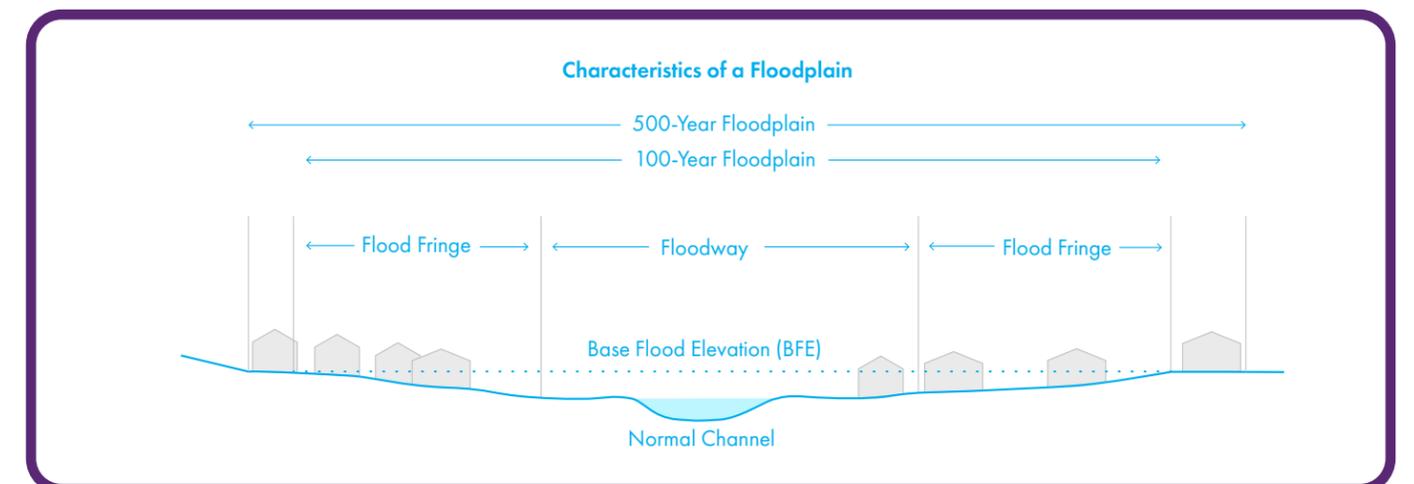


Diagram of the Floodplain

# APPENDIX

## SOCIAL JUSTICE

**Social Vulnerability** is the susceptibility of social groups to the adverse impacts of natural hazards, including disproportionate death, injury, loss, or disruption of livelihood.

**Environmental Justice** is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies.

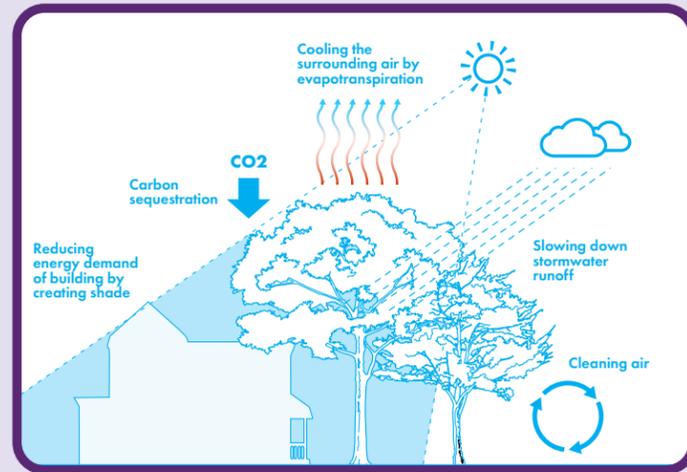
**Energy Insecurity** is a lack of access to affordable and reliable energy. In the context of this report, it is defined as the inability to meet basic household energy needs, especially caused by extreme event (for example, Winter Storm Uri).

**Procedural Justice** refers to the idea of fair processes, and how people’s perception of fairness is strongly impacted by the quality of their experiences and not only the end result of these experiences.

