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ENVIRONMENTAL JUSTICE AND LOW-INCOME RESIDENTS OF HOUSTON

TEXAS:

THE INEQUITIES OF CATASTROPHIC WEATHER EVENT RECOVERY

LEFT OUT AND EXPENDABLE - AGAIN

DISSERTATION

Presented in Partial Fulfillment of the Requirements for  
the Degree Doctor of Philosophy in the Graduate School  
of Texas Southern University

By

Carmen Reed, B.A., M.A.

Texas Southern University

2023

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Dr. Glenn Johnson, Advisor

The National Oceanic and Atmospheric Administration (NOAA) Office of Coastal Management, from 2017-2021, the United States has averaged 17.2 annual climate/weather disasters. In 2021 alone, the U.S. experienced 20 billion-dollar disasters and since 1980, the U.S. has experienced 341 climate/weather disasters which *in toto*, resulted in \$2.155 trillion in losses. The Federal Emergency Management Agency (FEMA) is authorized under The Stafford Act, to be the lead federal agency tasked to help people after disasters specifically floods, hurricanes, earthquakes, and forest fires. In anticipation of increased climate driven disaster, for FY 2021, the U.S. House Appropriations Committee allocated to FEMA \$25.89 billion budget with an additional \$771.3M requested by the Biden Administration. My research examines how the 2017 FEMA allocation was distributed after Hurricane Harvey. Using two zip codes with stark demographic differences, this study used FEMA data to determine if wealthier individuals benefit from catastrophic weather events, and if they receive more federal

recovery money. This research examines how FEMA distributed federal recovery money after Hurricane Harvey which made landfall as a Category 4 Hurricane on August 25, 2017 and, according to the National Weather Service (NWS), dissipated between August 29-30, 2017 dropping 40 inches of rain and leaving \$125 billion (USD 2017) over a 4-day period.

The findings reveal the inequality of financial recovery after a catastrophic weather event. Pre-disaster political and economic conditions created unequal vulnerability to natural and anthropogenic hazards (Fussell, 2015). The study also revealed gaps in the knowledge of how populations financially recover after a disaster caused widespread destruction to urban infrastructure, housing and workplaces, and how embedded racism support mechanisms that produce unequal social, spatial, and financial recovery.

The conclusions revealed by the research indicate that the current financial recovery distribution process favors individuals who have the assets and financial flexibility to sustain themselves after a catastrophic weather event whereas low-income individuals struggle to submit the application for financial assistance and acquire basic living necessities after a catastrophic weather-based event. Specifically, young, white adults and wealthy adults move away from zones with higher risk of storm damage while more vulnerable populations groups, specifically, the elderly, African Americans, and poor move not due to weather events but from gentrification.

*Keywords: disaster, vulnerability, resilience, FEMA, risk assessment, recovery*

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## LIST OF ABBREVIATIONS

| Abbreviation | Meaning   | Page |
|--------------|---|------|
| ALICE        | Asset Limited Income Constrained Employed.....                              | 3    |
| ArcGIS       | Aeronautical Reconnaissance Coverage Geographic<br>Information System ..... | 40   |
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| COE          | Corp of Engineers.....  | 11   |
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| EJ           | Environmental Justice.....  | 2    |
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| EPA          | Environmental Protection Agency.....  | 9    |
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| GINI Index   | Statistical ratio that represents inequality.....                           | 53   |
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| HUD    | Department of Housing and Urban Development.....      | 24  |
| MOD    | Method of Distribution.....                           | 25  |
| MTBE   | Methyl tert-butyl ether.....                          | 10  |
| NEEMBY | No Emergency Evacuees in My Backyard.....             | 8   |
| NFIP   | National Flood Insurance Plan.....                    | 22  |
| NICTA  | National Integration Center Technical Assistance..... | 60  |
| NIMBY  | Not In My Backyard.....                               | 7   |
| NOAA   | National Oceanic and Atmospheric Administration.....  | 25  |
| NWS    | National Weather Service.....                         | 2   |
| PAR    | Participatory Action Research.....                    | 115 |
| RAPT   | Resilience Analysis and Planning Tool.....            | 60  |
| SETRPC | Southeast Texas Regional Planning Commission.....     | 25  |
| U.S.   | United States of America.....                         | 1   |
| USD    | United States Dollar.....                             | 2   |

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# CHAPTER 1 - INTRODUCTION

One of the biggest challenges that we, as a global society collectively face is climate change and how to equitably prepare, protect and provide shelter for populations before, during and after a catastrophic weather event. The challenge is made all the trickier due to the institutional racism which has engrained inequitable policies and procedures into disaster management. The biased system increases the vulnerability of low-income underrepresented populations. This study acknowledges and stipulates that race is an artificial human construct and that the racial and ethnic categories of “Asian,” “Black,” “Hispanic,” “white,” and other are classifications and labels society places on people but they are not rooted in biology or genetics (Schwabish & Feng, 2021). These constructed terms will be used in this study as they are the accepted nomenclature with respect to discussing diversity, equity, and inclusion.

## **Statement of Problem**

The current emergency management paradigm emanated from Eurocentric patriarchy and is supported by policies, procedures, and a worldview that reinforces racism, and a class-based society where some segments are “more equal than others.” The needs and preferences of the dominant socio-economic group, specifically, individuals whose annual income is two-thirds to double the national median which, according to the 2019 U.S. Census Bureau figures, is \$31,133. In the state of Texas, the lower income for a family of three (3) is \$25, 581, the middle income is \$78, 866 and the upper income is \$190,778.



## **Purpose of the Study**

Historically, disaster management and planning have evolved, revolved, and devolved around the wishes and expectations of wealthier populations. However, “the idea that every person is endowed with equal rights to life, liberty, the pursuit of happiness, and to a safe and healthy environment, is a universalistic ethical precept. To be sure, it is not universally accepted, let alone universally honored” (Boyce, 2000, p. 3). The preferential treatment of wealthier populations is precisely why the tenants of environmental justice must be deployed before, during, and after catastrophic weather events to ensure that the residents of Houston, Texas experience egalitarianism with respect to access to federal, state and local recovery money and amenities (Bullard, 2005, p. 25) The examination of the distribution of recovery funding in Houston Texas juxtaposed two (2) neighborhoods with very different demographics is about “uncovering the underlying assumptions that may contribute to and produce unequal protection” (Bullard, 2005, p. 25).and teases out the ethical and political questions of who gets what, why and how much.

## **Research Questions**

- Are African Americans whose annual income is <\$25,581 more likely to receive less financial recovery support after a catastrophic weather event due to environmental injustice?
- Did environmental injustice play a part in the distribution of federal recovery funds?
- Are the African American residents of Houston Texas and specifically the 3<sup>rd</sup> Ward of Houston Texas at greater financial risk after an extreme weather event based on the amount of FEM-approved damage assessment.

## **Significance of the Study**

The dominant disaster management paradigm encourages and, in some ways, demands that low-income individuals who have experienced or during a catastrophic weather event, hurriedly pack up their families, family histories, and family legacies with the expectation of not returning. The underlying policies that encourage and, in some ways, create a nomadic life for low-income, African American, poor, and asset limited income constrained employed (ALICE) families and individuals demonstrates a deeply racist hostility towards the importance of the familial foundations of individuals who are not among the financial and social elite. The dominant disaster management paradigm operates under the premise that low-income populations can just be moved to accommodate wealthier population segments. It is this basic premise that reinforces institutional racism.

Traditional planning policies and historical development strategies tend to suggest and advocate for the demolition and destruction of neighborhoods where disadvantaged and marginalized populations live and have lived. The packaging of low-income families into a moveable financial asset is based on institutional racism and Jim Crowism. Historically, after hurricanes ravage entire low-income, yet culturally and historically significant neighborhoods, brown, black and poor cultures have been either earmarked to be erased or are, literally and figuratively, washed away.

## **Theoretical Framework**

As severe weather and disaster declarations become more common, the Stafford Act and the invocation of its use is more and more relevant with respect to disaster mitigation generally and low-income recovery specifically. After an extreme weather

event it is expected that local, state, and federal governments intervene and play an active role in the public problem and disaster. However, disaster declarations and turndowns may be exceptionally worrisome for elected officials (Gasper, 2015) In lieu of pure altruism, elected officials may seize the opportunity to use the disaster declaration process to their advantage. These “acts of God” have the very real potential to become opportunities with Governors having the potential to manipulate the public perception of the disaster as well as recovery money vis-à-vis the Stafford act.

Carpet bagging developers seize the “opportunities” to change neighborhoods in favor of an empowered wealthier middle and upper-class to the detriment of the low-income population that once occupied the area. In the aftermath of Hurricane Katrina in New Orleans, Baton Rouge Congressman Richard Baker, was quoted by the Wall Street Journal, as saying “we finally cleaned up public housing in New Orleans. We couldn’t do it, but God did” (Saulny, 2006). Columnist David Brooks, wrote an Op-Ed piece for the New York Times dated September 8, 2005 in which he argued that Hurricane Katrina had “created as close to a blank slate as we get in human affairs and given us a chance to rebuild a city that wasn’t working...it would be a double tragedy if we didn't take advantage of these unique circumstances to do something that could serve as a spur to antipoverty programs nationwide” (Brooks, 2005). Brooks extended his argument and proposed that “the first rule of the rebuilding effort should be: nothing like before” because for Brooks, and others, the solution is to forbid “the same people” from moving back into their own neighborhoods because it would become just as “rundown and dysfunctional as before.” For Brooks, the key to successfully rebuilding New Orleans, and potentially any other low-income neighborhood ravaged by a catastrophic event, is to

lure middle-class families into the damaged area “making it attractive to them” so “they will move in, even knowing that their blocks will include a certain number of poor people.” The overarching disaster management strategy was to utilize existing policy supports and methods to encourage the new middle-class to take possession of communities, which in some cases were established by post-U.S. civil war residents. The new middle-class communities were made to understand, overtly and covertly, that tolerance of the pre-existing low-income residents was necessary but the inconvenience of having to reside next to low-income residents was balanced by the location of their newly acquired real estate and its potential projected increase in value. Traditional rebuilding and recovery models encourage, support, and are based on the desire and influence of carpet bagging developers, large corporations that have identified investment possibilities with respect to low-income residents not having knowledge of or access to financial recovery opportunities and funds. In his testimony to the United States Senate, former FEMA Director, James Lee Wit said “disasters are very political events.” Politically, as competition for funding from local, state, and federal budgets intensifies, decisions about who does or does not receive aid becomes more difficult (Gasper, 2015). Self-interested and perhaps co-opted elected officials may succumb to schemes that use systemic and institutional racism to “reinforce stratification of people according to race, ethnicity, status, power, gender identification, age, and accessibility. Recovery models based on covert and overt racism create social dynamite (Carmichael (1967) Ture (1978) & Hamilton, 1967). The social dynamite created from frustration, despair and hopelessness can be ignited when outsiders arrive at scenes of devastation, not to help, but to identify what aspects of a geographic area are “culturally important” enough to

preserve and eventually turn into a commodity. New Orleans also known as, The Crescent City, is one such city that unscrupulous developers would like nothing better than to convert into a playground for the wealthy. Derek K. Kellenberg and Ahmed Mushfiq Mobarak, authors of the article *Does Rising Income Increase or Decrease Risk from Natural Disasters?* agree with Brooks. Kellenberg and Mobarak argue that before the positive forces of development can kick in, a developing country concerned about disaster risk may have to be more proactive in controlling the rate or specific form of urbanization and in enacting other laws (e.g., zoning rules or building codes) that limit its citizens' exposure to natural disasters. The argument extends that, while more people are now affected by natural disasters worldwide, Kellenberg and Mobarak suggest that the “simultaneous goals of poverty elimination and the reduction of natural disaster risk” are not mutually inclusive and should not be the presumptive panacea to disaster recovery and mitigation. Their position based on personal choice theory, argues that individuals make a personal choice which may contribute to their exposure to disaster risk and, holding income as a constant, it is the choice of the individual to be exposed to disaster – regardless of income. Kellenberg and Mobarak extend their economic argument that low-income individuals are economic participants as they pay taxes on purchases and can “choose to devote some fraction of output to the abatement or containment of the negative impacts of production” (Kellenberg & Mobarak, p. 793). Even when low-income individuals converge on urban centers seeking better employment and opportunities, that is a personal choice they are making and their income level does not exclude them from exposure to disaster – the hurricane itself does not differentiate between the wealthy and the not-so-wealthy, it merely destroys, period. The implication,

is that economic participants are equal merely by their participation in an economic transaction that generates taxes which pay for the “public good” and therefore an economic transaction, e.g., buying food, clothes etc. within a Special Flood Hazard Area (SFHA), is the natural disaster mitigation method. Local communities have begun to acquire structures for emergency shelter without direct reliance on public assistance during a catastrophic weather event. The city of Sugar Land in Texas entered into a public-private partnership with site developer Stonehenge Holding LLC to lease a multipurpose building with the intention of eventually owning it (Armour, 2022). The “Fort Bend County EpiCenter” structure is in the heart of Fort Bend County along Hwy 59 and Hwy 36. The estimated \$120 million in renovation costs were funded by Stonehenge Holdings and the county. The facility is expected to “benefit the county directly and indirectly” based on a feasibility study conducted by the strategic planning firm Convention Sports and Leisure which determined that facility would have four main functions: sports tourism, agricultural events, use by local school districts and emergency management. The EpiCenter can shelter 1,200 individuals and will be “used as a cooling and warming center in extreme weather events as well as a temporary emergency operation center due to its backup generators (Armour, 2022, p. 26). The Sugar Land EpiCenter is further evidence of the prevailing logic of traditional disaster recovery and mitigation policy- take care of your own. The Not In My Backyard (NIMBY) elite planning premise has been augmented to No Emergency Evacuees In My Backyard (NEEMBY).

## Research Hypothesis

The confluence of industries that pollute and wealthier populations who feel empowered to invade and takeover communities of color without let or hindrance, is a political juggernaut that is difficult to combat. When the invasion has been detected, a pattern of collusion is apparent. Officials within agencies designed to protect citizens appear to act in concert with the opportunistic elected officials who may be proof of the gubernatorial hypothesis, which refers to the governor manipulating the disaster declaration or turndown process or the electoral hypothesis, is a hypothesis that during a presidential election year, the electoral motivations of presidents feel electoral pressure. Presidents use the ambiguity of the Stafford Act to respond to a request from a governor for a disaster declaration. Finally, elected officials, specifically, governors and Presidents, are often pressured by same-party elected officials to lower the damage sustained threshold which could allow more citizens access to federal recovery funds – meaning, individuals who are of the members of the party of the incumbent to get more money and not only thrive throughout the event but experience financial growth. This is the essence of the threshold hypothesis as defined by John Gasper in the article *The Politics of Denying Aid: An Analysis of Disaster Declaration Turndowns*. Given that the Stafford Act does not name any threshold for damage sustained affected area or any specific mathematical formula in determining suitability for disaster declarations, the declaration process is mercurial and open to be influenced by politics (Gasper, 2015). Citizens must form grassroots organizations to protect and defend themselves and become active and recognized in environmental and natural resources management (ENRM) (Colvin, Witt, & Lacey, 2015). Stakeholder engagement is an essential component to solicit and

incorporate a wide range of opinions, and perspectives to affect a decision outcome of a neighborhood. The realization that the “usual suspects” which are comprised of active community members, Non-Governmental Organizations (NGOs), powerful private sector participants, and elected officials who have a vested interest in a specific geographical area. Seeking out and engaging the “usual suspects” using eight (8) which are (1) geographical footprint – which is selecting stakeholders based on a GIS identification of stakeholders based on where a project and/or incident took place (Colvin, Witt, & Lacey, 2015). Interests of the proposed stakeholder are people who need to know what is going on in the area and not necessarily the resident of the area is another method to identify a stakeholder. Influence is a stakeholder who can influence the opinion of people, and intuition are stakeholders who use tacit skills of understanding the social dimension of Environmental and Natural Resource Management (ENRM) issues (Colvin, Witt, & Lacey, 2015). Snowballing which identified “key informants” are traditionally identified as stakeholders along with past experiences, “stakeholders” self-selection and how individuals use the media often determine who is and is not a stakeholder. Grassroots organizers and groups that assert themselves as “stakeholders” challenge opportunistic involvement with recovery. Grassroots used the weak enforcement of the cost surrounding violating EPA (Environmental Protection Agency) regulations and federal laws did not appear to be an impediment for unscrupulous carpet-bagging developers, grasping wealthy citizens and greedy compromised elected officials when confronting environmental racism as evidenced by the DeBerry Texas incident. The DeBerry incident exposed contaminated water in the black neighborhood on County Road 329 in Panola County Texas. Families living adjacent to County Road 329 were exposed to water



contaminated with methyl tertiary butyl ether (MTBE), benzene, petroleum hydrocarbons, arsenic, lead, barium, cadmium, mercury, fecal coliform, and E-coli due to a deep injection well having been illegally drilled wastewater runoff pipe. Families were unable to use the once clear water now were forced to either pay for water delivery or drive approximately three miles to their local Wal-Mart near Shreveport, Louisiana to get clean water. The original cost to have these families connected to the public water supply system, only a mile and a half away, was \$60,000 compared to the \$540,000 the Railroad Commission paid to drill twelve monitoring wells.

The use of cost-benefit-analysis is used to justify economic decisions, it is apparent that other sociological forces are at work when decisions surrounding the authorization of environmental hazard settlements, buyouts, clean-ups, declarations and relocations, and reconstruction are reached with respect to African American/Black, low-income, Hispanic/Latino neighborhoods. Blame and responsibility for soil, water, air contamination as well-as decisions about where a hazardous waste facility and/or a waste management handling facility is to be sited are not quickly, if ever, attributed to, what must be obvious to any individual with the meanest intelligence, the perpetrator.

Companies run for cover and often receive it from well-connected elected officials who themselves hide behind their positions; often using inflammatory language to bamboozle the residents. The threatening language used by the Department of the Army, Fort Worth District, Corps of Engineers during the Carvers Terrace incident in Texarkana, Texas when residents sought relief from the contamination of their water and soil imposed upon them by the Koppers Company, which was a wood-treating company until 1961 proves that political and corporate actors operate on the “Willie Lynch Letter” mentality. The

language in the memo distributed to the residents of Carvers Terrace, dated April 23, 1991, threatened the residents with condemnation proceedings and low-settlement figures should the residents resist the effort of the Environmental Protection Agency (EPA) and the Army Corps of Engineers (COE) to acquire their property. During a June 25, 1992, citizen accountability hearing was convened to determine the origin of the threatening language. During the hearing the governments representatives alleged that a “Department of Justice official authorized the statement” however the actual official who allegedly authorized the language was never identified. Taking land that has been owned for generations by African American families via the abuse of eminent domain laws as was done to the Nash family in Athens Georgia. The fact that wealthier whites feel empowered to redefine a predominately African American, low-income neighborhood as evidenced by the redevelopment of New Orleans after Hurricane Katrina in 2005, is a clear example of how institutional racism creates a hostile environment for low-income underrepresented individuals and families and is fostered, created, and supported legislatively, systemically, and sociologically.

### **Assumptions**

The general assumption of recovery efforts after an extreme event is to achieve a restoration of the previous equilibrium which existed prior to the event. However, the historic systemic drive to restore inequity is, in fact, emblematic of historic environmental injustice. The drive to reinstate long-term and systemic environmental injustices that have been and continue to be supported by institutional racism is a method whose sole purpose is to restore inequities that provide advantages to a privileged class of individuals. The hypothesis to be explored here centers around low-income residents of

Houston Texas are systematically being denied geographic ubiquity, in essence, the ability to create and maintain stable neighborhoods and establish long-term wealth-building which then translates into political power due to the consistent denial of recovery funds after catastrophic weather events.

Individuals and families who are financially resilient, are willing to and do take advantage of environmental injustices to out-migrate into locations that are less climate-vulnerable after an extreme climate event thereby moving inequity wherever they go and never establishing a sociological equilibrium vis-à-vis environmental justice because financially resilient populations and individuals are ensuring that climate vulnerability is not a burden they are willing to bare. Financially resilient individuals and families, receive more recovery resources faster than African Americans, which is a process that, in effect, reinforces environmental injustice by maintaining and supporting the previous state of “equilibrium” which benefited the lifestyle of financially resilient individuals and families prior to the catastrophic event. The forced exit of African Americans from the 3<sup>rd</sup> and 5<sup>th</sup> Wards of Houston, Texas, which have been proven to be safer neighborhoods via systemic racism and institutional racism, is proof that wealth, status, and privilege, gives financially resilient populations options not available to the residents of the 3<sup>rd</sup> Ward of Houston, Texas.

The study will delve deeper into the supposition that financially resilient individuals do not avail themselves of community shelters because, they have access to private transportation and disposable income which gives them options not available to the residents of the 3<sup>rd</sup> Ward of Houston, Texas.

The research is based on the following assumptions:

**Research Assumption #1.** The decision-making process surrounding the receipt of federal recovery funds is racially biased.

**Research Assumption #2.** Wealthier individuals and communities benefit from disaster funding.

**Research Assumption #3.** African Americans in low wealth neighborhoods are less likely to receive government funds a catastrophic weather event.

**Research Assumption #4.** There is a relationship between neighborhood and household income levels and neighborhood hazard levels that varies according to neighborhood and household racial composition.

### **Limitations**

In sum, the limitations of this dissertation research were due to: (1) limited access to information, (2) data and statistical limitations, and implementation of data collection method.

#### **First Limitation**

The greatest limitation of this study is the ability to access personal information from individuals personally. Obtaining public demographic information can be done but accessing deeply personal feelings, impressions, and financial information would require the research be on an intimate footing with the subject.

#### **Second Limitation**

Subjects are willing and quite frankly ready to talk about their experience, however, controlling the delivery of the experience is another limitation. Interviews and interactions should take place in a manner where the subject feels comfortable, preferably surrounded by others within their community who have gone through the same experience.

### Third Limitation

Obtaining responses to surveys that ask for the revelation of personal, intimate and potentially traumatic events is not the best way to obtain information. Small funded neighborhood focus groups have the potential to create an environment where individuals who know each other and interact with each other frequently feel comfortable to reveal personal and financial weakness.

### **Organization of Study**

This study will use Harris County zip code data from FEMA and determine the following: (1) how many residents of Houston Texas applied for and were approved for, and ultimately received FEMA disaster funds, through the multiple FEMA programs attached to Hurricane Harvey. The receipt of the Federal Emergency Management Agency (FEMA) funds delivered to the residents of West University Place (77005) and The Greater Third Ward (77004) will be the foci when juxtaposed greater Houston Texas. Highlighting 77004 and 77005 juxtaposed greater Houston Texas will provide a clear picture of the distribution inequities present in the receipt of federal recovery funds within the demographically different communities in Houston.

This examination of the financial recovery behavior of the residents of Houston, Texas juxtaposed the 3<sup>rd</sup> Ward and West University Place in Houston, Texas will employ the simple approach straightforward in the form of an interview of Hurricane Harvey survivors. Participants will be asked what financial avenues and opportunities they utilized or did not utilize after Hurricane Harvey and how their personal financial outlook and historical disaster experience contributed to their Hurricane Harvey financial recovery. Working closely with my Advisors, the snowball sampling method will be used

to recruit participants. This study will shine a light on the response of local, state, and federal governments to catastrophic disasters on neighborhoods with spatially homogenous but financially heterogeneous. The increasing complexity and projected occurrence of natural disasters is embedded in the interplay of geospatial, social, cultural, and economic factors present in Texas, which makes it ideal for a study investigating financial recovery after a catastrophic weather event.

To analyze the more general impact of financial hurricane recovery activity, this study, rather than asking how society, overall, recovers from disasters, this research will focus on how recovery resources were deployed in a large, demographically, and financially diverse urban area with emphasis on two (2) demographically different neighborhoods in Houston, Texas. The highlighted populations were chosen from the Houston Metro area because of the 69 metro areas in Texas, Houston has the most people per square mile (excluding water), and West University Place has the most people per square mile. The statistical significance between the means of the two zip codes and the receipt of financial government outlays after a catastrophic weather event.

## CHAPTER 2 – LITERATURE REVIEW

### Environmental Justice

This study analyzed how the tenets of Environmental Justice (EJ) were applied generally apply to the residents of Houston, Texas. This study took the principles of environmental justice and applied them to the distribution of disaster recovery funds to determine equity in catastrophic weather event financial recovery. The multi-disciplinary point of view used in the study enabled the policy kaleidoscope or web that surrounds the application of environmental justice and its potential influence on recovery funding, to be captured and discussed and as such, the incorporation of the principals of environmental justice into the catastrophic weather events financial recovery systems, would organically create a new distribution method based on actual damage rather than socioeconomic identifiers. The implementation environmental justice would naturally encourage professional planners, risk managers, disaster management professionals and public officials to advocate and follow Emerson’s invisible steps of thought and be “a faithful thinker, resolute to detach every object from personal relations and see it in the light of thought” (Emerson, 1985, p. 53). Environmental Justice arms the contemporary urban planner with social ammunition to visualize a development scheme, from beginning to end, in a way that is based on universal mitigation practices founded in social justice. The environmental justice planning method would revitalize planning methods and reinvigorate the planning industry. Architects could be inspired to create new structures that work with the environment rather than imposing their hulk and bulk on neighborhoods. A policy-backed revitalized professional enthusiasm is necessary to

propose, and advocate for the designing and construction of buildings based on environmental justice.

Given the bias contained within the application for federally funded disaster relief, the construction of centralized shelters within walking distance within the 77004 and Wards of Houston Texas it is obvious that the driving force behind any development or construction within African American neighborhoods must find its foundation in environmental justice or societal acceptance of the responsibility to help and assist those in desperate need before, during and after an extreme weather event, overall, will not evolve.

Economically impoverished communities and their inhabitants are exposed to greater health hazards in their homes, on their jobs, and in their neighborhoods when compared to their more affluent counterparts (Bullard, Johnson, Smith & King, 2013), thus the only way to halt or minimally to stymie the environmental attack being waged on traditional and historical communities comprised of African Americans, specifically of Houston Texas, is to vociferously advocate for and support the proposition that the principles of environmental justice must be applied when discussing the acquisition of recovery funds after catastrophic weather events. “Nationally, black, white, and Hispanic households with similar incomes live in neighborhoods of dissimilar environmental quality” (Bullard et al., 2013, p. 40). Vulnerable populations are becoming even more exposed to physical, mental, emotional, and financial risk. “Environmental justice is a method to combat inequities. Environmental Justice is the essence of the creation of a just, fair, equitable and sustainable society committed to egalitarianism.” (Bullard, Johnson & Torres, 2009, p.182).



The environmental justice framework (EJF) rests on developing tools and strategies to eliminate unfair, unjust, and inequitable conditions and decisions. The framework also attempts to uncover the underlying assumptions that may contribute to and produce differential exposure and unequal protection (Bullard, Johnson & Torres, 2009, p.183). The environmental justice framework embraces a holistic approach that encourages the fair treatment of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulation and policies (Bullard, Johnson & Torres, 2009, p. 182). Environmental Justice is a framework that, according to Bullard, attempts to uncover the embedded processes, policies, patterns and societal beliefs that support and augment unequal protections that give an advantage to one group over another (Bullard, 2005, pg. 25). It delves into the morality and ethics of who gets what, why they get it and how much they get to the detriment of others. Environmental Justice is a way forward, it is an invitation to participate in a conversation designed to shift the way the world functions. Environmental Justice unapologetically gives marginalized populations the roadmap they need to assert their rights to being full participants at tables of power.

Environmental Justice is a tool to be used to fight environmental racism “when people fear that their lives and health are being disproportionately put at risk because of the color of their skin or the sound of their accent (Mohai, Pellow & Roberts, 2012) and because all communities are not created equal and some communities are more equal than others (Bullard, Johnson, & Torres, 2011, Byrne, Martinez & Glover, 2012). Still, even with the Environmental Protection Agency (EPA), having defined environmental justice as “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. Fair treatment means that no population, due to policy or economic disempowerment, is forced to bear a disproportionate share of the negative human health or environmental impacts of pollution or environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local and tribal programs and policies” (Environmental Protection Agency, <https://www.epa.gov/environmentaljustice>). Environmental justice claims remain contentions for three (3) reasons (Mohai, Pellow & Roberts, 2012). “The quest for environmental justice is a dynamic social movement” (Bullard, 1993, pg. 8) and it challenges the institutional arrangements between governments and industries that have placed communities of color at greater risk than the general population (Bullard, 1993, pg. 10). In the article *Let Them Eat Risk? Wealth, Rights, and Disaster Vulnerability*, James K. Boyce has incorporated the precepts of environmental justice into a vaguely economic/risk management discussion about “public bads and public goods.” Boyce argues that there are two (2) methods that can be used to assess the public policy question of to whom should disaster vulnerability reduction be provided? (Boyce, 2000, pg. 13). The two approaches are: (1) the wealth-based approach and (2) the Rights-based approach.

The wealth-based approach is based on the premise that wealthier individuals will, perforce, be able to and are willing to pay for risk-aversion goods and services e.g., more expensive homes in less risk-averse areas, flood/disaster insurance, and private transportation. This willingness and ability to pay for risk-averse goods and services is an inequity that their poorer counterparts are less able to access. The wealth-based approach

to disaster risk violates the tenants of environmental justice. Boyce then offers the rights-based approach which is clearly based on environmental justice. He argues that the rights-based approach is not founded on “the inegalitarian distribution of wealth within and among countries but rather on the egalitarian distribution of the right to a clean and safe environment” (Boyce, 2000, pg.10). The Boyce rights-based risk management approach mirrors environmental justice in that it would demand that equal disaster impacts would be spread equitably across the affected population regardless of the wealth and/or social status of the individual.

**Natural Disasters Exacerbate Wealth Inequality**

Since 1980, the United States has experienced 371 extreme weather events whose overall damage has reached and, in some cases, exceeded \$1 billion taking the Consumer Price Index (CPI 2023 adjustment into account). The total cost of these 371 events exceeds

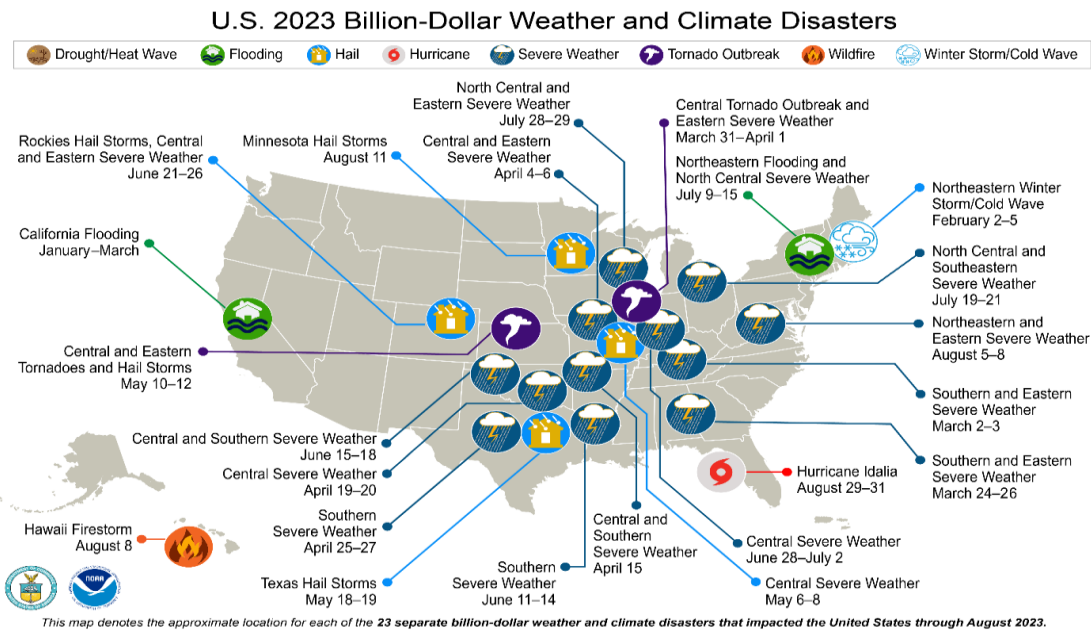


Figure 1 U.S. 2023 Billion-Dollar Weather Source: www. CLIMATE.gov

\$2.615 trillion (National Centers for Environmental Information, 2023).

Assessments and loss estimates within the context of extreme weather events quantify the insured and uninsured direct and indirect losses of physical damage to residential, commercial, government/municipal buildings, material assets within a building, time element losses, vehicles, public and private infrastructure, and agricultural assets e.g., buildings, machinery, livestock (Smith & Katz, 2013). Estimating the total direct economic impact of a catastrophic weather event is a complex process that processes datasets from Insurance Services Office (ISO) Property Claim Services (PCS), Federal Emergency Management Agency, (FEMA), National Flood Insurance Program (NFIP), and Presidential Disaster Declaration PDD) assistance, the United States Department of Agriculture (USDA) National Agricultural Statistics Service (NASS) and Risk Management Agency (RMA) (Smith & Katz, 2013).

Aggregated loss assessment after a catastrophic weather event is a slow process due to all of the public, private information being combined to estimate and determine the total direct economic losses. “Loss estimates are often not reliable for several months to years after a major disaster due to the time it takes to receive, process, and verify insurance claims in a complex post-disaster environment” (Smith & Katz, 2013, p. 5). Wealthier communities are financially better able to endure the financial burden that inevitable materializes after a catastrophic weather event because, the pre-disaster financial position of wealthier populations is an advantage. Wealthier individuals have access to electronic tools, information, and an established socio-economic position that not only allows wealthier individuals to recover faster after a catastrophic weather event, but to even benefit financially from the disaster. “Research has repeatedly shown that homes in White neighborhoods are appraised at higher values than are homes in

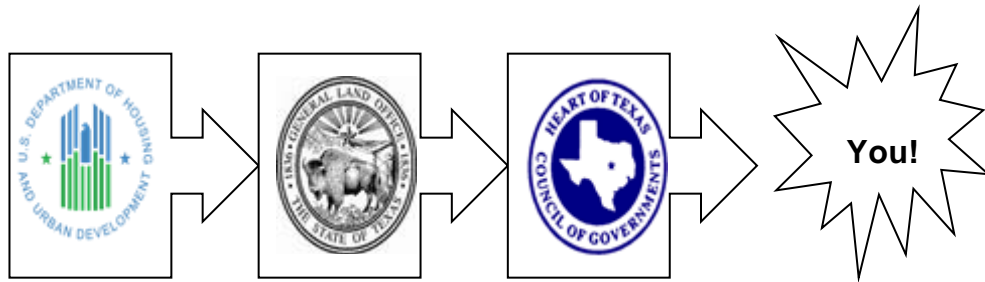
communities of color, even when house and neighborhood characteristics are held constant”(Howell & Korver-Glenn, 2020, p. 1) and in real terms, higher appraisals mean more recovery money flows directly into the pockets of wealthy white homeowners.

Basically, the appraisal process is meant to determine the financial value of a property along with the ability of the borrower to repay the loan. The appraisal is for the purpose of purchasing or refinancing with a mortgage loan and this process requires that a professional appraisal be done to minimize the potential losses of the financial institution providing the mortgage. Inequity in home appraisal and by extension in receipt of financial recovery money begins with the selection of “comps”, or nearby comparable homes, which is done by the appraiser. Personal bias on the part of the Appraiser and historical “comp selection” can contribute bias to a contemporary financial transaction given that “comps” are based on previous sales it’s important to recognize that previous appraising practices e.g., bribery of appraisers, historical comp selections, and personal prejudice on the part of the appraiser, have a direct effect on current comp selection practices and processes (Howell & Korver-Glenn, 2022) which reinforce inequity in home lending and determining eligibility for and receipt of disaster funds after a catastrophic weather event. “A growing body of research shows that FEMA, the government agency responsible for helping Americans recover from disasters, often helps white disaster victims more than people of color, even when the amount of damage is the same. Not only do white Americans often receive more aid from FEMA; so do the communities in which they live” (Flavelle, 2021). Unpacking the long-standing inequity has generated a plethora of complicated questions.

The inequity seems to stem from “complex systemic factors, like a real estate market that often places higher values on properties in communities with many white residents” (Flavelle, 2021), to difficulty navigating the multipart federal bureaucracy, which favors communities with pre-existing advantages. White people living in counties that experienced significant damage after a catastrophic weather event, and received FEMA financial assistance to aid in their recovery, “saw their personal wealth jump years later while Black residents lost, wealth” (Flavelle, 2021).

**How the Money Flows Through the Texas System**

After Hurricane Harvey, the US Department of Housing and Urban Development (HUD) allocated approximately \$5 billion dollars in Community Development Block Grant-Disaster Recovery (CDBG-DR) to Texas. Southeast Texas was slated to receive approximately \$157 million of the CDBG-DR money specifically to: (1) pay for buyouts and



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Figure 2: Rendering of Federal Funds Distribution

acquisitions of properties destroyed by the storm (homes) and to (2) build infrastructure development to remediate future disasters (flood mitigation projects.) (Sloan, 2018).

HUD is the “ultimate arbiter” of how the money gets distributed but the at the local level, HUD relinquished that authority to the General Land Office (GLO), which is a state land management agency that allocated the Hurricane Harvey funds to local governments.

Regional Boards, known as Councils of Governments (COGs), develop CDBG-DR distribution plans. The twenty-four (24) COGs across Texas represent multiple counties. Every COG has an appointed Board of Directors and two-thirds of the members of the COG must be elected from the cities or counties within the jurisdiction of the COG. The Method of Distribution (MOD) used by the Southeast Texas Regional Planning Commission (SETRPC) is an excellent example of why blacks are being left out of financial recovery opportunities.

In an open letter to Shaun Davis, the Executive Director of the Southeast Texas Regional Planning Commission (SETRPC) who developed the distribution plan, Madison Sloan, the Director of Disaster Recovery and Fair Housing Project of the environmental non-profit Texas Appleseed, critiqued the distribution formula deemed “by far the most problematic of all the methods of distribution” by Amelia Adams, a community planner for the Texas Low Income Housing Information Service (TLIHIC) (Capps, 2018, pg.3). The MOD developed and used by SETRPC does not describe the methodology that will be used to distribute recovery money. It does not comply with the HUD requirement to “address its unmet housing and recovery needs” (Capps, 2018, p. 7) with respect to the distribution of CDBG-DR funds. The MOD circumvents this federal requirement by using the sole undefined distribution factor labeled “storm impact.” This sole distribution eligibility factor is not explained and is predicated on the term “rising water” that SETRPC claims is incorporated into its MOD after consulting with FEMA inundation maps, USGS/NOAA data and GIS to find populations in inundated areas. (Sloan, 2018). The SETRPC MOD is similar to the discredited weather model, The Texas Department of Rural Affairs (TDRA), used for Hurricane Ike and Dolly. The TDRA model used

weather data, high water makes to determine FEMA funds eligibility. It did not consider actual damage, population numbers in affected areas, housing density, types of economic activity, or community demographics. (Sloan, 2018). The storm impact weather model used by the SETRPC, mirrored the discredited TDRA distribution model in that it did not consider where damage occurred or where were there eligible CDBG unmet disaster recovery needs, but on where the weather was most intense based on some undefined “storm impact.” The SETRPC MOD did explain how it would address the unmet housing needs of the community – because there would be none. It also failed to address how the region would implement economic revitalization or infrastructure activities.

MOD also failed to address the 70% low-moderate –income benefit. HUD methodology requires that 70% of all program funds must benefit low-moderate-income (LMI) persons. Even when the FEMA Verified Loss (FVL) calculation is applied, it inaccurately conveys that 69% of extremely low-income (ELI) homeowners, which is families making less than 30% of the Area Median Income (AMI), in this case is \$12,060, in the area under the SETRPC jurisdiction, were found to have no unmet needs which disqualified them for additional or any funds. The calculation supports the erroneous conclusion that residents within the Beaumont-Port Arthur area, which again are areas within the jurisdiction of the SETRPC MOD, were actually better able to recover than families making more than double the AMI. According to the July 20, 2018 analysis submitted to the Southeast Texas Regional Planning Commission done by the Executive Director of public justice non-profit organization Appleseed Texas, systemic racism hiding in public policy leads to miscarriages of social and financial justice. When the SETRPC stipulated that 90% of the 55,000 residents of Port Arthur had been



“impacted” by Hurricane Harvey, using its skewed “storm impact methodology”, determined each person in Port Arthur was eligible to receive between \$71 and \$85, in Beaumont, whose population is one-half black, \$41 and in Orange, Hardin and Jefferson, each impacted person was eligible to receive <\$200. The smaller and whiter towns of Bevil Oaks, which in 2017 was 81.8% non-Hispanic White, Pine Forest which in 2017 was 90%.4% non-Hispanic White, Rose City which in 2017 was 88.4% non-Hispanic White, and Rose Hill Acres which in 2017 was 90.4% non-Hispanic White were allocated \$2 million each and each affected person was eligible for \$4,494 compared to the eligibility of the residents of Port Arthur for \$71-\$84.

The National Flood Insurance Program provides local jurisdictions with data to help them identify areas of repetitive loss to develop buyout and acquisition programs juxtaposed programs that provide funding for individual home repair based on poor infrastructure with the goal of shoring up the home for the next event. The MOD implemented by the SETRPC advocated for the distribution of small amounts of buyout money over a large jurisdiction. This method is ineffective in that it: (1) creates “checkerboard” neighborhoods due to a lack of concentrated buyouts, (2) strains city resources as the partially bought out areas must continue to be serviced after a catastrophic event, (3) has the potential to create blighted areas with empty and occupied homes, (4) has the potential to create homelessness, (5) does not take into account the devastation associated with having to decide to leave a generational family home, (6) does not ensure that LMI programs include funds for acquisition, demolition, relocation and other incentives as LMI families are the least able to recover from catastrophic events, (7) it does not make clear if the pre- or post-disaster home value is being used in any

calculation, (8) promotes unhealthy and unsafe living conditions for LMI families due to the recovery funds were not sufficient to complete home repairs which left homeowners susceptible to mold and other factors which can compromise health and finally (9) this method does not ensure that all guidelines are identical regardless to the physical address of the applicant. (Sloan, 2018).

In the article *Let the Rich Be Flooded: The Distribution of Financial Aid and Distress after Hurricane Harvey*, authors Stephen B. Billings, Emily A. Gallagher & Lowell Ricketts, discuss more barriers that blacks face when attempting to access recovery funds. Billings, Gallagher & Ricketts look at the Small Business Administration (SBA) loan availability to survivors of catastrophic weather events. The analysis done by Billings, Gallagher, & Ricketts reveals that the use of averages when discussing disaster funds distribution “masks important heterogeneity after disasters” (Billings, Gallagher, & Ricketts, 2021, pg. 1). “SBA loans are the most dominant form of disaster assistance for individuals” (Billings, Gallagher, & Ricketts, 2021, pg. 2) yet they are difficult to obtain for individuals who are classified as “low-ability-to-repay” individuals. SBA eligibility is based on three (3) criteria which are: (1) disaster-related losses; (2) satisfactory credit (i.e. FICO score, and (3) repayment ability based on income floor and a debt-to-income ratio (Billings, Gallagher, & Ricketts, 2021, pg. 6). The researchers compared SBA loan outcomes based on the credit worthiness of individuals who lived inside the 100-year flood plain, who are required by banks to purchase homeowners insurance, with the SBA loan outcomes based on credit worthiness of those who live outside the 100-year flood plain, who are not required to purchase homeowners insurance.

Billings, Gallagher, & Ricketts associate the SBA disaster related financial phenomena to its rules that “explicitly limit loan eligibility to higher credit-quality applicants” (Billings, Gallagher, & Ricketts, 2021, pg. 2). The researchers discovered that SBA loans are the most dominant form of disaster assistance for individuals, (Billings, Gallagher, & Ricketts, 2021, pg. 2), however, after the initial FEMA assessment, the SBA denies 57% of applicants due to credit history and lack of repayment ability e.g., low credit score and/or low income. Using Q4 2019 data from 10-quarters after Hurricane Harvey, the researchers discovered that in block outside the floodplain where a large share of homeowners who are unlikely to be approved for an SBA loan based on their ability-to-repay, (Billings, Gallagher, & Ricketts, 2021, pg. 3), Using bankruptcy rates increased by 13%. Using data garnered from a Freedom of Information Act (FOIA) request, Billings, Gallagher, & Ricketts obtained individual approved or denied loan level information which included the time of the loan application as well as its value. Because the SBA data did not include verified property damage amounts, the researchers merged “the SBA data with the FEMA data to apply block-level measures of FEMA-assessed property damage and flooding” (Billings, Gallagher, & Ricketts, 2021, pg. 11). The analysis performed by Billings, Gallagher, & Ricketts, revealed that over \$2.9 billion in home loans, based on the three (3) SBA criteria on FICO scores and repayment ability, had been made by the SBA and \$1.6 billion in FEMA grants had been approved.

SBA loans can cover up to \$40,000 in person uninsured property and \$200,000 for real estate. The potential \$240,000 available to homeowners being approved for an SBA loan would completely cover the FEMA-estimated cost of \$103,355 home repair cost for four-feet of home flooding (Billings, Gallagher, & Ricketts, 2021, pg. 6). SBA

are very attractive in that the interest rate can be as low as 1.75%, the loan recipient is given 30 years to repay the loan, equal monthly installment payments can be deferred for up to 1 year and the first installment, usually \$25,000 is paid within 5 days of the loan closing (Billings, Gallagher, & Ricketts, 2021)

To further complicate matters, “there are a total of nine subcommittees that oversee FEMA, four in the House of Representatives and five in the Senate” (Garrett & Sobel, 2002).

The U.S. Government Accountability Office (GAO, 2020) identified impediments which made the application and approval process for low-income Americans difficult. The first impediment was the initial FEMA registration process which required a preliminary examination of the damage, validation of registrant identity, and occupancy status of the address. The second was based on FEMA becoming more restrictive with overturning denials as they were trying to “protect against fraudulent claims” (Billings, Gallagher, & Ricketts, 2021, pg. 6). Implementing new fraud prevention policies and procedures caused the FEMA approval rate to fall from 63% in 2010 to around 13% in 2021. (Billings, Gallagher, & Ricketts, 2021, pg. 6). Confusing and unclear denials from FEMA as well as applicants having to have been denied a SBA loan as a prerequisite to receive funds from the Individuals and Households Program (IHP). The ability for households who received funds based on uninsured loss of property incurred in the storm, could file an amended tax return with the Internal Revenue Service (IRS). The amended tax return process was quick and could lead to tax refunds for individuals with higher incomes (Billings, Gallagher, & Ricketts, 2021)

In his testimony on June 8, 2021, to the United States Congress Committee on Homeland Security Subcommittee on emergency Preparedness, Response and Recovery Examining Climate Change, Curtis Brown, the State Coordinator of Emergency Management for the State of Virginia Department of Emergency Management and Co-Founder of the Institute for Diversity and Inclusion in Emergency Management addressed the issue of inequity in emergency management. Brown said, that “equitable emergency planning is required due to the rising frequency of extreme weather caused by climate change and disproportionate impacts based on systemic biases (Brown, 2020, pg. 3). During his testimony, Brown continued by saying “the increase in extreme weather and natural disasters has a profound impact that threatens public health and safety, natural resources, and communities.” Brown evoked the Principles of Environmental Justice when he said, “climate change impacts are being experienced across the country but are disproportionately felt by marginalized communities” (Brown, 2020, pg. 3). In his written statement, Curtis said that decades of institutional racism, lack of investment in infrastructure in the communities of color, discriminatory practices, and environmental injustice have all contributed to the increased burden communities of color have heaped upon them before, during, and after extreme events. In the article *Disaster Management Is Too White, Official Tells Congress*, Curtis is quoted from his testimony before the House Transportation and Infrastructure Committee, that “an overwhelming number of individuals designated as emergency managers are white males” (Frank, 2020), (Brown, 2020, pg. 7) and that “diversity in emergency management will help to reverse the existing failure to enact equitable practices” (Frank, 2020), (Brown, 2020, pg. 7). Curtis puts forth the argument that “political leaders, policymakers and emergency managers

can no longer turn a blind eye to the recurring disproportionate impact of disasters in vulnerable populations...the entire emergency management enterprise, federal, state, local, nonprofit and private-must drastically improve” (Frank, 2020), (Brown, 2020, pg. 11).

After the Winter Storm Uri, the article *Unfair Distribution Causes Failure in disaster Relief to Vulnerable Populations*, written by, Jamil Donith, introduced Thelma Williams who lives in the predominately Black neighborhood of St. John in Northeast Austin. Uri caused her plumbing to “bust apart” and having been a plumber, she attempted to make the repairs on her kitchen sink and the toilet herself. She resorted to contacting the Austin Area Urban League (AAUL) because they put a roof on her house ten years earlier and she knew that AAUL would be responsive to her needs. AAUL president Quincy Dunlap said that the city of Austin had “set aside resources and funding specifically for AAUL so they could better reach vulnerable populations who don’t get the same access to public funds because of digital divides, cultural competency, and housing and wealth insecurities” (Donith, 2021, pg. 2). Having to set aside money and funnel it through a historically black nonprofit organization could be viewed as a tacit acknowledgment of the systemic mistreatment of the non-white community by predominately white bureaucracy after a disaster. Donith repeatedly requested demographic information surrounding disaster relief distribution “at the federal, state, and local levels” but has not received the data. When he asked FEMA for data, a FEMA spokesperson said, “they don’t collect racial information” and do not provide geographical numbers “because historically they have not been a clear indicator of scope or need” (Donith, 2021, pg. 2). However, as of January 25, 2022, FEMA will begin

“tracking the race and ethnicity of people who apply for disaster relief so the agency can analyze whether there is discrimination in the distribution of billions of dollars of federal aid” (Frank, 2022, pg. 2). The Federal Registry Notice informs the public that “Such demographic data concerning individuals who participate in or benefit from the Agency’s programs and activities will increase FEMA’s ability evaluate the accessibility and distributional equity of their programs and then make alterations or pivot based upon identified areas of concern, thereby demonstrating compliance with civil rights laws” (Federal Register, 2022, pg. 3836).

### **A Resilient Community**

A resilient community is presumed to be one that has the resources to survive in place and rebuild, that presumption supports environmental injustice. The definition of resilience must be revised to encapsulate the economic, social, historical, and psychological realities of low-income populations. The revised definition will promote the tenants the environmental justice framework, which at its heart, according to from the book *The Quest for Environmental Justice: Human Rights and the Politics of Pollution* edited by Robert Bullard was developed around five (5) basic principles, which are:

1. That all individuals have a right to be protected from environmental degradation.
2. The adoption of a public health model of prevention as the preferred strategy: it focuses on eliminating the threat before harm occurs.
3. Rests in the Precautionary Principle for protecting workers, communities, and ecosystems

4. The burden of proof is shifted onto the polluters and the dischargers who do harm, who discriminate, or who do not give equal protection to racial and ethnic minorities.
5. Redresses disproportionate impact by targeting action and resources, targets resources where environmental and health problems are greatest.

The principles of environmental justice can be used as the impetus for a global paradigm shift (Bullard, 2005, pg. 30) with respect to equity and access to safety.

### **Gap in Research**

There is a significant research gap in the understanding of how social inequalities intertwine with natural hazards (Smiley, 2020). FEMA has just begun to track race and recovery in January 2022.

There is very little research being conducted on the difference in how the more advantaged groups judge their options and respond to disasters in the pre-event and post-event contexts. Historically broad research has been conducted based on large tracts of wealthy individuals whose financial options make them impervious to dependence on federal funds for recovery after a catastrophic weather event. This study will examine a small financially vulnerable neighborhood juxtaposed with a wealthy neighborhood to demonstrate the inequitable delivery of financial resources increases the financial, social, and physical vulnerability of residents who reside in a low-income neighborhood.

According to the paper *Trapped in place? Segmented Resilience to Hurricanes in the Gulf Coast, 1970-2005*, written by John R. Logan, Sukriti Issar and Zengwang Xu, storm surge and wind damage associated with hurricanes create opportunities for acquisition, the advancement of gentrification, and reduced ubiquity for low-income residents. This



study faces the classic economic problems of the allocation of scarce resources among competing individuals, groups, and classes. This study will explore if the financial recovery experience of the residents of Houston, Texas who have polar opposite socioeconomic profiles experience the financial recovery process differently. Specifically, if individuals on the lower financial spectrum have fewer financial choices after an extreme weather event due to financial discrimination and systemic institutional racism and exogenous political forces that place them squarely in the middle of long-term political battles which may result in financial turndowns or approvals (Gasper, 2015). The main objective is to assist future planners and policymakers to create an equitable distribution process of federal financial recovery resources.

## CHAPTER 3 – METHODOLOGY

### Study Area

Federal disaster management began in 1803 when the 8<sup>th</sup> Congress of the United States appropriated and paid out \$45,000 (\$1,000,000.00 Inflation-Adjusted Dollars) in financial relief to the town of Portsmouth, New Hampshire after a fire broke out in the New Hampshire Bank building that burned 114 buildings. Congress decided that the destruction of a large swath of the seaport impeded commerce and suspended bond payments by the merchants of Portsmouth for several months. The Federal Emergency Management Agency (FEMA) was officially created April 1, 1979, when President Carter when he signed Executive Order 12127. On July 20, 1979, President Carter expanded the span of control for FEMA giving it the dual mission of emergency management and jurisdiction over civil defense. Renamed the Robert T. Stafford Disaster Relief and Emergency Assistance Act (The Stafford Act) in 1988, it created the statutory framework that requires a presidential disaster declaration prior to federal intervention. After the terrorist attacks on the United States in 2001, In 2003, President George H. W. Bush created the Department of Homeland Security which united 21 federal agencies including FEMA. Post-Hurricane Katrina in 2005, FEMA was designated as a stand-alone federal cabinet-level department whose secretary is the primary advisor to the president on matters related to national security and disaster management. Since the nineties a series of natural disaster starting with the Northridge Earthquake of 1994, the Kobe Japan earthquake in 1995, the 2004 earthquake that took place in the Indian Ocean which caused the Asian tsunami, Hurricane Katrina in the United States in 2005, the 2011 earthquake and tsunami in Japan and of course the Gulf Coast of the United States

experienced Hurricane Harvey in 2017. These catastrophic weather events have emphasized the need for governments, elected leaders, local grassroots organizations to accept the substantial economic losses which is ultimately tied to anthropogenic climate change. “These trends highlight the importance of designing policies that can mitigate the impacts of such disasters on international economies and societies” (Botzen, Deschenes, & Sanders, 2019, p. 168). There is no “standard” disaster model applied to all catastrophic events. Each model is based on a variety and range of characteristics. For example, the Social Accounting Matrices build on input-output monetary flows between economic sectors and strive to predict how the damages in one sector will affect trade and related product output in all of the other sectors. Other disaster assessment models are based on neoclassical growth theory which attempt to identify aggregate capital loss and predict a gradual return to pre-disaster steady state of capital and labor, while other disaster analysis models, specifically the endogenous growth model, seeks to rely on new and emerging technology to gain a high rate of productivity because the catastrophic event will prompt new technology to be invented thus society will be able to “build back better” thus the catastrophic event has actually contributed to the betterment of society on the whole. The predictive value of catastrophe models offer insight in economic process and indirect impact but only as a potential loss from specific natural disasters by simulating hypothetical physical characteristics of natural hazards. “Catastrophe models typically estimate the damage from natural hazards with various intensities and probabilities. All these paternalistic disaster models act allow for “productivity change over time in response to natural disasters” (Botzen, Deschenes, & Sanders, 2019, p. 170), however, they do not specifically address the economic effects on low-income

populations because that would demand for the quantification of a human being even though insurance actuarial tables do just that – which is a discussion for another time. This demographic danger has been neutralized in the form of Flood Insurance, the use of zip codes, and demographics affiliated with the zip codes.