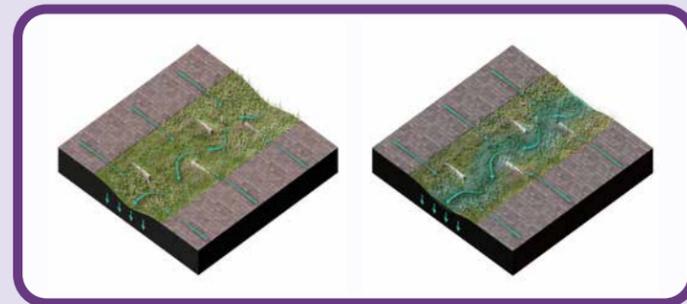
## COMMUNITY PLANNING

**The 15-Minute Neighborhood** is created by prioritizing pedestrian and cyclist mobility over vehicle mobility, and allowing for a mixture of uses such that residents can reach essential services, jobs, and other key destinations within 15 minutes of walking or biking from their home or workplace.

**Living with Water** refers to two workshops hosted by The City of Houston and partners in November 2018, and May 2019, as part of Houston’s resilience program. Living with Water Houston brought together local, national, and Dutch experts representing multiple disciplines to solve site-specific water and resilience challenges alongside local governments, state and federal agencies, and community stakeholders.



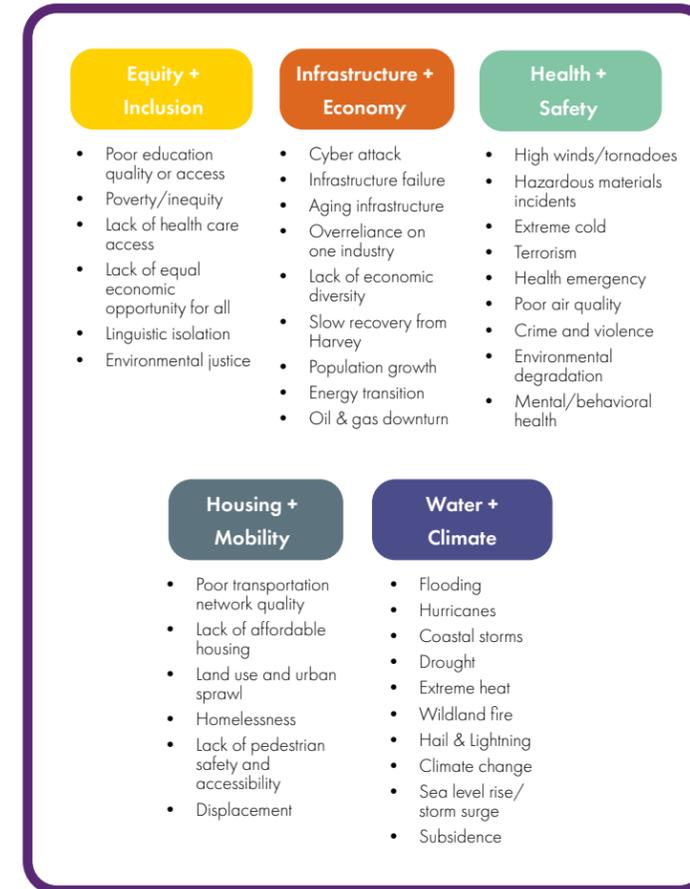
How a Tree Cools



Dry or Wet Bioswales

## HOUSTON MUNICIPAL CONTEXT

**Resilient Houston**, the City’s resilience strategy, was released on February 12, 2020. Resilient Houston provides a framework for collective action for every Houstonian. It documents actions that can be taken by our diverse neighborhoods, discusses how our watersheds work, and provides general guidance for City departments, as well as local and regional organizations. The strategy links existing efforts with new ones that will collectively work to protect Houston against future disasters, from hurricanes to extreme heat waves, and chronic stresses such as aging infrastructure, poor air quality, and flooding.