### **The Greater Harris County Houston Metropolitan Area**

Houston Texas is the largest city in the state of Texas and the 4<sup>th</sup> most populous city in the United States with a population of 2,304,580 as of 2020. It is in Southeast Texas near Galveston Bay and the Gulf of Mexico. It has a total area of 637.4 square miles and is primarily in Harris County, small parts have extended into Fort Bend and Montgomery counties, and it shares borders with Sugar Land and The Woodlands. The racial and ethnic makeup of Houston consists of 51.5% White (non-Hispanic), 44.5% Hispanic (excluding black and Asian Hispanics), 22.8% black, 6.9% Asian, and 7% two-or more residents. According to the U.S. Census Bureau, the per capital income is \$33,646. 79.7% of the total population has a high school education and 34.3% has a bachelor's degree or higher.

### **Data Collection**

This study will use Harris County zip code data from FEMA and determine the following: (1) how many residents of Houston Texas applied for and were approved for, and ultimately received FEMA disaster funds, through the multiple FEMA programs attached to Hurricane Harvey. The receipt of the Federal Emergency Management Agency (FEMA) funds delivered to the residents of West University Place (77005) and The Greater Third Ward (77004) will be the foci when juxtaposed greater Houston Texas. Highlighting 77004 and 77005 juxtaposed greater Houston Texas will provide a clear

picture of the distribution inequities present in the receipt of federal recovery funds within the demographically different communities in Houston.

This examination of the financial recovery behavior of the residents of Houston, Texas The research data for this study will come from American Community Survey (ACS) data gleaned from U. S. Census Block Group data, FEMA data on housing assistance applications, approvals and disbursement for homeowners and renters and hazard assessment data from the FEMA Resilience Analysis and Planning Tool (RAPT) along with Spatial Hazard Events and Losses Database for the United States (SHELDUS), and which is nationally standardized GIS- The FEMA RAPT analysis tools identify areas of high risk for natural hazards and estimate the physical, economic, and social impacts of earthquakes, hurricanes, floods, and tsunamis.

The Resilience Analysis and Planning Tool (RAPT) is a publicly available GIS tool. It can help inform in preparedness, RAPT is free and accessible on any smartphone, computer, or tablet device. All the information is publicly available and the data available on RAPT is a combination of three layers whose data is populated from three (3) different data sets, which are:

1. The Infrastructure Layer: Data is drawn from the Homeland Infrastructure Foundation-Level Data (HIFLD) subcommittee which gives information infrastructure such as fire stations and hospitals.
2. The Hazards Layer: Real-time weather layers from the National Oceanic and Atmospheric Administration (NOAA), along with historic tornado paths and future forecast layers such as sea level rise are available within the Hazards layer.

3. Community Demographics Layer: County, Census Tract, and Tribal data drawn from the U. S. Census Bureau American Community Survey is captured demographic layers. RAPT includes 27 demographic layers, including 22 community resilience indicators identified from peer-reviewed research and FEMA’s Community Resilience Index (CRI). Information on the CRI can be below.

| <b>FEMA 22 Community Resilience Indicators (CRI)</b>  |  |
|---|--|
| <p><b>Population Characteristics</b></p> <ul style="list-style-type: none"> <li>• Population without a High School Education</li> <li>• Population 65 and Older</li> <li>• Population with a Disability</li> <li>• Population by Race and Hispanic Origin</li> </ul>                                    | <p><b>Healthcare</b></p> <ul style="list-style-type: none"> <li>• Number of Hospitals</li> <li>• Medical Professional capacity</li> <li>• Populations without Health Insurance</li> <li>• Medicare Recipients with Power-Dependent Devices</li> </ul>  |
| <p><b>Household Characteristics</b></p> <ul style="list-style-type: none"> <li>• Households without a Vehicle</li> <li>• Households with Limited English</li> <li>• Single-Parent Households</li> <li>• Households without a Smartphone</li> <li>• Households without Broadband subscription</li> </ul> | <p><b>Economic</b></p> <ul style="list-style-type: none"> <li>• Population Below Poverty Level</li> <li>• Median Household income</li> <li>• Unemployed Labor Force</li> <li>• Unemployed Women Labor Force</li> <li>• Income Inequality</li> <li>• Workforce in Predominant Sector</li> </ul> |
| <p><b>Housing</b></p> <ul style="list-style-type: none"> <li>• Mobile Homes as Percentage of Housing</li> <li>• Owner-Occupied Housing</li> <li>• Rental Housing Costs</li> <li>• Residential Structures in Special Housing Flood Area (SFHA) with Flood Insurance</li> </ul>                           | <p><b>Connection to Community</b></p> <ul style="list-style-type: none"> <li>• Presence of Civic and Social Organizations</li> <li>• Population without Religious Affiliation</li> <li>• Percentage of Inactive Voters</li> <li>• Population Change</li> </ul>                                 |

Figure 3 FEMA-defined Community Resilience Indicators  
 Source: [https://www.fema.gov/sites/default/files/documents/fema\\_2022-community-resilience-indicator-analysis.pdf](https://www.fema.gov/sites/default/files/documents/fema_2022-community-resilience-indicator-analysis.pdf)  
<https://rapt-fema.hub.arcgis.com/pages/indicator-analysis>

## Social Stratification and the Third Ward

As post-civil war Blacks emerged intellectually from definitions assigned to them during the three hundred years that the legal institutions of the United States supported treating Africans and African

|   | Census Tract-ZCTA5/77004  |       |            |       |             |            |         |               | Census Tract-ZCTA6/77005 |       |            |       |             |            |       |  |
|---|---|-------|------------|-------|-------------|------------|---------|---------------|--------------------------|-------|------------|-------|-------------|------------|-------|--|
|   | Pre Harvey  |       |            |       | Post Harvey |            |         |               | Pre Harvey               |       |            |       | Post Harvey |            |       |  |
|   | n   | %     | Income     | YoY   | n           | %          | Income* | YoY           | n                        | %     | Income     | n     | %           | Income*    | YoY   |  |
| Overall Population  | 38481   |       |            | 30872 |             |            |         | (195.00)      | 28908                    |       |            | 30804 |             |            |       |  |
| Hispanic or Latino (of any race)  | 5390  | 14.01 | \$ 55,932  | 5692  | 18.44       | \$ 55,737  | 4.43    |               | 2483                     | 6.45  | \$ 89,542  | 2539  | 8.22        | \$ 134,602 | 1.77  |  |
| White   | 15062   | 39.14 | \$ 85,000  | 13753 | 44.55       | \$ 81,641  | 5.41    | \$ (3,359.00) | 22849                    | 59.38 | \$ 175,903 | 24266 | 78.60       | \$ 207,315 | 19.22 |  |
| Black or African American   | 18355   | 47.70 | \$ 30,109  | 6856  | 22.21       | \$ 36,998  | -25.49  | \$ 6,889.00   | 1401                     | 3.64  | \$ 168,298 | 981   | 3.18        | \$ 102,794 | -0.46 |  |
| Asian   | 3860  | 10.03 | \$ 145,547 | 5106  | 16.54       | \$ 142,000 | 6.51    | \$ (3,547.00) | 4023                     | 10.45 | \$ 240,926 | 4476  | 14.50       | \$ 209,850 | 4.04  |  |
| Other   | 1204  | 3.13  | \$ 86,063  | 5157  | 16.70       | \$ 78,491  | 13.58   | \$ (7,572.00) | 635                      | 1.65  | \$ 89,542  | 1081  | 3.50        | \$ 224,554 | 1.85  |  |
| *For Other, only income available was for Some Other Race   |   |       |            |       |             |            |         |               |                          |       |            |       |             |            |       |  |
| Income Data Source  | https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/release/facs-race-ethnicity.html |       |            |       |             |            |         |               |                          |       |            |       |             |            |       |  |
| 2020 Median Income (77005)  | https://data.census.gov/table?q=income+2020+77005&tid=ACSTSY2020.S1903  |       |            |       |             |            |         |               |                          |       |            |       |             |            |       |  |
| 2017 Median Income (77005)  | https://data.census.gov/table?q=income+2017+77005&tid=ACSTSY2017.S1903  |       |            |       |             |            |         |               |                          |       |            |       |             |            |       |  |
| 2020 Median Income (77004)  | https://data.census.gov/table?q=ethnicity+income+77004&tid=ACSTSY2020.S1903   |       |            |       |             |            |         |               |                          |       |            |       |             |            |       |  |
| 2017 Median Income (77004)  | https://data.census.gov/table?q=income+2017+77004&tid=ACSTSY2017.S1903  |       |            |       |             |            |         |               |                          |       |            |       |             |            |       |  |
| Race Ethnicity Dstrijtor  | https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/release/facs-race-ethnicity.html |       |            |       |             |            |         |               |                          |       |            |       |             |            |       |  |
| Demographic Data Source   | https://data.census.gov/table?q=cdecsci+profile+2020+77005&tid=ACSDPSY2020.DP05   |       |            |       |             |            |         |               |                          |       |            |       |             |            |       |  |
| 2020 Gen Pop Housing Characteristics  | https://data.census.gov/table?q=cdecsci+profile+2017+77005&tid=ACSDPSY2017.DP05   |       |            |       |             |            |         |               |                          |       |            |       |             |            |       |  |
| 2017 Gen Pop Housing Characteristics  | https://data.census.gov/table?q=cdecsci+profile+2020+77004  |       |            |       |             |            |         |               |                          |       |            |       |             |            |       |  |
| 2020 Gen Pop Housing Characteristics  | https://data.census.gov/table?q=cdecsci+profile+2017+77004&tid=ACSDPSY2017.DP05   |       |            |       |             |            |         |               |                          |       |            |       |             |            |       |  |
| 2017 Gen Pop Housing Characteristics  | https://data.census.gov/table?q=cdecsci+profile+2017+77004&tid=ACSDPSY2017.DP05   |       |            |       |             |            |         |               |                          |       |            |       |             |            |       |  |
| U.S. Census Bureau (year data was published). Name of data or report. Retrieved from [URL]. Apr 27, 2023  |   |       |            |       |             |            |         |               |                          |       |            |       |             |            |       |  |
| U.S. Census Bureau (2020). Table DP05 ACS Demographic and Housing Estimates. Retrieved from https://data.census.gov/table?q=cdecsci+profile+2020+77005&tid=ACSDPSY2020.DP05 May 24, 2023. |   |       |            |       |             |            |         |               |                          |       |            |       |             |            |       |  |

Table 1: Pre-Post Harvey Income Comparison 2017-2020, 77004 & 77005

Source: <https://fema.maps.arcgis.com/apps/webappviewer/index.html?id=90c0c996a5e242a79345cdbc5f758fc6>

Americans as human chattel, which meant, that under the law, an enslaved person was treated as property, which could be bought, sold, or given away. The foundations dehumanization of Africans and African Americans seeped into every aspect of local, state, and national economic and public policy. Local social customs, norms, and policy gave the appearance of adherence to federal mandates that eliminated racist practices, however, the economic and social functions of the slavery era took the form of segregation, sharecropping and convict leasing which further suffocated the African and African American population. As blacks vacated the plantations located in Brazoria, and Fort Bend, they found geographic, mental, and economic solace in the rapidly growing early settlements being developed by post-civil war former slaves which lay on the outskirts of Houston (Wilson, 2011). Houston was incorporated in 1837 and divided into four wards, the southeast ward became known as “third ward” and evolved into a hub for African Americans in Houston (Allen, 2019). Between 1910 and 1930, the population of the third grew approximately 35% from 22,929 to 66,357. The influx of the black mechanics, wagon and omnibus drivers, who were moving into the third ward, triggered whites to move to the outskirts

of Houston. As “white flight” made property and land available for purchase, blacks acquired the abandoned properties and the Third Ward became more of a solid geographical location rather than an idea. “By the 1880s, approximately twenty-five percent of Black households in Third Ward were owner occupied” (Wilson, 2011, p. 31) and styled along the self-identified needs of the new residents who are able to select from a catalog of building offerings and create a home that suited their needs which culminated in third ward residents opting for “shotgun” houses.

Shotgun houses were “one room wide, one story tall and had rooms arranged in a row without hallways, and doors at opposite end of the façade (Wilson, 2011, p. 32) and were ubiquitous throughout the third ward. The name derived from the notion that a shotgun could be fired into the dwelling at one end and exit at the other end without hitting anything. Dominance in housing allowed for the third ward to expand as a business powerhouse with Dowling Street hosting a plethora of African-American owned businesses. The first school of record created was Third Ward School that had 100 students 1879, Yates High School was opened in 1926 and hosted night classes for the Houston College for Negroes which evolved into Texas Southern University (TSU) in 1947. The Houston Negro Hospital, renamed Riverside Hospital opened in 1926 which gave blacks a place to receive treatment outside of the segregated wards in charity hospitals and afforded black physicians and nurses a place to train. The ninety churches within third ward were more than places of worship, they emerged as community, civic and, social centers that provided faculty to the schools, and TSU and Wiley Colleges.

Publishers of black newspapers, such as the *Informer*, the *Houston Defender* took on the role as civil advocates. Broadcasting helped galvanize blacks around anti-lynching laws, equal rights, and paved roads to list just a few of the issues that citizens of third ward worked to update. As the City of Houston has grown in global, and national prominence vis-à-vis the oil and gas and healthcare industries, the geographic location of third ward has become more attractive to white middle and upper class and interstate immigrants. However, the increased gentrification of the Third Ward has not diminished its significance and importance to the African American



community. The “heart” of the third ward is Emancipation Park, which is a 10-acre site purchased by former slaves in 1872 (The Third Ward Initiative, N.D.)

The third ward is an exceptional example of how the infusions of social stratification within a homogeneous community, can drive the friction between elites and non-elites with respect to the definition of “community.” As gentrification gobbles up more and more tracts within the third ward, the notions of *gemeinschaft* and *gesellschaft*, two definitions of community and society create blurred lines that developers exploit after a catastrophic weather event. As the Third Ward evolved into an almost self-sustaining African American community it embraced the notion of *Gemeinschaft* as defined by Ferdinand Tonnies, which is a society based on the roles, values and beliefs associated with a life and community built on social interactions. Residents of Third Ward initially rejected and I would argue in some ways still rejects the traditional western social stratification group categorizations based on socioeconomic tiers e.g., wealth, income, social status, occupation, and power. The Third Ward has been called the cradle of the civil rights movement in Houston (Third Ward Initiative, N.D.) because of its united vision. Community members, churches, colleges, and later universities, social organizations and community “elites” all worked to achieve one goal – the advancement of the African American community and that meant resisting being dominated by external definitions and political supremacy that traditionally, embraces the social stratification theory of *gesellschaft*, which represents the notion of rational self-interest.

Rational self-interest is an economic principal explored by Adam Smith in his book *Wealth of Nations*. The theory argues that self-interest and rational self-interest in a free-market economy can lead to overall economic well-being, further, rational self-interest assumes that at least two parties engage in voluntary exchanges that make both parties involved “better off” than before the interaction. Rational self-interest again, assumes that both parties are not “selfish” per se, but are making an economic choice that is best for themselves and not necessarily the community. *Gesellschaft*, weakens community-based living as its utilization, elevates the needs

of the “self” and diminishes communal needs. Cultures that embrace social stratification as its method of social organization use socioeconomic factors like wealth, race, education, ethnicity, gender, occupations, social status, and derived or perceived or actual power to relegate individuals, to specific geographic locations thereby reinforcing stereotypes that transcend economics – I know who you are based on where you live rather than the color of your skin. Social stratification theory is often presented as a “neutral” theory centered on meritocracy but that assumption hides embedded systemic racism. Individuals who have the economic basis to “qualify” to enter the gesellschaft-based community, can leave the gemeinschaft-based life and beliefs behind, in effect, abandon their foundational community and feel nothing as, in the case of the Third Ward, witness the boundary changes, the population changes, culture eradication, and destruction of the gemeinschaft, and do nothing as they strive to leave and disassociate from the Karl Marx “have nots”, as they pursue membership into the community of the “haves” and even further, into the community of the “elect” as defined by Max Weber.

The analysis will encapsulate Brazoria, Chambers, Fort Bend, Hardin, Harris, Jasper, Jefferson, Liberty, Matagorda, Montgomery, San Jacinto, San Patricio, Victoria, and Wharton Counties who, in the aggregate, submitted 970368 applications for financial assistance during Hurricane Harvey.

| FEMA Community Resilience Challenges Indicators (CRCI)<br>Harris County Texas<br>County Population 4,680,609 | Percentage  |
|--|-------------|
| Percent Age 65 and Over: 10.50%  | 10.5%       |
| Percent with a Disability  | 9.42%       |
| Percent without HS Diploma   | 18.16%      |
| Percent Unemployed Labor Force   | 6.18%       |
| Percent without Health Insurance   | 20.43%      |
| Percent HH with Limited English  | 11.39%      |
| Median HH Income   | \$63,022.00 |
| Percent Mobile Homes Relative to Housing   | 2.62%       |
| Percent Owner-Occupied Housing   | 50.02%      |
| Percent Single Parent HH   | 27.83%      |
| Percent of HH without a Vehicle  | 6.11%       |
| Income Inequality (Gini Index)   | 49.62       |
| Percent without Religious Affiliation  | 0.42%       |
| Number of Health Practitioners per 1,000 People  | 15.88       |
| Social/Civic Organizations per 10,000 People   | 0.33        |
| Number of Hospitals per 10,000 People  | 0.09        |
| Percent Unemployed Women in Labor Force  | 6.43%       |
| Percent Workforce Employed in Predominant Sector   | 19.53%      |
| Percent Inactive Voters  | 8.20%       |
| Percent Living Below Poverty Level   | 15.61%      |
| Percent HH without a Smart Phone   | 11.77%      |
| FEMA Community Resilience Index: -0.08   | -0.08       |

Table 2: Harris County FEMA Community Resilience Challenge Indicators

Source:

<https://fema.maps.arcgis.com/apps/webappviewer/index.html?id=90c0c996a5e242a79345cdbc5f758fc6>

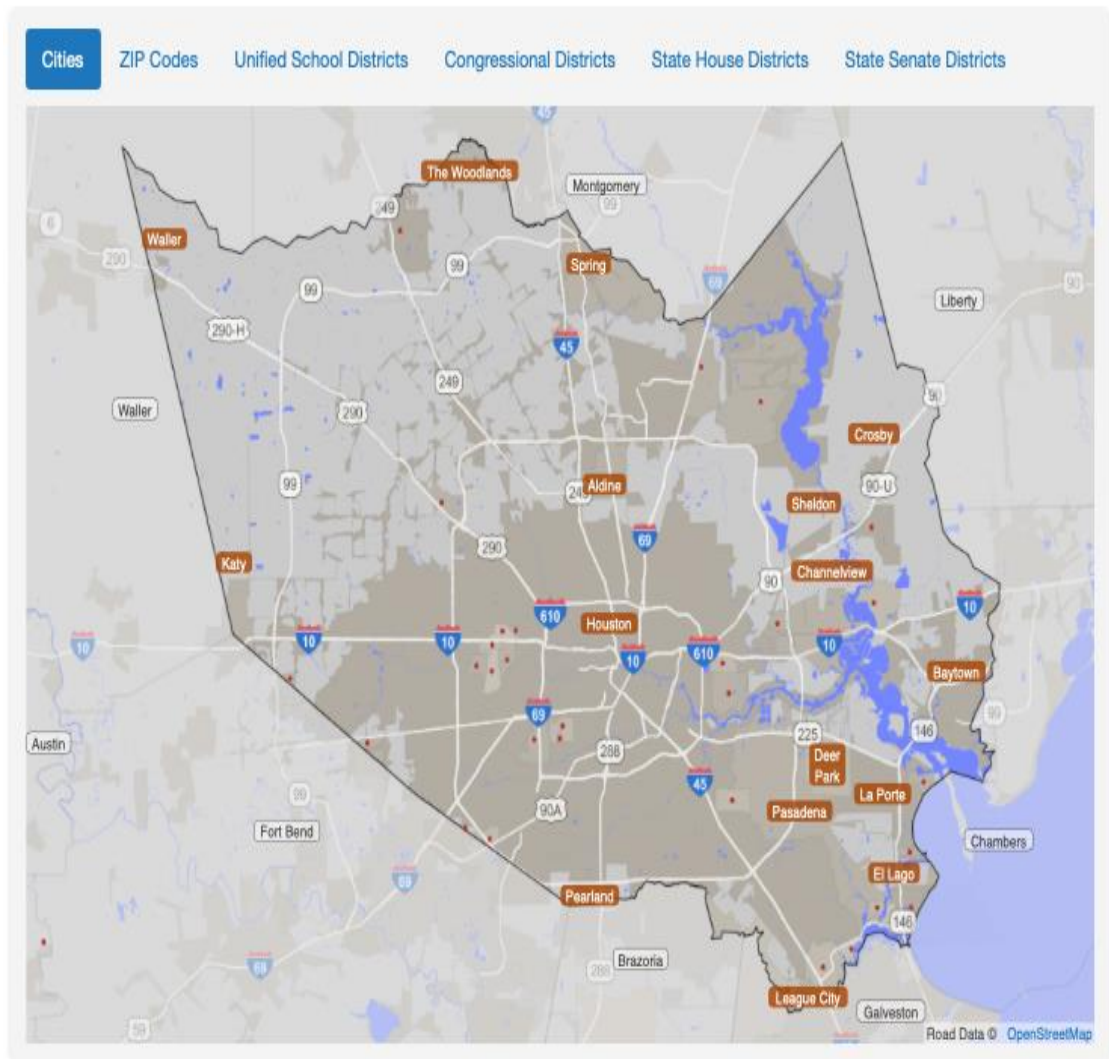


Figure 4: Harris County with Major Cities  
Source: <https://statisticalatlas.com/county/Texas/Harris->

## 77004 Zip Code Characteristics and Demographics

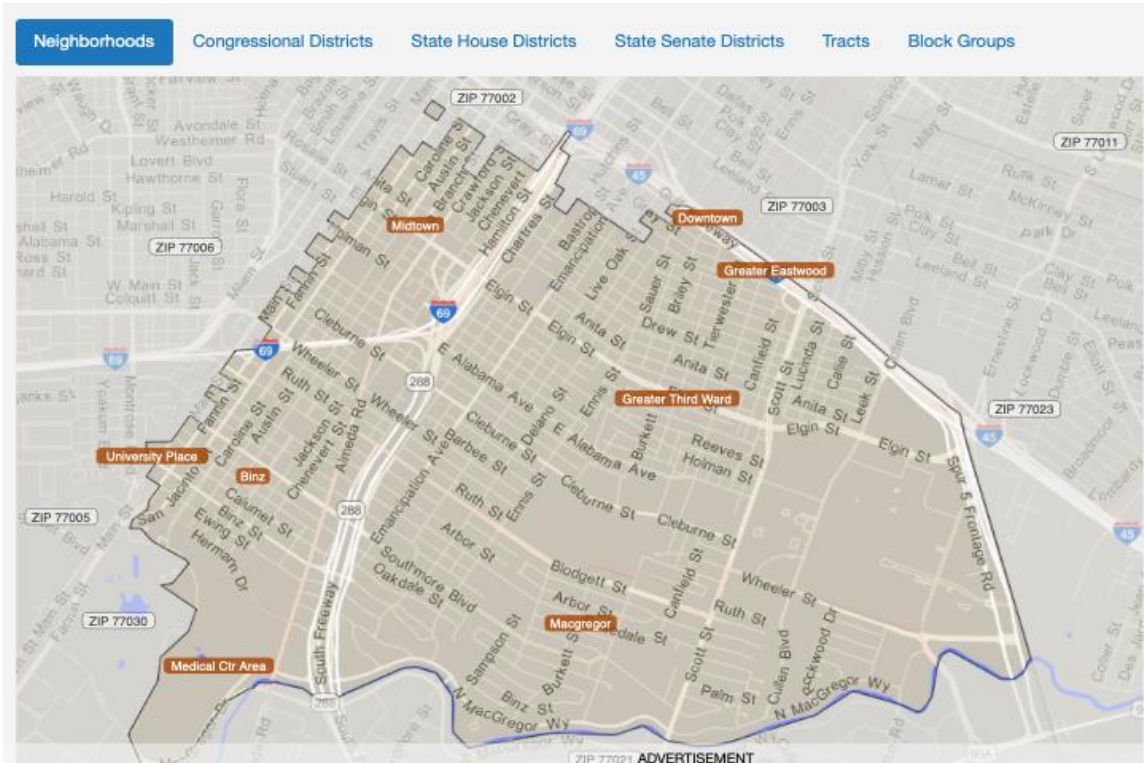


Figure 5 Geographic Boundaries of Zip Code 77004

Source: <https://statisticalatlas.com/zip/77004/Overview>

The geographic boundary of Greater 3<sup>rd</sup> Ward is SH-288/US 59 to the west, I-45 to the north, Cullen Street to the east, and Blodgett Street to the south. The residents in the Greater 3<sup>rd</sup> Ward in 2018, were 88.24% African American, 4.64% as Caucasian or white, 4.4% Hispanic, and 0.5% Asian, along with 31% American Indian or Alaska Native. The 2019 ethnicity of the 37,700 living in the 77004-zip code, reported 57.4% African American, 21.7% white, 12.5% Hispanic and 6.3% Asian with 1% self-identifying as having 2 or more races. There are approximately 16,914 single-family homes and condominiums in the 3<sup>rd</sup> Ward with 66% occupied by renters. In renter-occupied buildings, 2,136 residents report having no vehicle, 4,240 residents report having 1 (one) vehicle, 2,145 residents report having two (2) vehicles, 414 report having three (3) vehicles, 40 report having 4 (four) vehicles and 50 report having 5+ vehicles.

Owner-occupied houses/condominiums report 239 having no vehicle, 1,647 have one (1) vehicle, 2,167 and 2,167 report having two (2) vehicles. 43% earn <\$25,000 per year with the mean household income being \$22,189. 29% of the residents have a high school diploma or its equivalent, 25% of the residents have some college or an associate degree, 18% of the residents have a bachelor's degree, 12% of the residents have a master's degree or higher and 15% of the residents have less than a high school diploma. 34% of the residents are 18-24 years of age, 14% are 25-34 years of age. As of May 18, 2022, there were 126 registered sex offenders. The area reports that 25.6% have an Earned Income Credit of \$2,368.



Figure 6: Map of Race & Ethnicity-Black/White 77004  
Source: <https://statisticalatlas.com/zip/77004/Race-and-Ethnicity>

| <b>FEMA Community Challenge Indicator<br/>Census Tract 3124-77004</b>                | <b>Percentage</b> |
|--|-------------------|
| FEMA Community Resilience Challenges Index (CRCI) - Percentile                       | 99.080742         |
| FEMA Community Resilience Challenges Index (CRCI) - Std.Dev.                         | 1.138112326       |
| Percentage of population over 25 without high school diploma or GED                  | 16.39108555       |
| Percentage of the population age 65 and older  | 13.81165919       |
| Percentage of the population with a disability                                       | 27.04035874       |
| Percentage of households without a vehicle   | 40.97363083       |
| Percentage of households in which no one over 14 speaks English "very well"          | 0                 |
| Percentage of single-parent households (children under age 18 and no spouse/partner) | 78.48911652       |
| Percentage of households without a smartphone  | 32.86004057       |
| Percentage of all housing units that are mobile homes                                | 3.106633081       |
| Percentage of all housing units that are owner-occupied                              | 18.55583543       |
| Number of hospitals per 10,000 people  | 0.089400563       |
| Number of medical practitioners per 1,000 people                                     | 0                 |
| Percentage of the population without health insurance coverage                       | 2399.1031%        |
| Percentage of the population below the U.S. Census poverty level in past 12 months   | 57.08483755       |
| The income amount where half the households in the area earn more and half earn less | 18971             |
| Percentage of the civilian labor force age 16 and over who are unemployed            | 16.84210526       |
| Percentage of workforce employed in predominant sector                               | 20.60810811       |
| Gini Index of income inequality (income distribution across a population)            | 0.6353            |
| Number of social/civic organizations per 10,000 people                               | 0.3256735         |
| Percentage of the population that do not affiliate with a religion                   | 41.279268         |
| Percentage of inactive voters (defined differently by state)                         | 8.2034749         |
| Size of change: Net gain or loss of individuals (US and intl)                        | 0.3836421         |

Table 3: FEMA Community Resilience Indicators – 77004

Source:

<https://fema.maps.arcgis.com/apps/webappviewer/index.html?id=90c0c996a5e242a79345cdbc5f758fc6>

## 77005 Zip Code Characteristics and Demographics

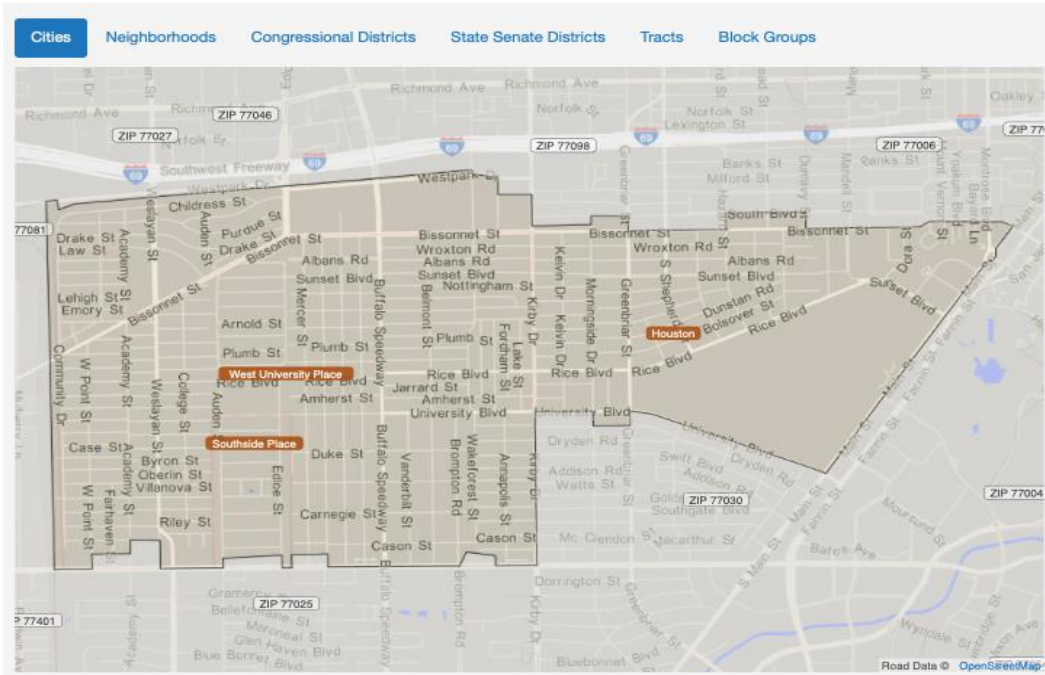
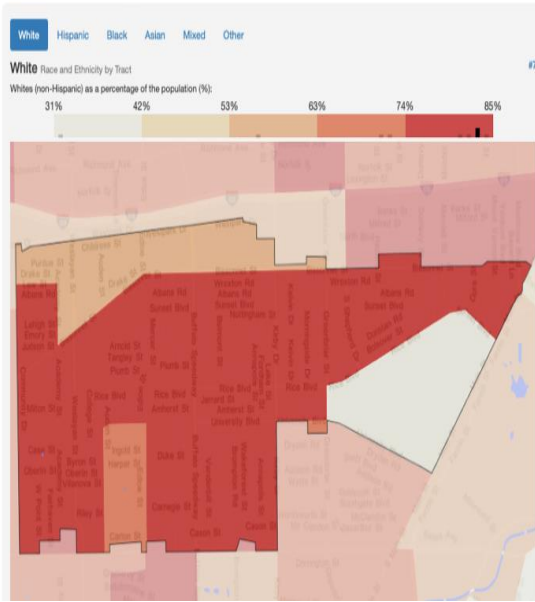


Figure 7: Geographic Boundaries of Zip Code 77005  
Source: <https://statisticalatlas.com/zip/77005/Overview>

The 2019 estimated population is 28,883 living on 3.8 sq. miles with 7,512 people per square mile. There are 10,970 houses or condominiums with 27% occupied by renters which are 2,825 individuals. Of the 14, 037 females and 14,845 males, 87% have a bachelor's Degree or higher, and 51.6% have a graduate or professional degree. The unemployment rate is 2%. 76.3% of the residents are white, 11.8% are Asian, 7.9% are Hispanic or Latino 2.0% identify with two or more races and 1.6% of the residents are black. The estimated median value of a house or a condominium is \$1,172,534. The reported Average Adjusted Gross Income (AGI) is \$449,371 with 2.6% reporting an earned income credit of \$1,035. The Houston of Realtors (HAR), 77005 is identified as the second-best zip code in the nation ([www.har.com](http://www.har.com)). As of May 18, 2022, there were 2 (two) registered sex offenders.



Map of Race and Ethnicity by Tract in ZIP Code 77005



Map of Race and Ethnicity by Tract in ZIP Code 77005

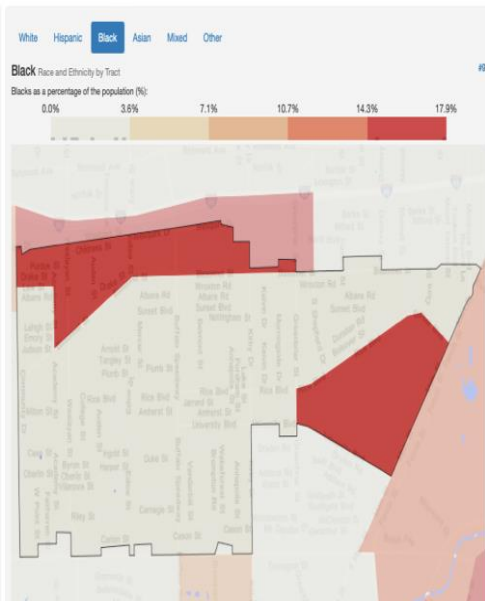


Figure 8: Maps of Race and Ethnicity Black & White 77005

Source: <https://statisticalatlas.com/zip/77005/Race-and-Ethnicity>

| <b>FEMA Community Challenge Indicator<br/>Census Tract 4124-77005<br/>Population – 4,688</b> | <b>Percentage</b> |
|--|-------------------|
| FEMA Community Resilience Challenges Index (CRCI) - Percentile                               | 0                 |
| Percentage of population over 25 without high school diploma or GED                          | 0.71%             |
| Percentage of the population age 65 and older  | 17.55%            |
| Percentage of the population with a disability   | 3.3%              |
| Percentage of households without a vehicle   | 0.0%              |
| Percentage of households in which no one over 14 speaks English "very well"                  | 0.52%             |
| Percentage of single-parent households (children under age 18 and no spouse/partner)         | 4.15%             |
| Percentage of households without a smartphone  | 5.33%             |
| Percentage of all housing units that are mobile homes  | 0.00%             |
| Percentage of all housing units that are owner-occupied                                      | 85.91%            |
| Number of hospitals per 10,000 people  | 0.09%             |
| Number of medical practitioners per 1,000 people   | 67.97             |
| Percentage of the population without health insurance coverage                               | 0.43%             |
| Percentage of the population below the U.S. Census poverty level in past 12 months           | 2.27%             |
| Median Household Income  | \$250,001         |
| Percent Unemployed Labor Force   | 0.84%             |
| Percent Unemployed Women in Labor Force  | 2.44%             |
| Percentage of workforce employed in predominant sector                                       | 26.42%            |
| Gini Index of income inequality (income distribution across a population)                    | 0.49              |
| Number of social/civic organizations per 10,000 people                                       | 0.33              |
| Percentage of the population that do not affiliate with a religion                           | 41.28%            |
| Percentage of inactive voters (defined differently by state)                                 | 8.20%             |
| Size of change: Net gain or loss of individuals (US and intl)                                | 0.38              |

Table 4: FEMA Community Resilience Indicators - 77005

## CHAPTER 4 – RESULTS AND DISCUSSION

### Results and Analysis

Data in this study is synthesized from three sources. First, the data on social and demographic data is collected from captured from the U. S. Census, second, the Harris County Flood Control District, and third, FEMA’s recovery division.

The focal variables of interest relate to income and sociodemographic characteristics. Additional variables pertain to the class makeup and proportion of ownership of occupied homes. The data will also reference the Gini Index or the Gini coefficient, which measures income distribution across a population. Developed in 1912 by the Italian statistician Corrado Gini, it is used as a gauge of economic inequality by measuring income distribution or wealth distribution among a population. The coefficient ranges from 0 or 0% to 1 or 100%. 0 represents perfect equality and 1 represents

#### Key Gini Index Points

The Gini Index/Co-Efficient is a measure of the distribution of income across a population.

The higher the Gini index indicates greater inequality, with high-income individuals receiving much larger percentages of the population’s total income.

Global inequality, as measured by the Gini index, has steadily increased over the past few centuries, and spiked during the COVID-19 pandemic. Because of data and other limitations, the Gini index may overstate income inequality and can obscure important information about income distribution.

Figure 9: GINI Index Definition

perfect inequality. Values greater than 1 are, theoretically, due to a negative income or negative wealth (Hayes, Anderson & Bellucco, 2022).

The visual representation of recovery funds can lead to a misrepresentation of actual events. The actual approved payout to Renters for FEMA Assistance in 77004 appears to be more than the approved payout to residents living in 77005, however, when the percentage of approved applications is calculated, mathematically, 42% of FEMA applications for assistance

were approved for 77005 whereas 31% of the FEMA applications for assistance in 77004 were approved. The zip code 77005 also lies within the 100-year and 500-year floodplain and is has a floodway running through it whereas the Greater 3<sup>rd</sup> Ward is surrounded by floodways. The residents of 77005 are required to have flood insurance but the residents of the Greater 3<sup>rd</sup> Ward can view flood insurance as an option thus making them ineligible for insurance claims leaving them dependent upon federal recovery funds that may or may not be deployed. Additional data will be gathered from an online snowball survey distributed by SurveyMonkey which, to achieve a 95% level of confidence with a 5% Margin of Error, a sample size of 384 responses must be received.

As the demographics of 77004 changes to mimic the demographics of 77005, one can anticipate that financial recovery dollars will begin to flow into 77004. In 2017, U.S. Census data reveals that there were 6,856 black families and 5,046 white families living in 77004 and 8,429 white families and 368 black families living in 77005. The 2020 U.S. Census Data reveals that there were 222 black families and 8, 704 white families living in 77005, and 7,409 black families and 4,904 white families living in 77004. The data reveal that white families are moving into 77004. Interestingly, 77004 is the zip code of the Historically Black College and University (HBCU) Texas Southern University, specifically 3100 Cleburne Street, whereas, the main address of the University of

Houston is listed as 4800 Calhoun Road and is less than 3 miles away, within walking distance of Texas Southern University, (77004). While the University of Houston acknowledges that it is part of the “Third Ward,” yet it has been assigned the unique zip code of 77204 and has no address listed on its main website.

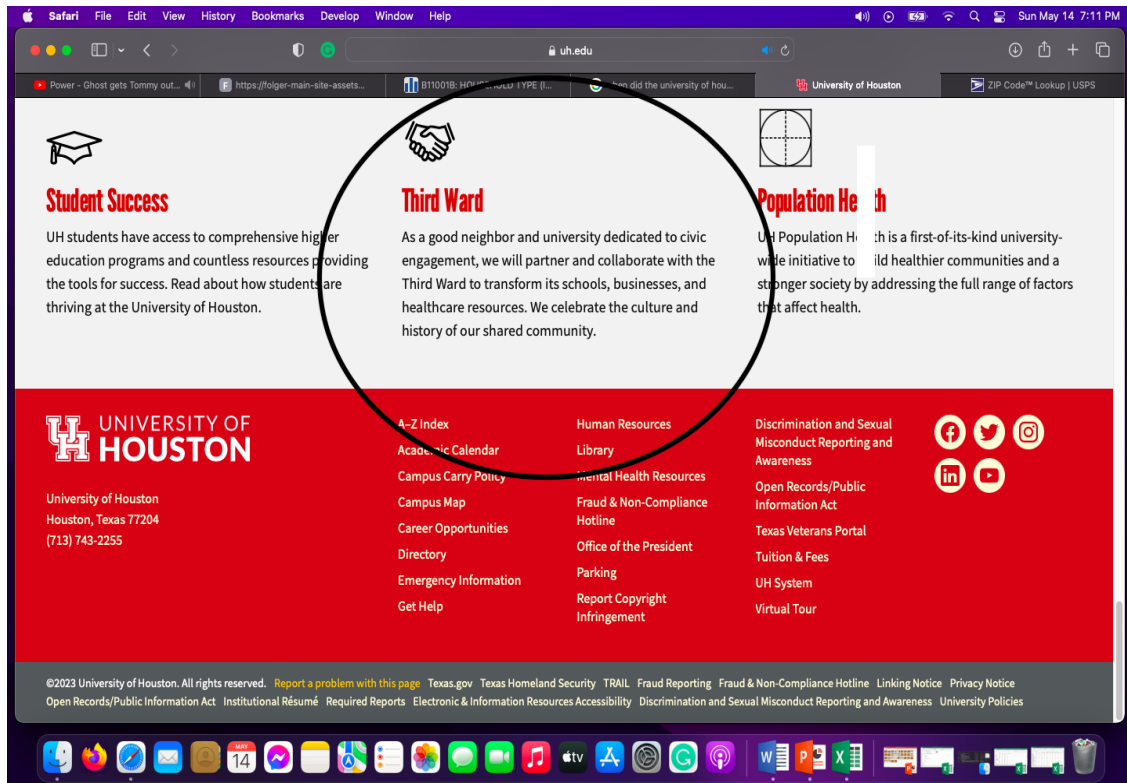


Figure 10: University of Houston Main Website  
Source: <https://www.uh.edu>

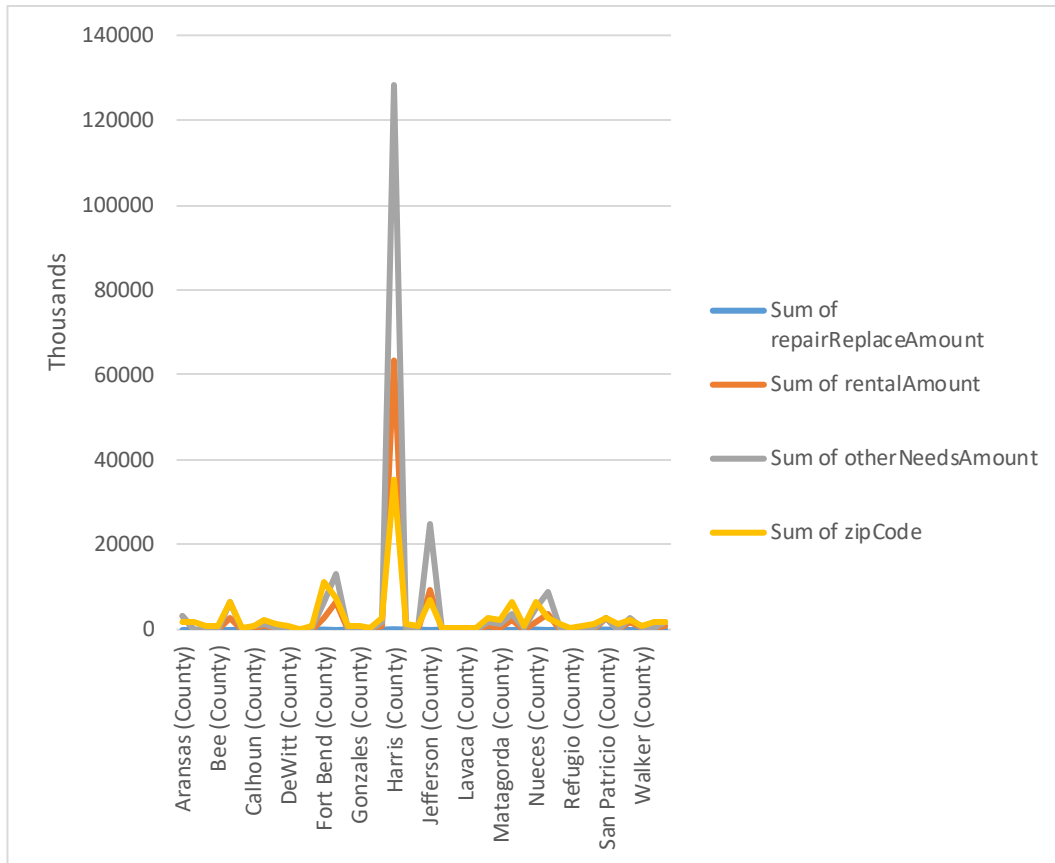


Table 5: Sum of Recovery Money Received by County & Zip Code

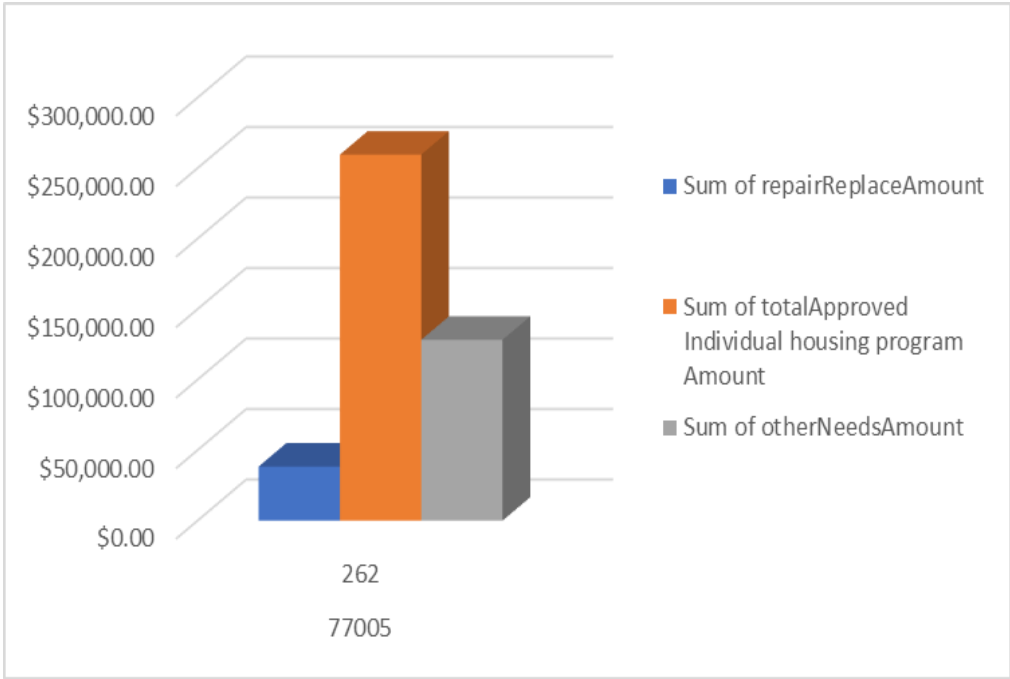


Figure 11: 77005-Sum FEMA Recovery Money Recipients  
 Source: FEMA Individual & Household Program Applications Overview

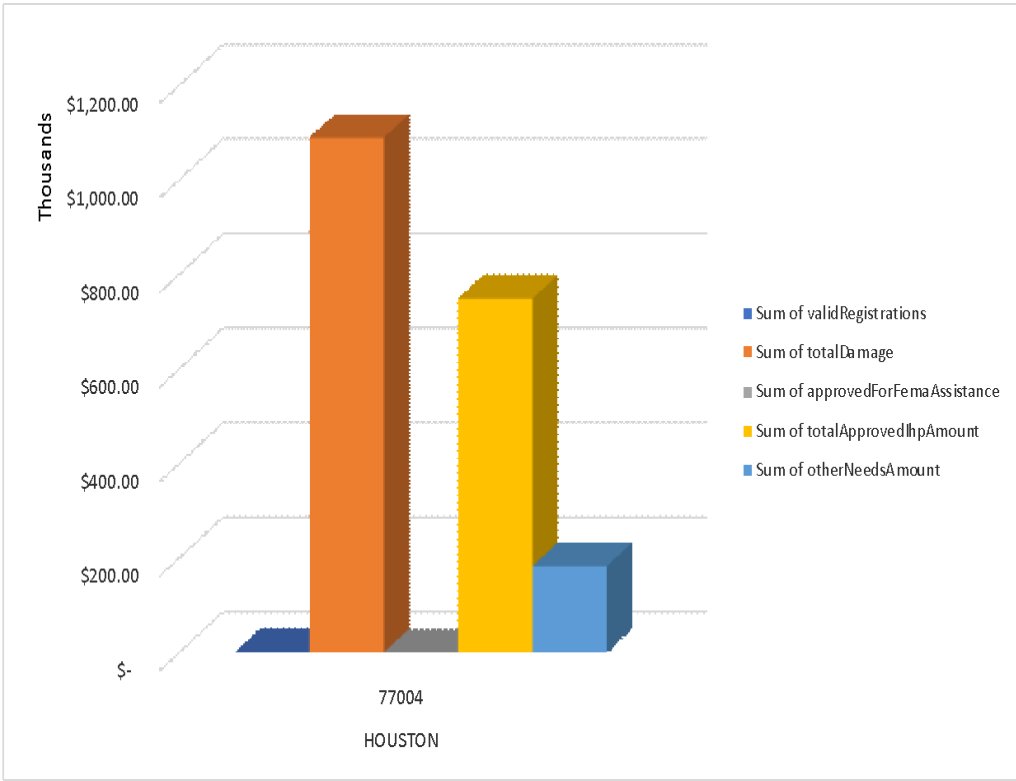


Figure 12: 77004-: 2017 – Sum FEMA Recovery Money Recipients  
 Source: FEMA Individual & Households Overview

77004



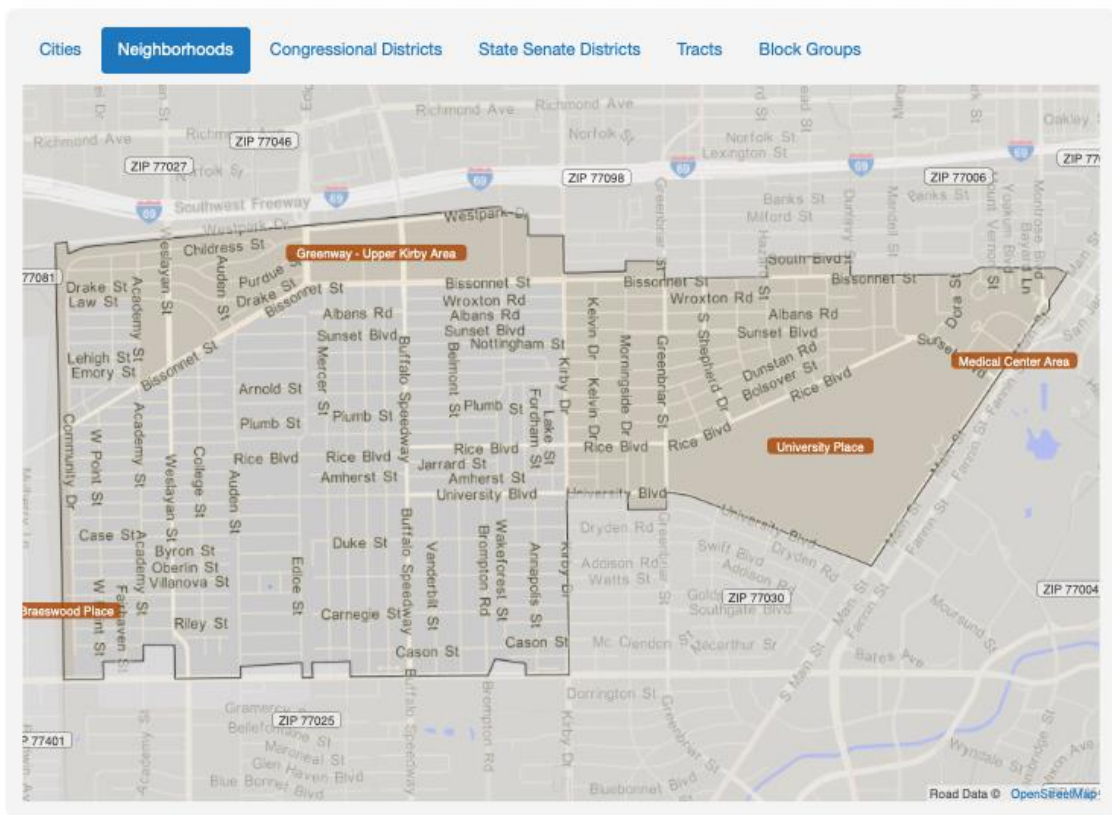
|  |
|--|
| <b>State:</b> <a href="#">Texas</a>  |
| <b>County:</b> <a href="#">Harris</a>  |
| <b>Metro Area:</b> <a href="#">Houston Area</a>  |
| <b>City:</b> <a href="#">Houston</a>   |
| <b>ZIP Codes:</b> <a href="#">77003</a> , <a href="#">77004</a> , <a href="#">77021</a>  |
| <b>Unified School District:</b> <a href="#">Houston</a>  |
| <b>Congressional District:</b> <a href="#">TX-18</a>   |
| <b>State Senate District:</b> <a href="#">TX-13</a>  |
| <b>State House Districts:</b> <a href="#">TX-145</a> , <a href="#">TX-147</a>  |
| <b>Neighboring Neighborhoods:</b> <a href="#">Binz</a> , <a href="#">Downtown</a> , <a href="#">Greater Eastwood</a> , <a href="#">Gulfgate Riverview - Pine Valley</a> , <a href="#">Macgregor</a> , <a href="#">Midtown</a>  |
| <b>Nearby Neighborhoods:</b> <a href="#">Astrodome Area</a> , <a href="#">Fourth Ward</a> , <a href="#">Greater Fifth Ward</a> , <a href="#">Lawndale - Wayside</a> , <a href="#">Magnolia Park</a> , <a href="#">Medical Center Area</a> , <a href="#">Neartown - Montrose</a> , <a href="#">Ost - South Union</a> , <a href="#">Second Ward</a> , <a href="#">University Place</a> |

Figure 13: Geographic Overview-77004

<https://statisticalatlas.com/neighborhood/Texas/Houston/Greater-Third-Ward/Overview>



77005



County: Harris

Metro Area: Houston Area

Cities: Houston, Southside Place, West University Place

Unified School District: Houston

Neighborhoods: Braeswood Place, Greenway - Upper Kirby Area, Medical Center Area, University Place

Congressional Districts: TX-2, TX-7

State Senate Districts: TX-13, TX-15, TX-17

State House District: TX-134

Neighboring ZIP Codes: 77004, 77006, 77025, 77027, 77030, 77081, 77098, 77401

Nearby ZIP Codes: 77002, 77007, 77010, 77019, 77021, 77046, 77054, 77056, 77057, 77096

Figure 14: Geographic Overview-77005

<https://statisticalatlas.com/zip/77005/Overview>

## **Demographic Determinations**

Given the societal shift that the implementation of the tenets of environmental justice would create, there are those who doubt it could be successfully and universally implemented. However, the template for implementation is located within FEMA itself. They use neutral scientific tools, along with weather data joined with the tenets of environmental justice has the potential to create universal environmental and spatial equity. For example, in 2017 FEMA engaged Argonne National Laboratory (Argonne) in Lemont Illinois to identify common indicators of community resilience. The National Integration Center (NIC) Technical Assistance (TA) branch of FEMA identified a need to establish a data-driven basis for prioritizing TA investment and to provide guidance to local emergency management planning.