Priority Shocks and Stresses for Houston

**Houston Climate Action Plan** provides evidenced-based activities to reduce greenhouse gas emissions and preventative measures to address the negative outcomes of climate change. The plan demonstrates how Houston will adapt and improve its resilience to climate hazards today and identifies risks that may increase in the coming years.

**General Fund** refers to revenues accruing to the state from taxes, fees, interest earnings, and other sources which can be used for the general operation of state government, including the Capital Improvements Program.

**Capital Improvements Program** is a list of the budgets allocated to capital projects, and the associated funding approved by the City Council. The City of Houston has a five year plan updated annually, addressing the infrastructure needs.

## INTERVENTIONS (MISC.)

**Bioretention Planters** are stormwater infiltration cells constructed with walled vertical sides, a flat bottom area, and a large surface capacity to capture, treat, and manage stormwater runoff from the street.

**Dry or Wet Bioswales** are vegetated open channels that are designed and constructed to treat stormwater runoff within dry or wet cells formed by check dams or other structures. A dry swale is designed to prevent standing water, with or without an underdrain, while a wet swale is designed to hold water.

**Detention System** is an area that stores water temporarily and eventually drains into the sewer system, such as green roofs, green-blue roofs, park space, bioswales, berms, sunken basketball courts, and sunken playgrounds.

**Conveyance System** means that portion of a drain system that consists of a series of pipes that transport water from one area to another without providing detention.

**Rain gardens** are a depressed area in the landscape that collects rain water from a roof, driveway or street and allows it to soak into the ground.

**Reflective Roofs** reflect the sun’s energy instead of absorbing the heat. The heat absorbed by a non-reflective roof is passed to the building, which can translate to higher cooling costs.

**Multiple Benefit Strategies + Actions** refers to physical interventions, such as a street remodel, that implement a variety of different resilience solutions in a single intervention. For example, a street remodel can upgrade the stormwater drainage system, add a bike lane and traffic calming features, install ADA compliant curbs and ramps, install street trees and bioretention planters, street lighting and furniture, wayfinding and other features, all as part of a single project.

**Sticky Event** is a community engagement event that is designed to carry information of interest after the event takes place. For example, an event initializing awareness about a planning effort, public engagement opportunity, or resilience risk and resources.

# APPENDIX

## ACKNOWLEDGMENTS

### JOHN WHITMIRE, Mayor

Chris Hollins, Controller

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Tarsha Jackson, District B  
Abbie Kamin, District C  
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Administration & Regulatory Affairs (ARA)  
Department of Neighborhoods (DON)  
Housing and Community Development (HCD)  
Houston Fire Department (HFD)  
Houston Green Building Resource Center  
Houston Health Department (HHD)  
Houston Parks and Recreation Department (HPARD)  
Houston Public Library (HPL)  
Houston Public Works (HPW)  
Mayor's Office of Complete Communities (MOCC)  
Mayor's Office of Economic Development (MOED)  
Mayor's Office of Cultural Affairs (MOCA)  
Mayor's Office of Resilience and Sustainability (MORS)  
Office of Business Opportunity (OBO)  
Office of Emergency Management (OEM)  
Planning and Development (PD)  
Solid Waste Management Department (SWMD)

### OUTSIDE ORGANIZATIONS

Air Alliance Houston  
Black United Fund  
Center for Urban Transformation (CUT)  
Coalition for Environment, Equity, and Resilience (CEER)  
Coalition of Community Organizations (COCO)  
Fifth Ward Civic Club  
Fifth Ward Community Redevelopment Corporation  
LISC Houston  
Super Neighborhood 55

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Fifth Ward TIRZ 18

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## **Resilience is a process.**

**In the Neighborhood Resilience Plan you will find short-term projects that will jump-start change in your community, and longer-term projects that will take more sustained efforts.**

**This document serves as a guide for learning about your neighborhood's vulnerabilities, information about the projects, developing new initiatives, and building the partnerships necessary to make improvements in your community.**



**PLANNING &  
DEVELOPMENT  
DEPARTMENT**