The 22 community resilience indicators were gleaned from peer-reviewed research and are meant to be a tool used by emergency managers to gain insights for targeted outreach strategies, planning, mitigation investments and response and recovery operations. Communities, regional governments, and others can use this data to better understand potential challenges to resilience.

To make the CRIA data more accessible and more actionable, each individual indicator and the FEMA CRI is binned and included in FEMA's Resilience Analysis and Planning Tool (RAPT).<sup>2</sup> RAPT enables emergency managers and community partners to quickly visualize relative differences in potential resilience by county, tribe, and census tract. By reviewing the data for each of these 22 indicators individually, emergency managers can gain insights for targeted outreach strategies, planning, mitigation investments and response and recovery operations. Communities, regional governments,

and others can use this data to better understand potential challenges to resilience. As the social science field of examining and validating indicators of resilience evolves, FEMA will update RAPT to provide emergency managers and community partners with additional data and tools to inform planning, mitigation, response, and recovery.

Rather than label these indicators as an absolute measure of resilience, FEMA considers “potential challenges to resilience” a better frame to understand these indicators. Everyone is vulnerable to disasters. While scholars theorize that certain characteristics may make an individual or a household more socially vulnerable (and less resilient), the data does not reflect measures that individuals and/or communities have taken to address potential challenges, such as emergency management planning and outreach or household preparedness measures. To aid emergency managers in understanding how to use these indicators, calling them potential challenges to resilience supports a more positive and strategic application of the data in all phases of emergency management.

In fact, FEMA resources are often commandeered by other governmental agencies. Ranking Member, Republican Congressman Sam Graves sent a letter dated January 23, 2023, to Secretary Alejandro Mayorkas to clarify the diversion of FEMA funds to assist with managing of the southern border of the United States. The Committee under the leadership of Congressman Graves expressed their “interest in investigating FEMA’s role in the Southern border crisis and the appropriateness of that role due to the potential impact of FEMA’s core mission and authorities” (Letter from the Committee on Transportation and Infrastructure, 2023). The Committee on Transportation and Infrastructure conducts oversight of the authorities, personnel, and resources of the

Federal Emergency Management Agency (FEMA) asked Secretary Mayorkas for details about money being transferred between the U.S. Customs and Border Protection (CBP), and FEMA without Congressional oversight and approval in addition to details about who were the recipients of \$800 million transferred to FEMA from CBP for the FEMA-administered Emergency Food and Shelter Program (EFSP), which is charged with providing: food in the form of served meals or groceries, lodging in a mass shelter or hotel, rental or mortgage assistance to prevent evictions, utility payment to prevent service cut-offs, transportation costs associated with the provision of food or shelter and supplies and equipment necessary to feed or shelter people (FEMA.gov). While the use of the EFSP funds may have been the “right” thing to do to alleviate the suffering of individuals who may have struggled to enter the United States via crossing the southern border, the argument could be made that EFSP funds could be distributed to low-income individuals after catastrophic weather event e.g., Hurricane Maria that took place in Puerto Rico that experienced unnecessary administrative obstacles and delays for \$20bn in federal relief aid rather than having funds being diverted to another program (Marcos, 2021).

In 2017 Mayor Sylvester Turner announced an initiative called the Complete Communities Initiative. The initiative had the mandate to improve all neighborhoods in Houston so that residents and business could have access to quality services and amenities (City of Houston Complete Communities, 2018). The Third Ward being located less than one mile southeast of downtown Houston, which makes it extremely attractive to developers (City of Houston Complete Communities, 2018). It is also one of the most historic African American neighborhoods in Houston. The dichotomy created a

cultural and financial clash that played out in the construction of high-end town homes which provided jobs to residents as it simultaneously priced out and displaced long-term existing residents who became witnesses to the eradication of local culture. The Third Ward Complete Communities Action Plan identified 27 goals and 77 projects to manage the change of the Third Ward. The Third Ward Neighborhood Support Team (NST) will work with the Super Neighborhood Council along the City of Houston Planning and Development Department to implement the success measures over the next five years.

### **Discussion**

The answers to the substantive questions this study investigated are:

#### **Question #1**

Are the African American residents of Houston Texas and specifically the 3<sup>rd</sup> Ward of Houston Texas at greater financial risk after an extreme weather event based on the amount of FEMA-approved damage assessment.

Answer:

African Americans living in the Third Ward of Houston Texas are at greater financial risk after a weather based catastrophic event. The Spatial Hazard Events and Losses Database for the United States (SHELDUS) aggregated estimate of the damage from Hurricane Harvey to be \$10,554,091,325.98 in adjusted dollars and the aggregated per capita financial loss to have been \$2,262.64 and given the fact that the frequency and upward projections of anthropogenic events there is the strong potential that low-income African Americans living in the third ward will be financially, and socially devastated by climate change. Wealth accumulation over time and the added advantage of educational attainment, marital status, number of children, homeownership, residential mobility, annual insurance premiums paid, neighborhood socioeconomic status, and urban

development (Howell & Elliott, 2018) place the African American population in a precarious position. Prior research suggests that not one but multiple mechanisms interact to augment unequal opportunities to the flow of recovery capital and rising wealth inequality. In the article *Quantifying inequities in US Federal Response to Hurricane Disaster in Texas and Florida compared with Puerto*, Charley E. Willison, Phillip M. Singer, Melissa S. Creary, and Scott L. Greer state that disaster response differs substantially and the different responses can be attributed to geography, disaster fatigue, citizenship and race and ethnicity. “In the real world, all communities are not created equal. All communities do not receive equal protection” (Bullard & Johnson, 2000, p. 559) a truism from the article *Environmental Justice: Grassroots Activism and its Impact on Public Policy Decision Making* which threads through disaster recovery. The foundational tenet established inequality via educational attainment, age, marital status, and number of children, homeownership, residential mobility, annual insurance premiums paid, neighborhood socio-economic status, county population, and access to the mechanisms of power (Howell & Elliott, 2018).

#### Question #2

Are African Americans whose annual income is <\$25,581 more likely to receive less financial recovery support after a catastrophic weather event due to environmental injustice?

Answer

The comparisons with the Community Resilience Challenge Index (CCRI), the Gini index, and the income comparison based on data from the U.S. Census, and FEMA data, individuals and families living at or below the poverty threshold are less likely to receive money that is earmarked for recovery. Resilience, as understood to be the return to

previous established neighborhood characteristic, ecological resilience is meant to support families and individuals as they strive to their financial baseline and to recover and rebuild, however, given established traditional understandings surrounding “resilience” it will be difficult if not impossible for low-income individuals and families to restore their lives due to established and codified environmental injustice. In 2017, the poverty threshold for a family of four, with two adults under the age of 65 with two children un the age of 18 was \$24,858 and given that 40% (2020) of the individuals living in 77004 live below the poverty line, it is highly likely that sociological, behavioral, and political factors will continue to influence the amount of recovery money low-income individuals received after a catastrophic weather event juxtaposed their wealthier counterparts.

### Question #3

Did environmental injustice play a part in the distribution of federal recovery funds?

### Answer

Traditional disaster mitigation and recovery policy focused on returning to the previous equilibrium (Logan, Issar, & Xu, 2016). At its core, that premise is based on environmental injustice and is at the heart of locational vulnerability which makes vulnerable populations at a higher risk before, during, and after a catastrophic weather event. Vulnerable populations e.g., elders, low-income individuals and families, face a multitude of challenges rooted in environmental injustice. Transportation inequity limits the ability for low-income individuals and families to leave prior to a catastrophic weather event which puts their lives at greater risk and left with the only option but to “shelter-in-place” which implies that families and individuals have residual income to pre-purchase the amenities necessary to “shelter-in-place.”

## **CHAPTER 5 - -SUMMARY, CONCLUSION & RECOMMENDATIONS**

### **Summary of Findings**

The implementation of environmental justice principles has sparked a significant societal shift, yet skeptics question its feasibility on a universal scale. However, a promising template for its successful application lies within the Federal Emergency Management Agency (FEMA). By harnessing neutral scientific tools and integrating weather data with the core principles of environmental justice, the potential arises for creating widespread environmental and spatial equity. A notable example is FEMA's collaboration with Argonne National Laboratory in 2017, where they identified key indicators of community resilience. These indicators, derived from rigorous peer-reviewed research, serve as a valuable resource for emergency managers, providing insights for targeted outreach, planning, mitigation investments, and response and recovery operations. By leveraging this data, communities, regional governments, and other stakeholders can better understand their challenges and work towards enhancing their resilience.

### **Conclusion**

#### **Facing the Challenges Ahead.**

As recent as October 7, 2022, the Texas General Land Office (GLO) posted Amendment 11 from the Texas Hurricane Harvey Action Plan. \$140,930,253 in unused funds from seven City of Houston disaster relief programs will be reallocated to a state-run Homeowner Assistance Program (HAP), as opposed to the HoAP which is the program run by the City of Houston. The HAP program will be administered by the GLO



on behalf of Houston residents. The HoAP program included three sub-programs that target: Reimbursements, Rehabilitation and Reconstruction.

One program is the Homeowner Assistance Program (HAP) which is designed to help homeowners affected by Hurricane Harvey specifically to repair, rehabilitate, and reconstruct their homes. The financial assistance was earmarked to improve damaged homes against natural disasters including elevating homes above flood level. The Local Buyout & Acquisition Program was a second program with funds earmarked for Hurricane Harvey recovery. The GLO was tasked to administer \$275 million in Hurricane Harvey recovery funds for local buyouts and acquisitions. Fund distribution was based on Methods of Distribution (MODS) developed by Regional Councils of Government (COGS). Local government entities determined which program would be applied based on their community. Buyouts used Community Development Block Grants-Disaster Recovery (CDBG-DR) funds to purchase properties in areas prone to flooding events, demolish the structure and create parks, open spaces, or flood storage/overflow areas whereas the acquisition of property used post-disaster property values to acquire property for public use. Under Code of Federal Regulations 24 CFR 570.201(a) an acquisition may include purchase, long-term lease of 15+ years, donation or otherwise. A third program meant to assist with homeowner reimbursement, rehabilitation and reconstruction was the Homeowner Reimbursement Program. GLO earmarked \$100 million in CDBG-DR funds from the United States Department of Housing and Urban Development (HUD) to reimburse homeowners up to \$50,000 for Hurricane Harvey of out-of-pocket eligible repairs expenses.

The City of Houston reported that it helped only 704 homeowners in all three categories in the five years since Hurricane Harvey out of the 96,410 homes that flooded inside the city limits which is less than three-quarters of 1%. Further, of those who completed applications, approximately two out of three were eligible and out of those only 807 make it to GLO for approval which ultimately approved 797 leaving 9,422 applications in the approval pipeline. The City of Houston and the GLO blamed each other for application approval and fund dispersal. Each organization accused the other with administration of the funds. The City of Houston accused the GLO of bad hiring decisions, poor record keeping, training failures, political interference, and submitting incomplete applications. The City of Houston countered and accused the GLO of making programs overly complicated, constantly deeming applications as incomplete or ineligible. The financial and arguably the political wrangling left the vulnerable public in the middle. HUD statistics revealed that 90% of the homeowners served by the affected programs have incomes less than 80% of the median income for the area (US Department of Housing and Urban Development Income Limits, 2017). Nearly two thirds of the Houston homeowners served by the GLO program make less than 30% of the AMI in Houston, this includes families of four living on  $\leq$  \$26,600 annually (Texas General Land Office, 2022, p.6). Additionally, 64% of the homeowners identified as Black/African American and 25% identified as Hispanic/Latino with 87% of the approved homeowners identified as female heads of households and 72% aged 65 or older (Texas General Land Office, 2022, p. 6). The compromise between the City of Houston and the GLO includes the following changes.

- City of Houston disaster recovery programs would be reduced to \$694,157,590 from \$850 million.
- The remainder ≈\$140,930,253 in uncommitted funds would be taken from the following City programs, which would be reduced to:
  - Homeowner Assistance program (HoAP) - \$69,188,511.
  - Multifamily Rental Program - \$400,855,752.
  - Small Rental Program - \$12,943,423.
  - Homebuyer Assistance Program - \$18,381,000.
  - Public Service - \$20,000,000.
  - Economic Revitalization Program - \$18,888,904.
- State administered disaster recovery programs increase to \$4,064,897,426.
- The state-administered City of Houston Homeowner Assistance program is scheduled to increase to \$565,601,475 (Texas General Land Office, 2022).

It's apparent and quite obvious that new allocation methods must be developed to remove the politicization of federal aid distribution. Neutralizing a process steeped in political "pork" has the potential of being difficult, however, using the principals of Environmental Justice, the foundation for financial redistribution of wealth before, during, and after a catastrophic weather event, vulnerable populations can assert their positions as established and powerful communities who have standing with respect to how their neighborhoods will be rebuilt, defining "resilience" for themselves, and being active political powerhouses who are not "acted upon" but self-determined citizens as historical neighborhoods and cities are being redefined and remodeled for the benefit and convenience of wealthier citizens. Stakeholder engagement is views as an essential

component of good environmental and natural resource management (ENRM) (Colvin, Witt, & Lacey, 2016) however, engaging traditional stakeholders may result in static and stale policies that continue to benefit the wealthy. Identifying and including stakeholders who have a geographical investment in the land in question, specific socio-ecological interest, influence, a natural intuition and using key informants along with snowballing are methods to use to identify stakeholders (Colvin, Witt, & Lacey, 2016). Urban planners must also investigate and use past experiences, allow stakeholders to self-select to participant in planning and use the media to ensure that there is a clear intersection between the community, the land in question, elected and/or appointed officials and developers in order to create an area based on the principles of Environmental Justice.

**An agenda for the way forward.**

Disaster mitigation is not a quick fix. Rebuilding a geographic location that has experienced obvious physical devastation is not a panacea. Disaster mitigation is couched in equity which can be enacted using the principles of environmental justice.

Environmental justice creates an opportunity to discuss topics that carry historical impediments and have been difficult to broach. It is a method that can be used to expand stale, outdated views while simultaneously incorporating lessons learned from past events to develop new inclusive policies and procedures. The sections below elucidate the areas that society must renegotiate in order to establish and maintain policies and procedures that give everyone a reasonable chance of survival after a catastrophic weather event.

## **Social Equity**

### **The New Stakeholders**

Traditionally, individuals who have survived catastrophic weather events wait for federal, state and local assistance to act upon their plight. Firstly, the notion of a “stakeholder” must be agreed to be a fluid “understanding” comprised of an amalgamation of complex and nuanced actors rather than a definition. Definitions can create pre-established boxes based on racism, sexism, ageism, elitism, that people struggle to enter into and out of whereas an “understanding” would provide the philosophical movement necessary to enact environmental justice. Conversations about the recovery, rebuilding, reestablishment and resilience of a devastated community must be an inclusive conversation. Inclusive conversations must be accessible to individuals who live in the affected community and held in such a way that accommodates the schedules and communicative method of all community members. The New Stakeholders have a plethora of valuable historical information that must be utilized when new mitigation policies and procedures are developed. Extracting that information demands deft political solicitation and management. The new stakeholders must be able to successfully communicate with professional developers. This means being comfortable asking questions which clarify ambiguous terms and industry-specific jargon.

### **Updated Race Relations Strategy**

The historical “race relations strategy” which has been the foundation of federal, state, and local policy was built on negative stereotypes and racist beliefs often codified by law. The practice of codifying racism must be addressed via legislation. One well-known exemplar of the codification of racism is the landmark 1896 U.S. Supreme Court

ruling of the *Plessy v. Ferguson*, (Bullard, Johnson, & Torres, 2004, p. 15) case in which the Supreme Court of the United States upheld the constitutionality of racial segregation under the “separate but equal” doctrine. Plessy paved the way for covert and overt racism to be contained and codified within federal, state and local law e.g. redlining and Jim Crowism. Jim Crow laws were a set of state and local statutes that legalized racial segregation. The name emanated from a black minstrel show character called “Jim Crow.” White actors used greasepaint, shoe polish, and burnt cork to darken their complexions during the shows. These shows were meant to further denigrate and dehumanize blacks. Jim Crow laws were power mechanism to marginalize and control blacks. Those who challenged them often faced arrest, fines, jail sentences, personal violence and death. Federal law, like the 1954 *Brown v. Board of Education of Topeka* U.S. Supreme Court ruling which overturned Plessy must be pursued. The ruling signaled the end of legalized racial segregation in public schools in the United States and established a precedent which could dismantle “separate but equal” throughout the nation. Recent racial adjustment legislation includes the Emmitt Till Anti-Lynching Act, signed into law by President Joe Biden March 29, 2022. Racial adjustment legislation will establish the “rules of the game” openly support equity.

### **Housing and Community Development**

#### **Spatial Inequality.**

Not having access to resources and services such as healthcare, welfare, public services, household income and infrastructures has the potential to create a permanent service-based under-class. The unequal distribution of income, resources, geographic attributes such as beaches, mountains, particular climates and recently, shade from trees,

industry clusters (economies of agglomeration), can create inequalities (Community Commons, 2019). Whilst jobs in urban areas typically offer more income to workers, the geographic investment and development choices can create perpetual spatially-based disparities. The disparity effects the economic capital, social capital and cultural capital of individuals which limits social mobility and access to the basic necessities of life e.g., a job that provides an income to support oneself or a family. Urbanization generally revolves around a core industry that promotes the evolution of periphery industries which offer employment (Community Commons, 2019). If, however, the industry itself is

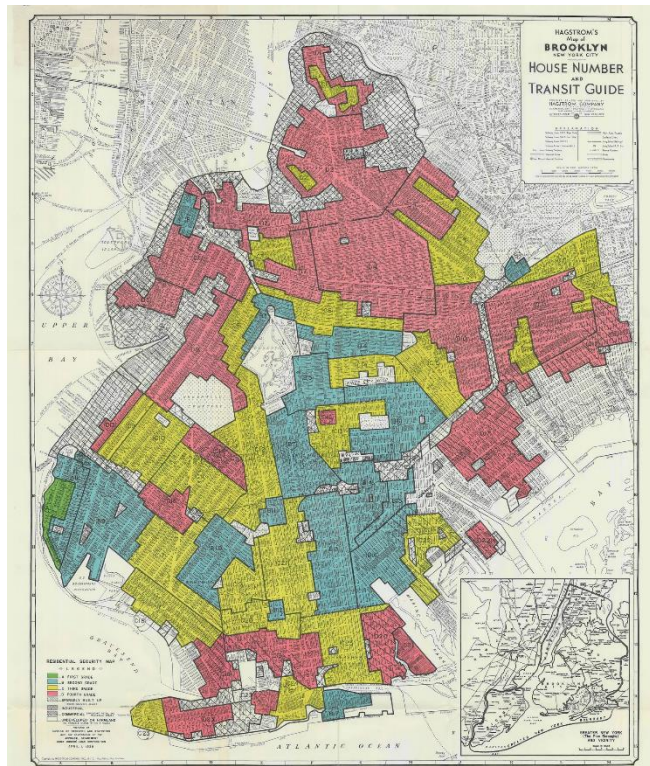


Figure 15: Map of a Redlined Neighborhoods  
Source: Redlined Map  
<https://www.nytimes.com/2021/08/17/realestate/what-is-redlining.html>

inaccessible to workers via education or planning that puts low-income individuals in areas that restrict their access to healthcare, healthy food, clean drinking water, safe and reliable infrastructure, residents of those communities are victims to a variety of exogenous factors that lead to reduced well-being, lower quality of life and reduced life expectancy. Redlining is an example of spatial inequality. Redlining is a discriminatory practice that denied/withheld service, specifically financial, to individuals who lived within areas designated as “hazardous to investment” which takes the form of

denial of credit and/or insurance (National Geographic Education, n.d.). The 73<sup>rd</sup> Congress of the United States (March 4, 1933 – January 3<sup>rd</sup>, 1935) established the Home Owners' Loan Corporation (HOLC) in June 1933 and the Federal Housing Administration during the New Deal Era which codified and made the practice much more systematic.

The working idea was to prevent foreclosures during the Great Depression, however, redlining devolved into a practice that created “residential security maps” which indicated to white investors, the level of security for investment (mcoho.org). They created internal (nonpublic) residential security maps to help decision-makers in the government and financial institutions decide which communities could receive government-insured mortgages, a loan for property where the lender can obtain ownership of the property should payments not be made, for homeownership. Areas considered desirable for lending purposes were outlined in blue and were designated as “Type A” areas usually more affluent and located in the suburbs and on the outskirts of city proper boundaries. Type B neighborhoods were “still desirable” and located within the city limits. Type C neighborhoods were outlined in yellow and were considered a “declining neighborhood” and Type D neighborhoods outlined in red and were considered the riskiest for lending purposes. (mcoho.org). The maps were hand drawn, hand colored, were accompanied with handwritten or typed forms and not publicly published. The red lines on the maps served as warnings to mortgage lenders, and developers that investment in these “red lined” areas would be risky and have less return on investment (ROI). The practice isolated black people in areas that were coded to receive lower capital and infrastructure investment and little social mobility (Perry &



Harshbarger, 2019). Redlining also extended to withholding essential life services such as the construction of grocery stores and supermarkets and even withholding health services (Cornell Law School, n.d.).

Reverse redlining and Blockbusting emerged and accompanied traditional redlining. These two discriminatory practices manipulated lending rates by either restricting access to properties, inflating interest rates, encouraging homeowners to sell their property because an unwanted racial minority would soon be moving into the neighborhood thus clearing the way for the “blockbuster” to sell the newly sold/abandoned home to an “upwardly mobile minority” at higher prices and interest rates. The Fair Housing Act (FHA) of 1968 was passed to address the problem, the Equal Credit Opportunity Act (ECOA) enacted in 1974 along with the Office of Fair Housing and Equal Opportunity housed within the U.S. Department of Housing and Urban Development (HUD) are tasked to ensure equal and fair access to housing HUD (HUD Disaster Resources, n.d.) works with FEMA after catastrophic weather events but linking two large and major bureaucracies can present a challenge. After a catastrophic weather event, individuals need one reference point. While FEMA is the major point of contact after a catastrophic weather event, the bureaucratic machinations of getting money in the hands of survivors are administratively cumbersome, open to political influences and elitist. Submission of applications along with supporting documents coupled with the scheduling of follow-up conversations is all digitally based. The Digital Divide effectively excludes individuals from being able to participate in the recovery process and quite frankly voice their position on neighborhood recovery issues because they are not

privity to electronic messages, meetings, and meeting notifications, submission portals, and access to mental health support (Colvin, Witt, & Lacey, 2016).

Black residents were impacted disproportionately by Hurricane Harvey as compared to white residents in Houston, Texas. “Hurricane Harvey dumped 27 trillion gallons of rain on Texas and Louisiana. Houston—which is now home to as many as 40,000 Katrina survivors—was inundated with water. Months after the storm dissipated, Hispanic and black residents were twice as likely as their white counterparts to report experiencing an income shock following the storm and then not getting the help they needed to recover. White residents were twice as likely as black residents to report that the Federal Emergency Management Agency had already approved their applications for relief.”(Maxwell 2018, p.2). Due to many low-income Black residents now having access to the internet, they were not able to get their applications and other documents submitted to FEMA in a timely manner to receive financial assistance after Hurricane Harvey.

### **Gentrification/Stratification .**

Houston voters approved all 10 of Harris County bond proposals on the November 9, 2022, ballot which amounts to \$1.7b funds (Zuvanich, Ernst, & Brown, 2022). The city and county packages were earmarked to upgrade facilities, and infrastructure, and a variety of city services which included parks and recreation, public safety and transportation. The argument is that as the population of Houston continues to surge upward, more services and housing is needed. But where are all of the new residents of Houston living? Monique Welch, author of the Houston Chronicle piece *Evolving Houston*, documents the fact that the new residents have changed the demographic composition of historically black and Hispanic neighborhoods. For

example, the Third Ward is now 45% black which is down from 71% black in 2010. The Third Ward saw its black population drop about 15% to 8,045 residents though the neighborhoods overall population grew about 35%. According to census data, the white population rose about 170% from 1,283 residents to 3,465 residents in 2020. White people make up about 20 percent of the 17,706 residents of the neighborhood. Hwang & Ding state that black and white residents persistently tend to move to and from neighborhoods with starkly different social and economic conditions and racial and ethnic compositions from each other (Hwang & Ding, 2020, p. 9). Historical populations from within neighborhoods that are being gentrified, “tend to move to poorer non-gentrifying neighborhoods within the city” (Hwang & Ding, 2020, p. 9). Improvement projects that lack a clear definitive financial destination, like the 10 bonds approved by Harris County Voters, can be used to accommodate the encroaching population which directly supports the creation of a permanent mobile under class that lacks ubiquity. Low income residents from historical neighborhoods who own land/property in geographic spaces that wealthier populations now find advantageous for themselves have little or no financial and/or legislative protection from “carpet bagging” developers or DINK (double-income no kids) populations who want to live closer to their places of employment and create “walkable” neighborhoods as the expense of the histories, experiences and financial well-being of established residents given that three separate scales that define components of a walkable neighborhood do not include “historical value” in their definitions (Su, et. al., 2019, p. 63). New modes of transportation must be developed to afford low-income residents being systematically and methodically displaced from what is now prime real estate, the opportunity to compete for jobs, access

to formal education, vocational training or local culture e.g. museums, theatre. Mayor Sylvester Turner worked with community advocates to develop what he called the “Third Ward Complete Community Action Plan” which was designed to ensure that member of historical communities participated in the management of their communal, public, and private spaces.

Historical communities that occupy “prime real estate,” residents who live in flood-prone neighborhoods, and marginalized individuals struggling to survive after a catastrophic weather event currently attempt to avail themselves to the same administrative avenues that wealthier citizens use, however, recovery from catastrophic weather events brings to mind the Plessy v. Ferguson ruling of 1896 that legalized the separate but equal philosophy...recovery from catastrophic weather events is undeniably separate and most definitely not equal.

### **Public Policy Implications.**

This study examined whether wealthier individuals and/or families are better positioned to recover after a catastrophic weather event juxtaposed low-income populations. Based on anecdotal evidence gleaned from personal interviews evaluation, showed that wealthier individuals have immediate access to federal, state and local recovery funds due to sociological, financial and political advantages embedded within an established socio-administrative framework that is based on systemic racism.

Federal response to inequities within disaster recovery, and mitigation, as well as global climate change is evidenced by the important steps taken by the Biden administration to address the challenges driven by climate change e.g. increased natural disasters and recovery assistance. On November 15<sup>th</sup>, 2021, President Biden, led a bipartisan piece of legislations called the Infrastructure Investment and Jobs Act (IIJA)

which is a 1 trillion-dollar allocation to improve the infrastructure of the U.S. that invests roughly \$47 billion in resilience funding to prepare communities for extreme weather.

IIJA funding will go to programs such as the Federal Emergency Management Agency's (FEMA) Building Resilient Infrastructure and Communities program for hazard mitigation projects. The funds will also be directed toward coastal resilience efforts to protect communities from flood risk, sea-level rise, and coastal erosion, as well as to projects that increase the power grid's resilience to extreme weather.

The Inflation Reduction Act also contributes an extraordinary amount of funding to this work, including \$3 billion for environmental and climate justice block grants, \$2.6 billion for the National Oceanic and Atmospheric Administration (NOAA) to put toward coastal and climate resilience, \$235 million for Tribal climate resilience, \$24 million for the U.S. Geological Survey's (USGS) 3D Elevation Program, and \$33 million for the Council on Environmental Quality to fund environmental justice mapping.

President Biden issued Executive Order (EO) 13960, December 3, 2020, "Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government", and codified by the Advancing American AI Act, federal agencies are required to inventory their Artificial Intelligence (AI) use cases and share their inventories with other government agencies and the public

### **AI-Assisted Financial Assistance Program for Low-Income Individuals**

The AI-Assisted Financial Assistance Program aims to provide timely and targeted Support to low-income individuals adversely affected by hurricane storms. This program utilizes

artificial intelligence (AI) technologies to efficiently assess and disburse financial aid to eligible recipients, ensuring that resources are allocated effectively and equitably.

Policy Guidelines:

1. Eligibility Criteria: a. The program is specifically designed for low-income individuals who have experienced significant hardship due to hurricane storms. Eligibility criteria will be established to determine the level of impact and income thresholds for assistance. b. Eligible recipients must provide verifiable proof of their low-income status, storm-related damages, and the need for financial aid.
2. AI-Assisted Assessment: a. Advanced AI algorithms will be employed to assess the severity of damages and the financial needs of individuals impacted by hurricane storms. The AI system will analyze available data, such as property damage reports, income statements, and other relevant information, to determine the appropriate level of assistance. b. Ensure a fair and accurate assessment, the AI system will consider various factors, including the extent of property damage, displacement from homes, loss of livelihood, medical expenses, and other documented hardships.
3. Efficient Disbursement Process: a. The financial assistance will be disbursed through a secure and transparent system facilitated by AI technologies. This will help streamline the process and reduce bureaucratic hurdles, ensuring that aid reaches the intended recipients promptly. b. Recipients will be provided with multiple disbursement options, including direct deposit, mobile payment solutions, or electronic vouchers, to cater to their preferences and facilitate easy access to funds.

4. Accountability and Oversight: a. The program will establish robust mechanisms for monitoring, auditing, and ensuring the appropriate use of funds. Regular audits and evaluations will be conducted to maintain transparency and accountability. b. An independent oversight body will be established to review the AI algorithms and ensure fairness, accuracy, and ethical use of data throughout the program's implementation.
5. Outreach and Support: a. Adequate resources will be allocated for public outreach and education campaigns to inform low-income individuals about the availability of financial assistance and the application process. b. Dedicated support channels, such as helplines and online portals, will be established to assist applicants throughout the application process, including providing guidance on documentation requirements and addressing any concerns or queries.
6. Collaboration and Partnerships: a. The program will foster collaborations with local community organizations, non-profit entities, and government agencies to ensure a coordinated response to the needs of low-income individuals impacted by hurricane storms. b. Collaboration with relevant stakeholders will help leverage existing networks, resources, and expertise to maximize the effectiveness and reach of the assistance program.
7. Continuous Improvement: a. the program will undergo regular assessments and evaluations to identify areas for improvement and optimize the efficiency and effectiveness of AI-assisted financial assistance. b. Feedback from recipients,

community organizations, and stakeholders will be actively sought and considered in refining the program's processes and addressing potential gaps or challenges.

By implementing the AI-Assisted Financial Assistance Program, we aim to provide targeted Support to low-income individuals impacted by hurricane storms, ensuring they receive timely and appropriate financial aid to help them recover and rebuild their lives.

This will be **7.7. FEMA Policies, Programs, and Assistance**

### **FEMA Policies, Programs, and Assistance**

FEMA's National Advisory Council (NAC) offer these recommendations that deal with racial inequities in disaster funds. 1) Develop an equity standard to measure whether the agency's grant programs increase or decrease equity over time. 2) Direct mitigation and preparedness funds to improve equity in outcomes. 3) Improve the cultural awareness of its employees. And 4) ensure that the FEMA workforce reflects the population it serves. (Dorazio 2022).

### **Improve Equity in Disaster Recovery.**

- Use the Community Resilience Estimates for Equity from the U.S. Census Bureau to identify and prioritize communities exposed to disaster risk and offer services to mitigate hazards before they strike. Within FEMA's Hazard Mitigation Assistance, the Building Resilient Infrastructure and Communities and Flood Mitigation Assistance Grant Program—both of which are intended to build mitigation and resilience within infrastructure to defend against disasters—have been designated as Justice pilot programs. (Dorazio 2022).



- Invest in disadvantaged communities as identified by the Climate and Economic Justice Screening Tool to rapidly build resilience and identify other programs that can further mitigate future harm for at-risk communities. (Dorazio 2022).
- Expand data collection for National Flood Insurance Program policies to better track disparities between renter and owner-occupied flood insurance policies. . (Dorazio 2022).
- Explore insurance coverage assistance programs for those with low incomes who are uninsured or underinsured. (Dorazio 2022).
- Reduce the burden on survivors to provide title and other documents before receiving inspections and assistance and allow survivors to document attestation of eligibility to allow assistance to flow quickly. (Dorazio 2022).
- Task legal aid providers to identify potential problems experienced by communities immediately after a disaster and develop mechanisms to ensure that all eligible households receive assistance. (Dorazio 2022).
- Award funds for housing rehabilitation, rebuilding, and new construction to meet resilience and mitigation standards that can withstand the increasing frequency and intensity of disasters. (Dorazio 2022).
- Provide more information to disaster survivors to ensure that they understand why they received a specific award amount or precisely why they were denied funds, along with simple and clear instructions on how to appeal. . (Dorazio 2022).
- Streamline the appeals process to provide easy and efficient means for disaster survivor appeals, documentation submission, and expedited benefits receipt in the case of an improper denial or inadequate award. This should occur without

prolonged legal proceedings or substantial court and attorney fees, which prohibit many applicants from seeking redress. (Dorazio 2022).

- Consider expanding eligible activities under home repair assistance,<sup>66</sup> which only allows improvements if required by new building codes or if similar products are no longer available. Strengthening FEMA's ability to approve more enhanced hazard mitigation services would support disaster survivors by providing streamlined access to funds during their rebuilding process using individual assistance awards (Dorazio 2022).
- Prioritize infrastructure projects that improve and protect low-income communities and communities of color and correct the historic lack of infrastructure in those neighborhoods. This process can help to eradicate generations-long barriers erected by structural racism and inequality. (Dorazio 2022).

Currently, for the 2022-2026 funding cycle, \$370 million has been allocated, or will be allocated, by FEMA for communitywide mitigation to reduce disaster suffering and avoid future disaster costs in the face of more frequent and severe events. There will be \$160 million in additional awards that FEMA announced on May 19, 2023, for its Building Resilient Infrastructure and Communities (BRIC) program and Flood Mitigation Assistance program.

The Bipartisan Infrastructure Law (BIL) provided the Department of Homeland Security and its components \$8 billion for infrastructure projects. Of that, FEMA received \$6.8B for community-wide mitigation to reduce disaster suffering and avoid future disaster costs in the face of more frequent and severe events. FEMA has identified some key priorities that have been developed specifically to help local communities during recovery from a catastrophic weather event.

Key priorities include:

- Investing public dollars wisely and equitably to reach under-served communities.
- Creating stronger and more resilient infrastructure.
- Building sustainable partnerships with state, local, tribal and territorial governments to tackle the climate crisis.
- Advancing environmental justice and investing in communities that have too often been left behind.

### **Future Research**

As with other research inquiries, the limitation of this dissertation calls for some future studies. This dissertation examined the distribution of federal, state, and local funds after a catastrophic weather event. It also examined if wealthier individuals had a socio-administrative advantage juxtaposed low-income individuals with respect to receipt of funds. Further research should investigate: (1) whether low-income populations are aware of their financial eligibility and identify the causes surrounding interaction with federal, state, and local administrative systems after a catastrophic weather event, (2) if and when wealthier individuals leave flood zones after the receipt of recovery money or are recovery funds a financial re-start for wealthier populations and (3) how are catastrophic weather events viewed by low-income and wealthier populations through the climate change lens, and finally, (4) what effect to political forces effect weather-based personal decisions of low-income and wealthier individuals.

The researcher would conduct face-to-face interviews with 50 residents (i.e. 25 residents in 77004 zip code and 25 residents who live in the 77005-zip code). This would allow the researcher to get a more detailed qualitative analysis of the inequities that low-income residents in Houston experience during a catastrophic weather event compared to

middle-income and upper-income residents in Houston, Texas. The researcher would also consider during about 25 oral histories of low-income residents in the 77004-zip code who have lived there for twenty-five years or more. Again, obtaining this information would provide a comprehensive analysis of the systemic racism and inequities that low-income residents face in receiving FEMA AID in a disaster recovery.

**White House Climate, Economic Justice and Environmental Justice Screening Tool.**

In response to the profound environmental transformations currently taking place nationally and globally due to climate change, on January 27, 2021, President Joseph Robinette Biden signed Executive Order (EO) 14008 into law. Section 101 of EO 14008 states that addressing climate change and its concomitant effects must be done more quickly than previously understood and that “there is little time left to avoid setting the world on a dangerous, potentially catastrophic, climate trajectory“ President Biden, within EO 14008, further established that “climate considerations shall be an essential element of United States foreign policy and national security.”

The language of EO 14008 denotes the urgency of a federal multi-agency response to climate alterations. Identifying the opportunity to expand EO 12898, which is a federal action to address environmental justice in minority and low-income populations, and, which, specifically charged each Federal agency to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, activities on minority populations and low-income populations in the United States, its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Mariana Islands. President

William Jefferson Clinton signed EO 12898 into law on Wednesday, February 16, 1994 and 29 years later President Biden recognized the opportunity to build upon the foundations established in EO 12898 and created the *Justice40 Initiative* in section 223 of EO 14008. The Justice40 Initiative established “a goal that 40 percent of the overall benefits flow to disadvantaged communities.” The federal investments shall be in the areas of clean energy and energy efficiency; clean transit; affordable and sustainable

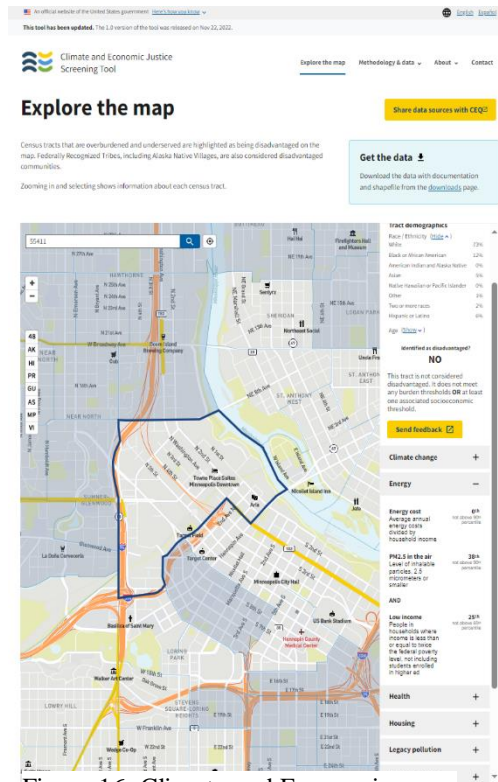


Figure 16: Climate and Economic Justice Training Tool (CEJST)

housing; training and workforce development; the remediation and reduction of legacy pollution; and the development of critical clean water infrastructure. In order to achieve the lofty goals established by the Justice40 which is a Federal Initiative which is designed as an entire overhaul of the hundreds of federal programs that influenced low-income communities had to be upgraded to ensure that disadvantaged communities received the benefits of the legislation. One method used to identify disadvantaged communities was the development of

“screening tools.”

In sum, a screening tool is an interactive Geographic Information System (GIS)-based interactive map. The map is embedded with specific geographic data that provides visual representations of demographic data. In November 2022, the White House Council on Environmental Quality (CEQ) launched version 1.0 of the Climate and Economic

Justice Screen Tool (CEJST). The tool is an interactive map that uses datasets that are indicators of burdens in eight categories: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. The tool uses this information to identify communities that are experiencing these burdens. These are the communities that are disadvantaged because they are overburdened and underserved. The tool itself provides a succinct summary of spatial and demographic categories, specifically, Climate Change, Energy, Health, Housing, Legacy Pollution, Transportation, Water and Wastewater, and Workforce Development.

The tool provides an external link to U.S. Census Data that clarifies the racial composition of the census tract. The tool is a quick way to gather basic information about a specific neighborhood, however, while using the CEJST tool, more follow-up is necessary and provided. Site users are offered the United States Department of Transportation Equitable Transportation Community (ETC) Explorer which is a component of the Justice40 initiative, created by the Biden-Harris Administration through Executive Order 14008 Tackling the Climate Crises at Home and Abroad. ETC is a key component in U.S. Department of Transportation (DOT) efforts to confront and address decades of underinvestment. When decision makers at all levels have the tools to understand how a community is experiencing disadvantage and can identify projects that create benefits that will reverse or mitigate those causes, the result is a higher quality of life and economic prosperity in communities across the country.

The U.S. DOT Equitable Transportation Community (ETC) Explorer is an interactive web application that uses 2020 Census Tracts and data, to explore the cumulative burden low-income communities experience, as a result of underinvestment

in transportation, in the following five components: Transportation Insecurity, Climate and Disaster Risk Burden, Environmental Burden, Health Vulnerability, and Social Vulnerability. It is designed to complement the White House Council on Environmental Quality (CEQ) Climate & Economic Justice Screening Tool (CEJST) by providing users deeper insight into the Transportation disadvantage component of CEJST, and the ETC Explorer's Transportation Insecurity component, which will help ensure the benefits of DOT's investments are addressing the transportation related causes of disadvantage.

USDOT's ETC Explorer is not a binary tool indicating whether a census tract is considered disadvantaged; it is a dynamic tool that allows every community in the country to understand how it is experiencing burden that transportation investments can mitigate or reverse. Both tools are helpful and informative, however, they are grounded in the assumption that the user is fully aware of systemic bias and therefore can interpret the data to the benefit of underserved communities. This flaw has the potential of reinforcing racism rather than eradicating it.

The Bullard Center for Environmental and Climate Justice at Texas Southern University addressed this flaw when, working within the Justice40 parameters, it partnered with the HBCU EJ Technical Team (HEJTT) led by Dr. David Padgett, an Associate Professor of Geography and Director of Geographic Information Sciences at Tennessee State University. Dr. Bullard and Dr. Padgett worked with data experts, specifically, Dr. Paul Robinson of Charles R. Drew University of Medicine and Science, Dr. Linda Loubert, Cari Harris and Malik Warren from Morgan State University, Dr. Tony Graham, from North Carolina A&T State University, and Dr. Reginald Archer and Pamela Bingham of Tennessee State University and developed the Historically Black

Colleges and Universities Climate and Environmental Justice Screen Tool (HCEJST).

The HCEJST is unique among the emerging environmental justice training tools in that it captures “race” as a tangible category in and of itself. The HCEJST clarifies environmental justice issues surrounding race and provides interactive maps that define vulnerable communities, but also those who live within the zip code boundaries.



# APPENDICIES

## A. FEMA RESOURCES

| <b>FEMA Resources Available</b> |  |
|---------------------------------|--|
| <b>Hurricane/Event</b>          | <b>Resources</b>   |
| Hurricane Harvey                | <ul style="list-style-type: none"> <li>▪ Transitional Sheltering Assistance (TSA)</li> <li>▪ Two months of Expedited Rental Assistance</li> <li>▪ National Flood Insurance (NFIP) Advance Payments</li> <li>▪ Disaster Unemployment Assistance</li> <li>▪ Immediate Foreclosure Relief from the U.S. Department of Housing and Urban Development (HUD)</li> <li>▪ Loans from the Small Business Administration (SBA)</li> <li>▪ Hazard Mitigation Assistance Grants</li> </ul> |

**B. FEMA FUNDING ALLOCATIONS (HURRICANE HARVEY)**

| <b>Texas Hurricane Harvey Funding Obligations</b>      |                    |
|--|--------------------|
| <b>Individual Assistance</b>                           | <b>Amount</b>      |
| Total Housing Assistance (HA) – Dollars Approved       | \$1,243,252,850.20 |
| Total Other Needs Assistance (ONA) – Dollars Approved  | \$413,645,530.30   |
| Total Individual & Households Program Dollars Approved | \$1,656,898,380.50 |
| Individual Assistance Applications Approved            | 373150             |

| <b>Texas Hurricane Harvey Funding Obligations</b>   |                    |
|---|--------------------|
| <b>Public Assistance</b>                            | <b>Amount</b>      |
| Emergency Work (Categories A-B) – Dollars Obligate  | \$1,289,824,129.75 |
| Permanent Work (Categories C-G) – Dollars Obligated | \$894, 162,695.85  |
| Total Public Assistance Grants Dollars Obligated    | \$2,362,663,802.26 |

| <b>Texas Hurricane Harvey Funding Obligations</b>          |                  |
|--|------------------|
| <b>Hazard Mitigation Assistance</b>                        | <b>Amount</b>    |
| Hazard Mitigation Grant Program (HMGP) – Dollars Obligated | \$287,075,216.54 |

<https://www.fema.gov/disaster/4332#funding-obligations>

Source: Federal Emergency

## C. FEDERAL EQUITY DISASTER LEGISLATION

| <b>Legislation</b> | <b>Text of Legislation</b>   |
|--------------------|--|
| H.R. 5027          | Automatic Relief for Taxpayers Affected by Major Disasters and Critical Events Act                         |
| S. 2581            | Automatic Relief for Taxpayers Affected by Major Disasters and Critical Events Act                         |
| S 1866             | Disaster Relief Transparency Act   |
| H. R. 3162         | Disaster Relief Appropriations Act, 2017   |
| S. 3011            | State, Local, Tribal, and Territorial Fiscal Recovery, Infrastructure, and Disaster Relief Flexibility Act |
| H. R. 5735         | State, Local, Tribal, and Territorial Fiscal Recovery, Infrastructure, and Disaster Relief Flexibility Act |
| H. R. 2052         | DISASTER Act of 2021   |
| H. R. 2809         | Natural Disaster Recovery Program Act of 2021  |
| H. R. 3624         | Disaster Learning and Life Saving Act of 2021  |
| S. 1952            | Disaster Learning and Life Saving Act of 2021  |
| H. R. 4707         | Reforming Disaster Recovery Act  |
| S. 2658            | REAADI for Disasters Act   |
| S. 2471            | Reforming Disaster Recovery Act  |
| H. R. 4938         | Real Emergency Access for Aging and Disability Inclusion for Disasters Act                                 |
| S. 513             | Ensuring Increased Disaster Loans for Small Businesses Act   |
| H. R. 5532         | National Disaster Safety Board Act of 2021   |
| H. R. 5774         | Expediting Disaster Recovery Act   |
| S. 2923            | Fishery Resource Disasters Improvement Act   |
| H. R. 5453         | Fishery Resource Disasters Improvement Act   |
| H. R. 6115         | DISASTER Act   |
| S. 3289            | DISASTER Act   |
| S. 2592            | Correctional Facility Disaster Preparedness Act of 2021  |
| S. 3502            | Achieving Equity in Disaster Response, Recovery, and Resilience Act of 2022                                |

D. PRESIDENTIAL EXECUTIVE ORDERS – FULL TEXT



# Executive Order 12127

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## Executive Orders

### Executive Order 12127--Federal Emergency Management Agency

Source: The provisions of Executive Order 12127 of Mar. 31, 1979, appear at 44 FR 19367, 3 CFR, 1979 Comp., p. 376, unless otherwise noted.

By the authority vested in me as President by the Constitution and laws of the United States of America, including Section 304 of Reorganization Plan No. 3 of 1978, and in order to provide for the orderly activation of the Federal Emergency Management Agency, it is hereby ordered as follows:

1-101. Reorganization Plan No. 3 of 1978 (43 FR 41943), which establishes the Federal Emergency Management Agency, provides for the transfer of functions, and the transfer and abolition of agencies and offices, is hereby effective.

1-102. The Director of the Office of Management and Budget shall, in accord with Section 302 of the Reorganization Plan, provide for all the appropriate transfers, including those transfers related to all the functions transferred from the Department of Commerce, the Department of Housing and Urban Development, and the President.

1-103. (a) The functions transferred from the Department of Commerce are those vested in the Secretary of Commerce, the Administrator and Deputy Administrator of the National Fire Prevention and Control Administration (now the United States Fire Administration (Sec. 2(a) of Public Law 95-422)), and the Superintendent of the National Academy for Fire Prevention and Control pursuant to the Federal Fire Prevention and Control Act of 1974, as amended (15 U.S.C. 2201 et seq.), but not including any functions vested by the amendments made to other acts by Sections 18 and 23 of that Act (15 U.S.C. 278f and 1511). The functions vested in the Administrator by Sections 24 and 25 of that Act, as added by Sections 3 and 4 of Public Law 95-422 (15 U.S.C. 2220 and 2221), are not transferred to the Director of the Federal Emergency Management Agency. Those functions are transferred with the Administrator and remain vested in him. (Section 201 of the Plan.)

(b) There was also transferred from the Department of Commerce any function concerning the Emergency Broadcast System which was transferred to the Secretary of Commerce by Section 5B of Reorganization Plan No. 1 of 1977 (42 FR 56101; implemented by Executive Order No. 12046 of March 27, 1978). (Section 203 of the Plan.)

1-104. The functions transferred from the Department of Housing and Urban Development are those vested in the Secretary of Housing and Urban Development pursuant to Section 15(e) of the Federal Flood Insurance Act of 1956, as amended (42 U.S.C. 2414(e)), and the National Flood Insurance Act of 1968, as amended, and the Flood Disaster Protection Act of 1973, as amended (42 U.S.C. 4001 et seq.), and Section 520(b) of the National Housing Act, as amended (12 U.S.C. 1735d(b)), to the extent necessary to borrow from the Treasury to make payments for reinsured and directly insured losses, and Title XII of the National Housing Act, as amended (12 U.S.C. 1749bbb et seq., and as explained in Section 1 of the National Insurance Development Act of 1975 (Section 1 of Public Law 94-13 at 12 U.S.C. 1749bbb note)). (Section 202 of the Plan.)

1-105. The functions transferred from the President are those concerning the Emergency Broadcast System which were transferred to the President by Section 5 of Reorganization Plan No. 1 of 1977 (42 FR 56101; implemented by Executive Order No. 12046 of March 27, 1978). (Section 203 of the Plan.)

1-106. This Order shall be effective Sunday, April 1, 1979.

<https://www.presidency.ucsb.edu/documents/executive-order-12127-federal-emergency-management-agency>

<https://www.archives.gov/federal-register/codification/executive-order/12127.html#page-header>

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## Presidential Documents

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Title 3—

Executive Order 12898 of February 11, 1994

The President

### Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

#### Section 1—*Implementation.*

1-101. *Agency Responsibilities.* To the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review, each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Mariana Islands.

#### 1-102. *Creation of an Interagency Working Group on Environmental Justice.*

(a) Within 3 months of the date of this order, the Administrator of the Environmental Protection Agency ("Administrator") or the Administrator's designee shall convene an interagency Federal Working Group on Environmental Justice ("Working Group"). The Working Group shall comprise the heads of the following executive agencies and offices, or their designees: (a) Department of Defense; (b) Department of Health and Human Services; (c) Department of Housing and Urban Development; (d) Department of Labor; (e) Department of Agriculture; (f) Department of Transportation; (g) Department of Justice; (h) Department of the Interior; (i) Department of Commerce; (j) Department of Energy; (k) Environmental Protection Agency; (l) Office of Management and Budget; (m) Office of Science and Technology Policy; (n) Office of the Deputy Assistant to the President for Environmental Policy; (o) Office of the Assistant to the President for Domestic Policy; (p) National Economic Council; (q) Council of Economic Advisers; and (r) such other Government officials as the President may designate. The Working Group shall report to the President through the Deputy Assistant to the President for Environmental Policy and the Assistant to the President for Domestic Policy.

(b) The Working Group shall: (1) provide guidance to Federal agencies on criteria for identifying disproportionately high and adverse human health or environmental effects on minority populations and low-income populations;

(2) coordinate with, provide guidance to, and serve as a clearinghouse for, each Federal agency as it develops an environmental justice strategy as required by section 1-103 of this order, in order to ensure that the administration, interpretation and enforcement of programs, activities and policies are undertaken in a consistent manner;

(3) assist in coordinating research by, and stimulating cooperation among, the Environmental Protection Agency, the Department of Health and Human Services, the Department of Housing and Urban Development, and other agencies conducting research or other activities in accordance with section 3-3 of this order;

(4) assist in coordinating data collection, required by this order;

(5) examine existing data and studies on environmental justice;

(6) hold public meetings as required in section 5-502(d) of this order; and

(7) develop interagency model projects on environmental justice that evidence cooperation among Federal agencies.

1-103. *Development of Agency Strategies.* (a) Except as provided in section 6-605 of this order, each Federal agency shall develop an agency-wide environmental justice strategy, as set forth in subsections (b)-(e) of this section that identifies and addresses disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The environmental justice strategy shall list programs, policies, planning and public participation processes, enforcement, and/or rulemakings related to human health or the environment that should be revised to, at a minimum: (1) promote enforcement of all health and environmental statutes in areas with minority populations and low-income populations; (2) ensure greater public participation; (3) improve research and data collection relating to the health of and environment of minority populations and low-income populations; and (4) identify differential patterns of consumption of natural resources among minority populations and low-income populations. In addition, the environmental justice strategy shall include, where appropriate, a timetable for undertaking identified revisions and consideration of economic and social implications of the revisions.

(b) Within 4 months of the date of this order, each Federal agency shall identify an internal administrative process for developing its environmental justice strategy, and shall inform the Working Group of the process.

(c) Within 6 months of the date of this order, each Federal agency shall provide the Working Group with an outline of its proposed environmental justice strategy.

(d) Within 10 months of the date of this order, each Federal agency shall provide the Working Group with its proposed environmental justice strategy.

(e) Within 12 months of the date of this order, each Federal agency shall finalize its environmental justice strategy and provide a copy and written description of its strategy to the Working Group. During the 12 month period from the date of this order, each Federal agency, as part of its environmental justice strategy, shall identify several specific projects that can be promptly undertaken to address particular concerns identified during the development of the proposed environmental justice strategy, and a schedule for implementing those projects.

(f) Within 24 months of the date of this order, each Federal agency shall report to the Working Group on its progress in implementing its agency-wide environmental justice strategy.

(g) Federal agencies shall provide additional periodic reports to the Working Group as requested by the Working Group.

1-104. *Reports to the President.* Within 14 months of the date of this order, the Working Group shall submit to the President, through the Office of the Deputy Assistant to the President for Environmental Policy and the Office of the Assistant to the President for Domestic Policy, a report that describes the implementation of this order, and includes the final environmental justice strategies described in section 1-103(e) of this order.

Sec. 2-2. *Federal Agency Responsibilities for Federal Programs.* Each Federal agency shall conduct its programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under, such programs, policies, and activities, because of their race, color, or national origin.

**Sec. 3-3. Research, Data Collection, and Analysis.**

**3-301. Human Health and Environmental Research and Analysis.** (a) Environmental human health research, whenever practicable and appropriate, shall include diverse segments of the population in epidemiological and clinical studies, including segments at high risk from environmental hazards, such as minority populations, low-income populations and workers who may be exposed to substantial environmental hazards.

(b) Environmental human health analyses, whenever practicable and appropriate, shall identify multiple and cumulative exposures.

(c) Federal agencies shall provide minority populations and low-income populations the opportunity to comment on the development and design of research strategies undertaken pursuant to this order.

**3-302. Human Health and Environmental Data Collection and Analysis.** To the extent permitted by existing law, including the Privacy Act, as amended (5 U.S.C. section 552a): (a) each Federal agency, whenever practicable and appropriate, shall collect, maintain, and analyze information assessing and comparing environmental and human health risks borne by populations identified by race, national origin, or income. To the extent practical and appropriate, Federal agencies shall use this information to determine whether their programs, policies, and activities have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations;

(b) In connection with the development and implementation of agency strategies in section 1-103 of this order, each Federal agency, whenever practicable and appropriate, shall collect, maintain and analyze information on the race, national origin, income level, and other readily accessible and appropriate information for areas surrounding facilities or sites expected to have a substantial environmental, human health, or economic effect on the surrounding populations, when such facilities or sites become the subject of a substantial Federal environmental administrative or judicial action. Such information shall be made available to the public, unless prohibited by law; and

(c) Each Federal agency, whenever practicable and appropriate, shall collect, maintain, and analyze information on the race, national origin, income level, and other readily accessible and appropriate information for areas surrounding Federal facilities that are: (1) subject to the reporting requirements under the Emergency Planning and Community Right-to-Know Act, 42 U.S.C. section 11001-11050 as mandated in Executive Order No. 12856; and (2) expected to have a substantial environmental, human health, or economic effect on surrounding populations. Such information shall be made available to the public, unless prohibited by law.

(d) In carrying out the responsibilities in this section, each Federal agency, whenever practicable and appropriate, shall share information and eliminate unnecessary duplication of efforts through the use of existing data systems and cooperative agreements among Federal agencies and with State, local, and tribal governments.

**Sec. 4-4. Subsistence Consumption of Fish and Wildlife.**

**4-401. Consumption Patterns.** In order to assist in identifying the need for ensuring protection of populations with differential patterns of subsistence consumption of fish and wildlife, Federal agencies, whenever practicable and appropriate, shall collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. Federal agencies shall communicate to the public the risks of those consumption patterns.

**4-402. Guidance.** Federal agencies, whenever practicable and appropriate, shall work in a coordinated manner to publish guidance reflecting the latest scientific information available concerning methods for evaluating the human health risks associated with the consumption of pollutant-bearing fish or

wildlife. Agencies shall consider such guidance in developing their policies and rules.

**Sec. 5-5. Public Participation and Access to Information.** (a) The public may submit recommendations to Federal agencies relating to the incorporation of environmental justice principles into Federal agency programs or policies. Each Federal agency shall convey such recommendations to the Working Group.

(b) Each Federal agency may, whenever practicable and appropriate, translate crucial public documents, notices, and hearings relating to human health or the environment for limited English speaking populations.

(c) Each Federal agency shall work to ensure that public documents, notices, and hearings relating to human health or the environment are concise, understandable, and readily accessible to the public.

(d) The Working Group shall hold public meetings, as appropriate, for the purpose of fact-finding, receiving public comments, and conducting inquiries concerning environmental justice. The Working Group shall prepare for public review a summary of the comments and recommendations discussed at the public meetings.

**Sec. 6-6. General Provisions.**

**6-601. Responsibility for Agency Implementation.** The head of each Federal agency shall be responsible for ensuring compliance with this order. Each Federal agency shall conduct internal reviews and take such other steps as may be necessary to monitor compliance with this order.

**6-602. Executive Order No. 12250.** This Executive order is intended to supplement but not supersede Executive Order No. 12250, which requires consistent and effective implementation of various laws prohibiting discriminatory practices in programs receiving Federal financial assistance. Nothing herein shall limit the effect or mandate of Executive Order No. 12250.

**6-603. Executive Order No. 12875.** This Executive order is not intended to limit the effect or mandate of Executive Order No. 12875.

**6-604. Scope.** For purposes of this order, Federal agency means any agency on the Working Group, and such other agencies as may be designated by the President, that conducts any Federal program or activity that substantially affects human health or the environment. Independent agencies are requested to comply with the provisions of this order.

**6-605. Petitions for Exemptions.** The head of a Federal agency may petition the President for an exemption from the requirements of this order on the grounds that all or some of the petitioning agency's programs or activities should not be subject to the requirements of this order.

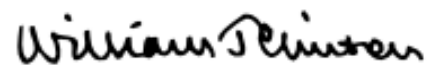
**6-606. Native American Programs.** Each Federal agency responsibility set forth under this order shall apply equally to Native American programs. In addition, the Department of the Interior, in coordination with the Working Group, and, after consultation with tribal leaders, shall coordinate steps to be taken pursuant to this order that address Federally-recognized Indian Tribes.

**6-607. Costs.** Unless otherwise provided by law, Federal agencies shall assume the financial costs of complying with this order.

**6-608. General.** Federal agencies shall implement this order consistent with, and to the extent permitted by, existing law.

**6-609. Judicial Review.** This order is intended only to improve the internal management of the executive branch and is not intended to, nor does it create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity by a party against the United States, its agencies, its officers, or any person. This order shall not be construed to create any right to judicial review involving the compliance or noncompliance

of the United States, its agencies, its officers, or any other person with this order.

A handwritten signature in black ink, reading "William J. Clinton". The signature is written in a cursive style with a large, prominent "W" and "C".

THE WHITE HOUSE,  
February 11, 1994.

[FR Citation 59 FR 7629]



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**Presidential Documents**

Executive Order 13985 of January 20, 2021

**Advancing Racial Equity and Support for Underserved Communities Through the Federal Government**

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered:

**Section 1. Policy.** Equal opportunity is the bedrock of American democracy, and our diversity is one of our country's greatest strengths. But for too many, the American Dream remains out of reach. Entrenched disparities in our laws and public policies, and in our public and private institutions, have often denied that equal opportunity to individuals and communities. Our country faces converging economic, health, and climate crises that have exposed and exacerbated inequities, while a historic movement for justice has highlighted the unbearable human costs of systemic racism. Our Nation deserves an ambitious whole-of-government equity agenda that matches the scale of the opportunities and challenges that we face.

It is therefore the policy of my Administration that the Federal Government should pursue a comprehensive approach to advancing equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality. Affirmatively advancing equity, civil rights, racial justice, and equal opportunity is the responsibility of the whole of our Government. Because advancing equity requires a systematic approach to embedding fairness in decision-making processes, executive departments and agencies (agencies) must recognize and work to redress inequities in their policies and programs that serve as barriers to equal opportunity.

By advancing equity across the Federal Government, we can create opportunities for the improvement of communities that have been historically underserved, which benefits everyone. For example, an analysis shows that closing racial gaps in wages, housing credit, lending opportunities, and access to higher education would amount to an additional \$5 trillion in gross domestic product in the American economy over the next 5 years. The Federal Government's goal in advancing equity is to provide everyone with the opportunity to reach their full potential. Consistent with these aims, each agency must assess whether, and to what extent, its programs and policies perpetuate systemic barriers to opportunities and benefits for people of color and other underserved groups. Such assessments will better equip agencies to develop policies and programs that deliver resources and benefits equitably to all.

**Sec. 2. Definitions.** For purposes of this order: (a) The term "equity" means the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality.

(b) The term "underserved communities" refers to populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life, as exemplified by the list in the preceding definition of "equity."

**Sec. 3. *Role of the Domestic Policy Council.*** The role of the White House Domestic Policy Council (DPC) is to coordinate the formulation and implementation of my Administration's domestic policy objectives. Consistent with this role, the DPC will coordinate efforts to embed equity principles, policies, and approaches across the Federal Government. This will include efforts to remove systemic barriers to and provide equal access to opportunities and benefits, identify communities the Federal Government has underserved, and develop policies designed to advance equity for those communities. The DPC-led interagency process will ensure that these efforts are made in coordination with the directors of the National Security Council and the National Economic Council.

**Sec. 4. *Identifying Methods to Assess Equity.*** (a) The Director of the Office of Management and Budget (OMB) shall, in partnership with the heads of agencies, study methods for assessing whether agency policies and actions create or exacerbate barriers to full and equal participation by all eligible individuals. The study should aim to identify the best methods, consistent with applicable law, to assist agencies in assessing equity with respect to race, ethnicity, religion, income, geography, gender identity, sexual orientation, and disability.

(b) As part of this study, the Director of OMB shall consider whether to recommend that agencies employ pilot programs to test model assessment tools and assist agencies in doing so.

(c) Within 6 months of the date of this order, the Director of OMB shall deliver a report to the President describing the best practices identified by the study and, as appropriate, recommending approaches to expand use of those methods across the Federal Government.

**Sec. 5. *Conducting an Equity Assessment in Federal Agencies.*** The head of each agency, or designee, shall, in consultation with the Director of OMB, select certain of the agency's programs and policies for a review that will assess whether underserved communities and their members face systemic barriers in accessing benefits and opportunities available pursuant to those policies and programs. The head of each agency, or designee, shall conduct such review and within 200 days of the date of this order provide a report to the Assistant to the President for Domestic Policy (APDP) reflecting findings on the following:

(a) Potential barriers that underserved communities and individuals may face to enrollment in and access to benefits and services in Federal programs;

(b) Potential barriers that underserved communities and individuals may face in taking advantage of agency procurement and contracting opportunities;

(c) Whether new policies, regulations, or guidance documents may be necessary to advance equity in agency actions and programs; and

(d) The operational status and level of institutional resources available to offices or divisions within the agency that are responsible for advancing civil rights or whose mandates specifically include serving underrepresented or disadvantaged communities.

**Sec. 6. *Allocating Federal Resources to Advance Fairness and Opportunity.*** The Federal Government should, consistent with applicable law, allocate resources to address the historic failure to invest sufficiently, justly, and equally in underserved communities, as well as individuals from those communities. To this end:

(a) The Director of OMB shall identify opportunities to promote equity in the budget that the President submits to the Congress.

(b) The Director of OMB shall, in coordination with the heads of agencies, study strategies, consistent with applicable law, for allocating Federal resources in a manner that increases investment in underserved communities, as well as individuals from those communities. The Director of OMB shall report the findings of this study to the President.



**Sec. 7. Promoting Equitable Delivery of Government Benefits and Equitable Opportunities.** Government programs are designed to serve all eligible individuals. And Government contracting and procurement opportunities should be available on an equal basis to all eligible providers of goods and services. To meet these objectives and to enhance compliance with existing civil rights laws:

(a) Within 1 year of the date of this order, the head of each agency shall consult with the APDP and the Director of OMB to produce a plan for addressing:

(i) any barriers to full and equal participation in programs identified pursuant to section 5(a) of this order; and

(ii) any barriers to full and equal participation in agency procurement and contracting opportunities identified pursuant to section 5(b) of this order.

(b) The Administrator of the U.S. Digital Service, the United States Chief Technology Officer, the Chief Information Officer of the United States, and the heads of other agencies, or their designees, shall take necessary actions, consistent with applicable law, to support agencies in developing such plans.

**Sec. 8. Engagement with Members of Underserved Communities.** In carrying out this order, agencies shall consult with members of communities that have been historically underrepresented in the Federal Government and underserved by, or subject to discrimination in, Federal policies and programs. The head of each agency shall evaluate opportunities, consistent with applicable law, to increase coordination, communication, and engagement with community-based organizations and civil rights organizations.

**Sec. 9. Establishing an Equitable Data Working Group.** Many Federal datasets are not disaggregated by race, ethnicity, gender, disability, income, veteran status, or other key demographic variables. This lack of data has cascading effects and impedes efforts to measure and advance equity. A first step to promoting equity in Government action is to gather the data necessary to inform that effort.

(a) *Establishment.* There is hereby established an Interagency Working Group on Equitable Data (Data Working Group).

(b) *Membership.*

(i) The Chief Statistician of the United States and the United States Chief Technology Officer shall serve as Co-Chairs of the Data Working Group and coordinate its work. The Data Working Group shall include representatives of agencies as determined by the Co-Chairs to be necessary to complete the work of the Data Working Group, but at a minimum shall include the following officials, or their designees:

(A) the Director of OMB;

(B) the Secretary of Commerce, through the Director of the U.S. Census Bureau;

(C) the Chair of the Council of Economic Advisers;

(D) the Chief Information Officer of the United States;

(E) the Secretary of the Treasury, through the Assistant Secretary of the Treasury for Tax Policy;

(F) the Chief Data Scientist of the United States; and

(G) the Administrator of the U.S. Digital Service.

(ii) The DPC shall work closely with the Co-Chairs of the Data Working Group and assist in the Data Working Group's interagency coordination functions.

(iii) The Data Working Group shall consult with agencies to facilitate the sharing of information and best practices, consistent with applicable law.

(c) *Functions.* The Data Working Group shall:

(i) through consultation with agencies, study and provide recommendations to the APDP identifying inadequacies in existing Federal data collection programs, policies, and infrastructure across agencies, and strategies for addressing any deficiencies identified; and

(ii) support agencies in implementing actions, consistent with applicable law and privacy interests, that expand and refine the data available to the Federal Government to measure equity and capture the diversity of the American people.

(d) OMB shall provide administrative support for the Data Working Group, consistent with applicable law.

**Sec. 10. Revocation.** (a) Executive Order 13950 of September 22, 2020 (Combating Race and Sex Stereotyping), is hereby revoked.

(b) The heads of agencies covered by Executive Order 13950 shall review and identify proposed and existing agency actions related to or arising from Executive Order 13950. The head of each agency shall, within 60 days of the date of this order, consider suspending, revising, or rescinding any such actions, including all agency actions to terminate or restrict contracts or grants pursuant to Executive Order 13950, as appropriate and consistent with applicable law.

(c) Executive Order 13958 of November 2, 2020 (Establishing the President's Advisory 1776 Commission), is hereby revoked.

**Sec. 11. General Provisions.** (a) Nothing in this order shall be construed to impair or otherwise affect:

(i) the authority granted by law to an executive department or agency, or the head thereof; or

(ii) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(b) This order shall be implemented consistent with applicable law and subject to the availability of appropriations.

(c) Independent agencies are strongly encouraged to comply with the provisions of this order.

(d) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.



THE WHITE HOUSE,  
January 20, 2021.

[FR Doc. 2021-01753  
Filed 1-22-21; 11:15 am]  
Billing code 3295-F1-P

## E. THE PRINCIPALS OF ENVIRONMENTAL JUSTICE

# THE PRINCIPLES OF ENVIRONMENTAL JUSTICE

WE, THE PEOPLE OF COLOR, gathered together at this multinational People of Color Environmental Leadership Summit, to begin to build a national and international movement of all peoples of color to fight the destruction and taking of our lands and communities, do hereby re-establish our spiritual interdependence to the sacredness of our Mother Earth; to respect and celebrate each of our cultures, languages and beliefs about the natural world and our roles in healing ourselves; to ensure environmental justice; to promote economic alternatives which would contribute to the development of environmentally safe livelihoods; and, to secure our political, economic and cultural liberation that has been denied for over 500 years of colonization and oppression, resulting in the poisoning of our communities and land and the genocide of our peoples, do affirm and adopt these Principles of Environmental Justice:

## The Principles of Environmental Justice (EJ)

- 1) Environmental Justice affirms the sacredness of Mother Earth, ecological unity and the interdependence of all species, and the right to be free from ecological destruction.
- 2) Environmental Justice demands that public policy be based on mutual respect and justice for all peoples, free from any form of discrimination or bias.
- 3) Environmental Justice mandates the right to ethical, balanced and responsible uses of land and renewable resources in the interest of a sustainable planet for humans and other living things.
- 4) Environmental Justice calls for universal protection from nuclear testing, extraction, production and disposal of toxic/hazardous wastes and poisons and nuclear testing that threaten the fundamental right to clean air, land, water, and food.
- 5) Environmental Justice affirms the fundamental right to political, economic, cultural and environmental self-determination of all peoples.
- 6) Environmental Justice demands the cessation of the production of all toxins, hazardous wastes, and radioactive materials, and that all past and current producers be held strictly accountable to the people for detoxification and the containment at the point of production.
- 7) Environmental Justice demands the right to participate as equal partners at every level of decision-making, including needs assessment, planning, implementation, enforcement and evaluation.
- 8) Environmental Justice affirms the right of all workers to a safe and healthy work environment without being forced to choose between an unsafe livelihood and unemployment. It also affirms the right of those who work at home to be free from environmental hazards.
- 9) Environmental Justice protects the right of victims of environmental injustice to receive full compensation and reparations for damages as well as quality health care.
- 10) Environmental Justice considers governmental acts of environmental injustice a violation of international law, the Universal Declaration On Human Rights, and the United Nations Convention on Genocide.
- 11) Environmental Justice must recognize a special legal and natural relationship of Native Peoples to the U.S. government through treaties, agreements, compacts, and covenants affirming sovereignty and self-determination.
- 12) Environmental Justice affirms the need for urban and rural ecological policies to clean up and rebuild our cities and rural areas in balance with nature, honoring the cultural integrity of all our communities, and provided fair access for all to the full range of resources.
- 13) Environmental Justice calls for the strict enforcement of principles of informed consent, and a halt to the testing of experimental reproductive and medical procedures and vaccinations on people of color.
- 14) Environmental Justice opposes the destructive operations of multi-national corporations.
- 15) Environmental Justice opposes military occupation, repression and exploitation of lands, peoples and cultures, and other life forms.
- 16) Environmental Justice calls for the education of present and future generations which emphasizes social and environmental issues, based on our experience and an appreciation of our diverse cultural perspectives.
- 17) Environmental Justice requires that we, as individuals, make personal and consumer choices to consume as little of Mother Earth's resources and to produce as little waste as possible; and make the conscious decision to challenge and reprioritize our lifestyles to ensure the health of the natural world for present and future generations.

**More info on environmental justice and environmental racism can be found online at [www.ejnet.org/ej/](http://www.ejnet.org/ej/)**

*Delegates to the First National People of Color Environmental Leadership Summit held on October 24-27, 1991, in Washington DC, drafted and adopted these 17 principles of Environmental Justice. Since then, the Principles have served as a defining document for the growing grassroots movement for environmental justice.*

<http://vejo.org/wp-content/uploads/2015/04/ej-jemez->

F. TEXAS SOUTHERN UNIVERSITY IRB APPROVAL LETTER



**November 17, 2022**

Good day, Carmen Reed!

This is to inform you that your protocol #ES0108, "Environmental Justice and Low-Income Residents of Houston; The Inequities of Catastrophic Weather Event Recovery: Left Out and Expendable - Again", is exempt from Texas Southern University's Institutional Review Board (IRB) full committee review. Based on the information provided in the research summary and other information submitted, your research procedures meet the exemption category set forth by the federal regulation 45 CFR 46.104(d)(2):

*Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording)*

The Federal Wide Assurance (FWA) number assigned to Texas Southern University is FWA00003570.

If you have questions, you may contact the Research Compliance Administrator for the Office of Research at 713-313-4301.

*PLEASE NOTE: (1) All subjects must receive a copy of the informed consent document, if applicable. If you are using a consent document that requires participants' signatures, signed copies can be retained for a minimum of 3 years of 5 years for external supported projects. Signed consents from student projects will be retained by the faculty advisor. Faculty is responsible for retaining signed consents for their own projects, however, if the faculty leaves the university, access must be made available to TSU CPHS in the event of an agency audit. (2) Documents submitted to the Office of Research indicate that information obtained is recorded in such a manner that human subjects cannot be identified directly or through identifiers linked to the subject; and the identities of the subjects will not be obtained or published; and any disclosures of the human subjects' responses outside the research will not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation. The exempt status is based on this information. If any part of this understanding is incorrect, the PI is obligated to submit the protocol for review by the CPHS before beginning the respective research project. (3) Research investigators will promptly report to the CPHS any injuries or other unanticipated problems involving risks to subjects and others.*

**This protocol will expire November 17, 2025**

Sincerely,

Marion Smith, PhD, Chair  
Institutional Review Board (IRB)

## G. PROPOSED INTERVIEW QUESTIONS

These interview questions are designed to gather information from residents to determine their financial readiness before, during, and after a catastrophic weather event, specifically, Hurricane Harvey.

**Question #1**

Will you imagine you are talking to someone you know who has/had not experienced anything like Hurricane Harvey; now tell this person your story about Hurricane Harvey e.g., your challenges, and how you got through it.

**Question #2**

What have you learned about catastrophic weather events like this? Is there anything you believe may have a lasting effect on you or your family? Anything you will never forget?

**Question #3**

How did you financially navigate Hurricane Harvey? Did you apply for/receive any financial recovery assistance?

**Question #4**

Finally, are there any life experiences outside of disasters that you feel shaped your capacity to have financially recover from Hurricane Harvey?

**Proposed Questions suggested from the Culture and Disaster Network**



## H. POVERTY THRESHOLD TABLES

| Poverty Thresholds for 2017 by Size of Family and Number of Related Children Under 18 Years |                             |                                 |        |        |        |        |        |        |        |               |
|---|-----------------------------|---------------------------------|--------|--------|--------|--------|--------|--------|--------|---------------|
| (In dollars)  |                             |                                 |        |        |        |        |        |        |        |               |
| Size of family unit   | Weighted average thresholds | Related children under 18 years |        |        |        |        |        |        |        |               |
|   |                             | None                            | One    | Two    | Three  | Four   | Five   | Six    | Seven  | Eight or more |
| One person (unrelated individual):  | 12,488                      |                                 |        |        |        |        |        |        |        |               |
| Under 65 years.....   | 12,752                      | 12,752                          |        |        |        |        |        |        |        |               |
| 65 years and over.....  | 11,756                      | 11,756                          |        |        |        |        |        |        |        |               |
| Two people:   | 15,877                      |                                 |        |        |        |        |        |        |        |               |
| Householder under 65 years.....   | 16,493                      | 16,414                          | 16,895 |        |        |        |        |        |        |               |
| Householder 65 years and over.....  | 14,828                      | 14,816                          | 16,831 |        |        |        |        |        |        |               |
| Three people.....   | 19,515                      | 19,173                          | 19,730 | 19,749 |        |        |        |        |        |               |
| Four people.....  | 25,094                      | 25,283                          | 25,696 | 24,858 | 24,944 |        |        |        |        |               |
| Five people.....  | 29,714                      | 30,490                          | 30,933 | 29,986 | 29,253 | 28,805 |        |        |        |               |
| Six people.....   | 33,618                      | 35,069                          | 35,208 | 34,482 | 33,787 | 32,753 | 32,140 |        |        |               |
| Seven people.....   | 38,173                      | 40,351                          | 40,603 | 39,734 | 39,129 | 38,001 | 36,685 | 35,242 |        |               |
| Eight people.....   | 42,684                      | 45,129                          | 45,528 | 44,708 | 43,990 | 42,971 | 41,678 | 40,332 | 39,990 |               |
| Nine people or more.....  | 50,681                      | 54,287                          | 54,550 | 53,825 | 53,216 | 52,216 | 50,840 | 49,595 | 49,287 | 47,389        |

Source: U.S. Census Bureau, 2018.  
Note: The source of the weighted average thresholds is the 2018 Current Population Survey Annual Social and Economic Supplement (CPS ASEC).

Source: <https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines/prior-hhs-poverty-guidelines-federal-register-references/2017-poverty-guidelines/2017-poverty-guidelines-computations>

Table 9: Poverty Threshold-2017

| Poverty Thresholds for 2020 by Size of Family and Number of Related Children Under 18 Years |                             |                                 |        |        |        |        |        |        |        |               |
|---|-----------------------------|---------------------------------|--------|--------|--------|--------|--------|--------|--------|---------------|
| (In dollars)  |                             |                                 |        |        |        |        |        |        |        |               |
| Size of family unit   | Weighted average thresholds | Related children under 18 years |        |        |        |        |        |        |        |               |
|   |                             | None                            | One    | Two    | Three  | Four   | Five   | Six    | Seven  | Eight or more |
| One person (unrelated individual):  | 13,171                      |                                 |        |        |        |        |        |        |        |               |
| Under 65 years.....   | 13,465                      | 13,465                          |        |        |        |        |        |        |        |               |
| 65 years and over.....  | 12,413                      | 12,413                          |        |        |        |        |        |        |        |               |
| Two people:   | 16,733                      |                                 |        |        |        |        |        |        |        |               |
| Householder under 65 years.....   | 17,413                      | 17,331                          | 17,839 |        |        |        |        |        |        |               |
| Householder 65 years and over.....  | 15,659                      | 15,644                          | 17,771 |        |        |        |        |        |        |               |
| Three people.....   | 20,591                      | 20,244                          | 20,832 | 20,852 |        |        |        |        |        |               |
| Four people.....  | 26,496                      | 26,695                          | 27,131 | 26,246 | 26,338 |        |        |        |        |               |
| Five people.....  | 31,417                      | 32,193                          | 32,661 | 31,661 | 30,887 | 30,414 |        |        |        |               |
| Six people.....   | 35,499                      | 37,027                          | 37,174 | 36,408 | 35,674 | 34,582 | 33,935 |        |        |               |
| Seven people.....   | 40,406                      | 42,605                          | 42,871 | 41,954 | 41,314 | 40,124 | 38,734 | 37,210 |        |               |
| Eight people.....   | 44,755                      | 47,650                          | 48,071 | 47,205 | 46,447 | 45,371 | 44,006 | 42,585 | 42,224 |               |
| Nine people or more.....  | 53,905                      | 57,319                          | 57,597 | 56,831 | 56,188 | 55,132 | 53,679 | 52,366 | 52,040 | 50,035        |

Source: U.S. Census Bureau, 2021.  
Note: The source of the weighted average thresholds is the 2021 Current Population Survey Annual Social and Economic Supplement (CPS ASEC).

Table 10: Poverty Threshold-2020

## I: USES FOR ARTIFICIAL INTELLIGENCE

### **Practical Uses of Artificial Intelligence (AI) in Disaster Management**

1. **Predictive modeling:** The algorithms of artificial intelligence can be programmed to analyze large amounts of data and make predictions about future environmental conditions, such as changes in weather patterns or the spread of invasive species and/or the prediction of species extinction based on weather patterns.
2. **Remote sensing:** AI can be used to process and analyze data from satellites and other remote sensing devices to monitor changes in land use, vegetation, and other environmental factors which contribute to catastrophic weather.
3. **Image and video analysis:** AI can be used to analyze images and videos from cameras and drones to identify and track wildlife, monitor pollution, and detect and predict changes in land use.
4. **Natural language processing:** AI can be used to analyze text data from articles, reports, and social media to extract information about environmental events, such as natural disasters, and to track public opinion on environmental issues.
5. **Robotics:** AI controlled robots can be used to explore remote areas, monitor wildlife and habitat, and perform other tasks that are difficult or dangerous for humans to do
6. **Energy management:** AI can be used to optimize energy usage and reduce environmental impact, for example, by controlling smart buildings and predicting energy consumption patterns.
7. **Water management:** Ai can be used to monitor water resources, predict water shortages, and optimize water usage.

<https://openai.com/api/>  
<https://openai.com/research/overview>

Cottry, O. (Winter 2023). Drone Mapping and AI Combine to Find Flood Victims Faster in Mozambique. ARCUser – The Magazine for ESRI Software Users.

J: PRESIDENT BIDEN FACT SHEET INFLATION REDUCTION ACT



## FACT SHEET: One Year In, President Biden's Inflation Reduction Act is Driving Historic Climate Action and Investing in America to Create Good Paying Jobs and Reduce Costs



BRIEFING ROOM

STATEMENTS AND RELEASES

One year ago, on August 16, 2022, President Biden signed the Inflation Reduction Act into law – the largest investment in clean energy and climate action ever. The Inflation Reduction Act is a transformative law that is helping the United States meet its climate goals and strengthen energy security, investing in America to create good-paying jobs, reducing energy and health care costs for families, and making the tax code fairer.

Just twelve months after the law was signed, it is already having a significant impact on American workers and families, and is delivering for underserved communities and those that have been too often left behind. Outside groups estimate the Inflation Reduction Act's clean energy and climate provisions have [created more than 170,000 clean energy jobs](#) <sup>↗</sup> already, companies have announced over \$110 billion in clean energy manufacturing investments in the last year alone, the law is delivering billions of dollars to protect communities from the impacts of climate change, and millions of seniors are saving money because their insulin is capped at \$35 per month.

Today, to mark the anniversary of the Inflation Reduction Act, the Biden-Harris Administration is releasing a new feature on [Invest.gov](#) <sup>↗</sup> that highlights stories of how the Inflation Reduction Act and Bidenomics are making a difference for Americans in all 50 states and U.S. territories. Bidenomics is the President's vision for growing the economy from the middle out and bottom up, including by investing in America, creating good-paying union jobs, and lowering cost for American families.

In the 12 months since the Inflation Reduction Act was signed into law:

- The private sector has announced more than \$110 billion in new clean energy manufacturing investments, including more than \$70 billion in the electric vehicle (EV) supply chain and more than \$10 billion in solar manufacturing. Since the President was elected, the private sector has announced approximately \$240 billion in new clean energy manufacturing investments.
- Investments in clean energy and climate since the Inflation Reduction Act was signed into law have created more than 170,000 jobs, and the law is projected to [create more than 1.5 million additional jobs](#) over the next decade according to estimates by outside groups.
- Public and private sector investments driven by the Inflation Reduction Act and the Bipartisan Infrastructure Law are expected to reduce greenhouse gas emissions by approximately 1 billion tons in 2030.
- The Administration has already awarded over a billion dollars to help communities become more resilient and protect them from the disastrous impacts of climate change, including drought, heat, and extreme weather.
- American families are projected to save \$27-38 billion on their electricity bills from 2022-2030 relative to a scenario without the Inflation Reduction Act, according to new data released by the Department of Energy today.
- Nearly 15 million people are saving an average of \$800 per year on their health insurance premiums, the nation's uninsured rate has reached an historic low, and millions of seniors on Medicare are paying less in out-of-pocket costs for prescription drugs—including insulin, which is capped at \$35 per month.
- The Internal Revenue Service (IRS) is strengthening enforcement against wealthy tax cheats and increasing recoveries from delinquent millionaires —while improving customer service for law-abiding taxpayers, including cutting phone wait times from 28 minutes last tax season to 3 minutes this year.

## **LARGEST CLIMATE INVESTMENT IN HISTORY**

The Inflation Reduction Act is the most ambitious investment in combating the climate crisis in world history.

Today, the Department of Energy (DOE) released an [updated study](#) affirming the transformative climate progress driven by the Inflation Reduction Act and the Bipartisan Infrastructure Law. DOE estimates that the two laws will cut U.S. greenhouse gas emissions by up to 41 percent below 2005 levels by 2030.

Together with additional actions being taken by federal, state, and local governments as well as the private sector, the United States is now on a path to achieve President Biden's ambitious goal of cutting emissions 50-52 percent below 2005 levels by 2030 and reaching net-zero emissions by no later than 2050. This is consistent with external researchers, who project that U.S. greenhouse gas emissions will fall [43-48 percent](#) below 2005 levels by 2035 thanks to laws already on the books.

The Inflation Reduction Act is accelerating progress to meet America's climate goals, build a clean energy economy, and strengthen energy security:

- The Department of Energy has [estimated](#) that the Inflation Reduction Act and Bipartisan Infrastructure Law will lead to greenhouse gas emissions reductions of approximately 1 billion tons in 2030.
- The Department of Energy [found](#) that the Inflation Reduction Act and Bipartisan Infrastructure Law are driving significant new clean electricity generation, enabling the United States to potentially reach 80 percent clean electricity by 2030.
- U.S. electricity generation from wind is expected to triple and solar generation is expected to increase seven- to eight-fold by 2030, according to Department of Energy estimates. Over the next seven years, we expect twice as much wind, solar, and battery deployment as there would have been without the Inflation Reduction Act.
- EV sales have tripled since President Biden took office, spurred in part by investments in the Inflation Reduction Act to boost clean energy manufacturing and lower EV costs for American families.



- Federal agencies have worked to embed equity and environmental justice into their grant programs to ensure low-income and disadvantaged communities will benefit from the Inflation Reduction Act, in alignment with the President's [Justice40 Initiative](#). The Environmental Protection Agency (EPA) alone has made \$650 million available for environmental justice projects to reduce pollution and build the capacity of community-based organizations and local governments to plan and implement projects in their neighborhoods. And two-thirds of EPA's \$27 billion Greenhouse Gas Reduction Fund will flow to low-income and disadvantaged communities.
- Philanthropic organizations, impact investing organizations, and intermediaries have committed at least \$1.6 billion to support the implementation of the clean energy and climate provisions of the Inflation Reduction Act, ensuring more direct access to critical technical assistance for underserved communities so that they can realize the full benefits of the law.

In addition to building America's clean energy future, the Inflation Reduction Act will strengthen the resilience of communities across the country and protect them from dangerous and disastrous impacts of the climate crisis.

- The National Oceanic and Atmospheric Administration (NOAA) [awarded](#) \$562 million, jointly funded by the Inflation Reduction Act and Bipartisan Infrastructure Law, for nearly 150 projects across 30 coastal states and territories to make communities and local economies more resilient to climate change.
- NOAA also launched an innovative \$575 million competition, the [Climate Resilience Regional Challenge](#), to support projects that build the resilience of coastal and Great Lakes communities to extreme weather and other impacts of climate change.
- The Department of the Interior's (DOI) Bureau of Reclamation has announced more than \$514 million to [address the historic drought](#) in the Colorado River Basin.
- The U.S. Forest Service (USFS) [has awarded](#) \$250 million to states and territories to provide urban communities with equitable access to trees and the benefits they provide, including protections from extreme heat. The USFS will soon award up to \$1 billion in grants to increase equitable access to trees and green spaces in urban and community forests where more than 84 percent of Americans live, work, and play.

- DOI unveiled a new [Restoration and Resilience Framework](#) to guide \$2 billion in investments from the President’s Investing in America agenda to restore and protect our nation’s lands and waters. As part of this effort, the Bureau of Land Management [has allocated](#) an initial \$161 million through the Inflation Reduction Act to restore ecosystems and revitalize local economies. The National Park Service [has dedicated](#) \$44 million from the Inflation Reduction Act to national parks in 39 states, D.C., Puerto Rico, and the U.S. Virgin Islands. The U.S. Fish and Wildlife Service also [awarded](#) more than \$120 million to rebuild, restore, and increase the climate resilience of the National Wildlife Refuge System.

### **INVESTING IN AMERICA TO CREATE GOOD PAYING JOBS**

The Inflation Reduction Act aims to boost domestic manufacturing, create good-paying union jobs, and build more resilient, secure, and trusted supply chains. Together with the Bipartisan Infrastructure Law and the CHIPS and Science Act, the law [has helped spur over \\$500 billion in private sector manufacturing investments](#) since President Biden and Vice President Harris took office, including approximately \$240 billion in clean energy manufacturing investments. The law is driving investment to places too often left out and left behind through bonus tax credits for building clean energy projects in traditional [energy communities](#) and [low-income communities](#), and is creating good-paying and union jobs through incentives for using [domestic content](#) and paying [prevailing wages and hiring registered apprentices](#) to build America’s clean energy future.

In just the twelve months since the Inflation Reduction Act became law:

- Companies have announced more than \$110 billion in new clean energy manufacturing investments, including more than \$70 billion in the EV supply chain and more than \$10 billion in solar manufacturing.
- According to estimates by outside groups, the Inflation Reduction Act’s clean energy and climate provisions have already [created more than 170,000 clean energy jobs](#) and could [create 1.5 million additional jobs](#) over the next decade.
- Project developers have also planned investments worth at least \$122 billion across more than 800 clean energy generation projects—including wind, solar, battery storage, nuclear, hydroelectricity, biomass, and geothermal projects—totaling over 80 gigawatts (GW), enough to power 13.7 million homes for a year, according to [Energy Information Administration data](#).


- Inflation-adjusted spending on private manufacturing and industrial construction in America is at its highest point since the Census started tracking the data in 1964—27 percent higher than the previous peak in 1966.
- Today, the Department of Treasury is releasing a new report showing that investments that have been announced in the clean energy, electric vehicles, and battery sectors are concentrated in relatively disadvantaged communities with lower wages, lower college graduation rates, and lower employment rates.
- The Inflation Reduction Act includes the largest investment in rural electrification since the New Deal—nearly \$11 billion for rural electric co-ops—by [funding rural co-ops](#) to build clean, affordable, and reliable energy, which will create jobs and lower energy costs. The investment also provides [forgivable loans](#) for renewable energy projects located in or serving rural communities. The Department of Agriculture has also made available more than \$1.3 billion in additional funding from the Inflation Reduction Act to provide agricultural producers and small rural businesses with the financing and funding they need to invest in clean energy and make energy efficiency improvements.

### **LOWERING ENERGY COSTS**

DOE [estimates](#) that the Inflation Reduction Act and Bipartisan Infrastructure Law will cut electricity rates by as much as 9 percent and lower gas prices by as much as 13 percent by 2030—putting tens of billions of dollars back in the pockets of Americans.

Because of the historic investments driven by the Inflation Reduction Act that are building a clean energy economy and leading to greater access to clean power, Americans across the country are already seeing savings on their home energy costs. For example:

- Florida Power & Light (FPL) will refund its **5.8M customers ~\$400M in savings** as result of the Inflation Reduction Act's Production Tax Credit for solar energy. FPL continues to build solar projects across Florida as part of nation's largest solar expansion that today includes 50 operational sites.
- Xcel in Minnesota estimated that the Inflation Reduction Act could lead to **\$1.4B in consumer savings** through 2034 for its Minnesota customers.

- 
- WEC Energy Group in Wisconsin [announced \\$2.4 billion](#) to its 5-year capital plan thanks in part to the Inflation Reduction Act. The company had 2,400 MW of new renewables in its 2022-2026 plan; now it's targeting approximately 3,300 MW. The company projects long-term [customer savings of approximately \\$2B](#) from investment in renewables.

DOE launched an [Energy Savings Hub](#) to help consumers, renters, and homeowners find ways to save money on their energy bills by tapping into the programs in the Inflation Reduction Act. Already:

- Families who install an efficient electric heat pump for heating and cooling can [receive a tax credit](#) of up to \$2,000 and save [an average of over \\$500](#) per year on energy bills.
- Families who make other energy efficiency improvements can [receive tax credits](#) worth up to \$500 for doors, \$600 for windows, \$150 for a [home energy audit](#), and up to 30 percent off the cost of new insulation—a total of up to \$1,200 per year in tax credits.
- Families who install [rooftop solar or battery storage](#) in their homes can save up to 30 percent of the cost of the installation via a [tax credit](#) and save nearly [\\$400](#) per year on their energy bills.
- Drivers who buy qualifying clean vehicles can [receive a tax credit](#) of up to \$7,500 for a new vehicle and up to \$4,000 for a used vehicle. Drivers can browse qualifying vehicles easily by visiting [fueleconomy.gov](#).

In addition, the Biden-Harris Administration is awarding grants to states and other entities to help consumers save money on their energy bills by making their homes more energy efficient. DOE has [opened applications](#) for states to implement \$8.5 billion in home energy rebate programs, which will provide rebates for low- and middle-income families to buy and install cost-saving electric appliances and to make energy efficiency improvements to their homes. And the Department of Housing and Urban Development (HUD) [announced](#) \$837 million in grant and subsidy funding and \$4 billion in loan commitment authority through the [Green and Resilient Retrofit Program](#), which will improve the energy and water efficiency and climate resilience of HUD-assisted multifamily properties serving low-income residents.

## **LOWERING HEALTH CARE COSTS**

The Inflation Reduction Act advances President Biden, Vice President Harris, and Congressional Democrats' longstanding commitment to making health care more affordable for American families and seniors. The law is bringing down health care costs and thanks to President Biden, Vice President Harris, and the Inflation Reduction Act's continuation of important improvements on the Affordable Care Act, the nation's uninsured rate has reached an historic low, and nearly 15 million people are saving an average of \$800 per year on their insurance premiums. In addition:

- For the first time, Medicare will have the power to negotiate prescription drug prices. Americans pay more for prescription drugs than in any other country in the world. By September 1 of this year, the Centers for Medicare and Medicaid Services will announce the list of ten drugs for which they will negotiate prices with drug companies in order to lower prescription drug costs.
- Monthly insulin costs for Medicare beneficiaries are now capped at \$35—providing certainty and critical cost savings for seniors who in some cases were paying as much as \$400 for a month's supply of insulin. If the Inflation Reduction Act had been in effect in 2020, Medicare beneficiaries who use insulin pumps would have saved an average of \$866 per year [↗](#). After the insulin cap for seniors went into effect, the top three insulin manufacturers also reduced their prices for all Americans.
- As of January 1, 2023, seniors on Medicare and adults with Medicaid coverage can get all recommended vaccines for free, saving \$70 on average [↗](#) for these vaccines.
- Drug companies that increase prices faster than inflation now have to pay a rebate to Medicare—which is translating into lower out-of-pocket costs for seniors, as Medicare has begun directly lowering co-pays for drugs whose price has increased beyond inflation. This past quarter, 43 drugs [↗](#) used by thousands of Medicare beneficiaries increased their prices too fast. Because of the Inflation Reduction Act, some seniors are saving up to \$449 per dose on those drugs.

- Starting in 2025, prescription drug costs for Medicare recipients will be capped at \$2,000 per year. That means one in three Medicare beneficiaries—18.7 million people—will save an average of [\\$400 per year](#) <sup>↗</sup>. And the 1.8 million seniors with the highest drug costs, including seniors being treated for cancer and other serious diseases, will save an average of \$2,500 per year.

### **MAKING THE WEALTHY AND BIG CORPORATIONS PAY THEIR FAIR SHARE**

The Inflation Reduction Act raises \$300 billion over a decade by requiring large corporations to pay a 15 percent minimum tax on their profits and by enacting a 1 percent excise tax on stock buybacks and redemptions. The Treasury and the IRS have already issued [initial <sup>↗</sup>guidance](#) <sup>↗</sup> on these tax provisions, which go into effect this year.

The Inflation Reduction Act also makes a historic investment in modernizing the IRS, providing funding to hire more staff and upgrade critical technology infrastructure. Thanks to these investments, the IRS has already:

- Improved services for law-abiding taxpayers. This spring, [during the 2022 tax season](#) <sup>↗</sup>, the IRS answered 3 million more phone calls than last year, cut phone wait times to three minutes from 28 minutes, and served 140,000 more taxpayers in person.
- Digitized almost 225 times more returns than the previous year thanks to the adoption of new scanning technology, cleared the backlog of unprocessed 2022 individual tax returns with no errors, launched two new digital tools, and enabled a new direct-deposit refund option for taxpayers with amended returns.

Over the next decade, these investments will enable the IRS to collect at least \$150 billion in taxes already owed by wealthy people and big corporations.

Going forward, the IRS is on track to implement additional improvements for customer service, including a direct-file pilot for a free, voluntary, IRS-run electronic filing system beginning in 2024; additional in-person services in rural and underserved areas; a processing initiative that will expedite refunds by several weeks; and new online account tools and mobile-friendly tax forms.

Source: FACT SHEET: One Year In, President Biden's Inflation Reduction Act

K: COMMUNITY DISASTER RESILIENCE ZONE ACT OF 2022



Public Law 117-255  
117th Congress

An Act

To require the President to develop and maintain products that show the risk of natural hazards across the United States, and for other purposes.

Dec. 20, 2022  
[S. 3875]

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

SECTION 1. SHORT TITLE.

This Act may be cited as the “Community Disaster Resilience Zones Act of 2022”.

Community  
Disaster  
Resilience Zones  
Act of 2022.  
President.  
42 USC 5121  
note.

SEC. 2. FINDINGS.

Section 101(b) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5121(b)) is amended—

- (1) in paragraph (5), by striking “and” at the end;
- (2) in paragraph (6), by adding “; and” at the end; and
- (3) by adding at the end the following:
  - “(7) identifying and improving the climate and natural hazard resilience of vulnerable communities.”.

SEC. 3. NATURAL HAZARD RISK ASSESSMENT.

(a) IN GENERAL.—Title II of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5131 et seq.) is amended by adding at the end the following:

“SEC. 206. NATURAL HAZARD RISK ASSESSMENT.

42 USC 5136.

“(a) DEFINITIONS.—In this section:

“(1) COMMUNITY DISASTER RESILIENCE ZONE.—The term ‘community disaster resilience zone’ means a census tract designated by the President under subsection (d)(1).

- “(2) ELIGIBLE ENTITY.—The term ‘eligible entity’ means—
  - “(A) a State;
  - “(B) an Indian tribal government; or
  - “(C) a local government.

“(b) PRODUCTS.—The President shall continue to maintain a natural hazard assessment program that develops and maintains products that—

- “(1) are available to the public; and
- “(2) define natural hazard risk across the United States.

“(c) FEATURES.—The products maintained under subsection (b) shall, for lands within States and areas under the jurisdiction of Indian tribal governments—

- “(1) show the risk of natural hazards; and
- “(2) include ratings and data for—
  - “(A) loss exposure, including population equivalence, buildings, and agriculture;
  - “(B) social vulnerability;



- “(C) community resilience; and  
 “(D) any other element determined by the President.
- “(d) **COMMUNITY DISASTER RESILIENCE ZONES DESIGNATION.**—
- “**(1) IN GENERAL.**—Not later than 30 days after the date on which the President makes the update and enhancement required under subsection (e)(4), and not less frequently than every 5 years thereafter, the President shall identify and designate community disaster resilience zones, which shall be—
- “**(A)** the 50 census tracts assigned the highest individual hazard risk ratings; and
- “**(B)** subject to paragraph (3), in each State, not less than 1 percent of census tracts that are assigned high individual risk ratings.
- “**(2) RISK RATINGS.**—In carrying out paragraph (1), the President shall use census tract risk ratings derived from a product maintained under subsection (b) that—
- “**(A)** reflect—
- “**(i)** high levels of individual hazard risk ratings based on an assessment of the intersection of—
- “**(I)** loss to population equivalence;
- “**(II)** building value; and
- “**(III)** agriculture value;
- “**(ii)** high social vulnerability ratings and low community resilience ratings; and
- “**(iii)** any other elements determined by the President; and
- “**(B)** reflect the principal natural hazard risks identified for the respective census tracts.
- “**(3) GEOGRAPHIC BALANCE.**—In identifying and designating the community disaster resilience zones described in paragraph (1)(B)—
- “**(A)** for the purpose of achieving geographic balance, when applicable, the President shall consider making designations in coastal, inland, urban, suburban, and rural areas; and
- “**(B)** the President shall include census tracts on Tribal lands located within a State.
- “**(4) DURATION.**—The designation of a community disaster resilience zone under paragraph (1) shall be effective for a period of not less than 5 years.
- “(e) **REVIEW AND UPDATE.**—Not later than 180 days after the date of enactment of the Community Disaster Resilience Zones Act of 2022, and not less frequently than every 5 years thereafter, the President shall—
- “**(1)** with respect to any product that is a natural hazard risk assessment—
- “**(A)** review the underlying methodology of the product; and
- “**(B)** receive public input on the methodology and data used for the product;
- “**(2)** consider including additional data in any product that is a natural hazard risk assessment, such as—
- “**(A)** the most recent census tract data;
- “**(B)** data from the American Community Survey of the Bureau of the Census, a successor survey, a similar survey, or another data source, including data by census tract on housing characteristics and income;

|                             |  |
|-----------------------------|--|
|                             | for a resilience or mitigation project or seek an evaluation and certification under subsection (i)(2) for a resilience or mitigation project before the date on which permanent work of the resilience or mitigation project begins.  |
|                             | "(3) APPLICATION.—If required by the President, an eligible entity seeking assistance under paragraph (1) shall submit an application in accordance with subsection (i)(1).  |
|                             | "(4) FUNDING.—In providing assistance under paragraph (1), the President may use amounts set aside under section 203(i).   |
|                             | "(i) COMMUNITY DISASTER RESILIENCE ZONE PROJECT APPLICATIONS.—   |
| Requirement.                | "(1) IN GENERAL.—If required by the President or other Federal law, an eligible entity shall submit to the President an application at such time, in such manner, and containing or accompanied by such information as the President may reasonably require.   |
| Deadline.<br>Determination. | "(2) EVALUATION AND CERTIFICATION.—<br>"(A) IN GENERAL.—Not later than 120 days after the date on which an eligible entity submits an application under paragraph (1), the President shall evaluate the application to determine whether the resilience or mitigation project that the entity plans to perform within, or that primarily benefits, a community disaster resilience zone—<br>"(i) is designed to reduce injuries, loss of life, and damage and destruction of property, such as damage to critical services and facilities; and<br>"(ii) substantially reduces the risk of, or increases resilience to, future damage, hardship, loss, or suffering.  |
| Determination.              | "(B) CERTIFICATION.—If the President determines that an application submitted under paragraph (1) meets the criteria described in subparagraph (A), the President shall certify the proposed resilience or mitigation project.<br>"(C) EFFECT OF CERTIFICATION.—The certification of a proposed resilience or mitigation project under subparagraph (B) shall not be construed to exempt the resilience or mitigation project from the requirements of any other law.  |
|                             | "(3) PROJECTS CAUSING DISPLACEMENT.—With respect to a resilience or mitigation project certified under paragraph (2)(B) that involves the displacement of a resident from any occupied housing unit, the entity performing the resilience or mitigation project shall—<br>"(A) provide, at the option of the resident, a suitable and habitable housing unit that is, with respect to the housing unit from which the resident is displaced—<br>"(i) of a comparable size;<br>"(ii) located in the same local community or a community with reduced hazard risk; and<br>"(iii) offered under similar costs, conditions, and terms;<br>"(B) ensure that property acquisitions resulting from the displacement and made in connection with the resilience or mitigation project— |

“(i) are deed restricted in perpetuity to preclude future property uses not relating to mitigation or resilience; and

“(ii) are the result of a voluntary decision by the resident; and

“(C) plan for robust public participation in the resilience or mitigation project.”.

(b) NATIONAL RISK INDEX FUNDING.—Nothing in section 206 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as added by subsection (a) of this section, shall be construed to prohibit the Administrator of the Federal Emergency Management Agency from using amounts available to maintain and update the National Risk Index until the earlier of—

Effective dates.  
42 USC 5136  
note.

(1) the date on which those amounts are transferred to another source; and

(2) 3 years after the date of enactment of this Act.

(c) APPLICABILITY.—The amendments made by this Act shall only apply with respect to amounts appropriated on or after the date of enactment of this Act.

42 USC 5136  
note.

Approved December 20, 2022.

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LEGISLATIVE HISTORY—S. 3875 (H.R. 7242):

HOUSE REPORTS: No. 117-609 (Comm. on Transportation and Infrastructure) accompanying H.R. 7242.

SENATE REPORTS: No. 117-141 (Comm. on Homeland Security and Governmental Affairs).

CONGRESSIONAL RECORD, Vol. 168 (2022):

Sept. 28, considered and passed Senate.

Dec. 5, 6, considered and passed House.



L: OVERVIEW OF STAFFORD ACT SUPPORT TO STATES

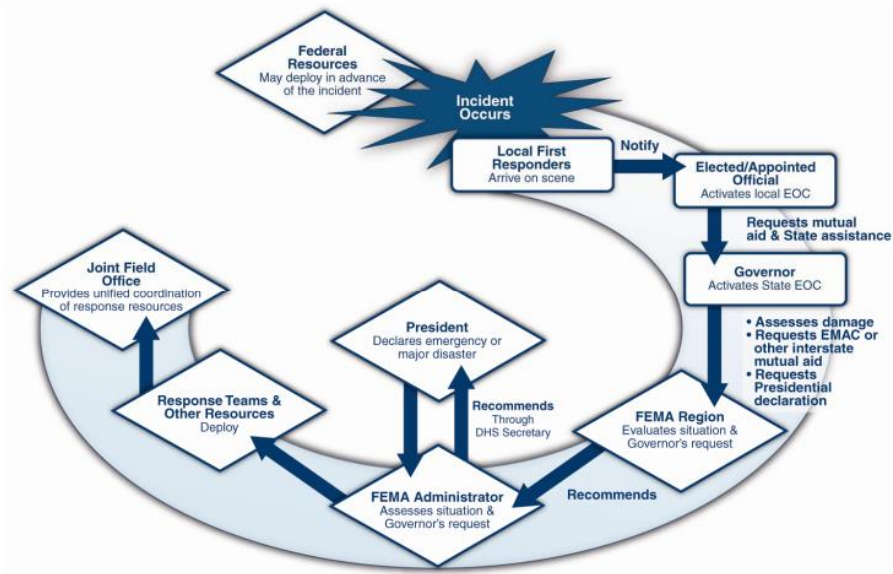
## Overview of Stafford Act Support to States

This overview illustrates actions Federal agencies are likely to take to assist State, tribal, and local governments that are affected by a major disaster or emergency. Key operational components that may be activated include the National Response Coordination Center (NRCC), Regional Response Coordination Center (RRCC), Joint Field Office (JFO), and Disaster Recovery Centers (DRCs).

1. The Department of Homeland Security (DHS) National Operations Center continually monitors potential major disasters and emergencies. When advance warning is received, DHS may deploy—and may request that other Federal agencies deploy—liaison officers and personnel to a State emergency operations center to assess the emerging situation. An RRCC may be fully or partially activated. Facilities, such as mobilization centers, may be established to accommodate Federal personnel, equipment, and supplies.
2. Immediately after a major incident, tribal and/or local emergency personnel respond and assess the situation. If necessary, those officials seek additional resources through mutual aid and assistance agreements and the State. State officials also review the situation, mobilize State resources, use interstate mutual aid and assistance processes such as the Emergency Management Assistance Compact to augment State resources, and provide situation assessments to the DHS/Federal Emergency Management Agency (FEMA) regional office. The Governor activates the State emergency operations plan, declares a state of emergency, and may request a State/DHS joint Preliminary Damage Assessment (PDA). The State and Federal officials conduct the PDA in coordination with tribal/local officials as required and determine whether the impact of the event warrants a request for a Presidential declaration of a major disaster or emergency. Based on the results of the PDA, the Governor may request a Presidential declaration specifying the kind of Federal assistance needed.
3. After a major disaster or emergency declaration, an RRCC coordinates initial regional and field activities until a JFO is established. Regional teams assess the impact of the event, gauge immediate State needs, and make preliminary arrangements to set up field facilities. (If regional resources are or may be overwhelmed or if it appears that the event may result in particularly significant consequences, DHS may deploy a national-level Incident Management Assistance Team (IMAT).)
4. Depending on the scope and impact of the event, the NRCC carries out initial activations and mission assignments and supports the RRCC.
5. The Governor appoints a State Coordinating Officer (SCO) to oversee State response and recovery efforts. A Federal Coordinating Officer (FCO), appointed by the President in a Stafford Act declaration, coordinates Federal activities in support of the State.
6. A JFO may be established locally to provide a central point for Federal, State, tribal, and local executives to coordinate their support to the incident. The Unified Coordination Group leads the JFO. The Unified Coordination Group typically consists of the FCO, SCO, and senior officials from other entities with primary statutory or jurisdictional responsibility and significant operational responsibility for an aspect of an incident. This group may meet initially via conference calls to develop a common set of objectives and a coordinated initial JFO action plan.
7. The Unified Coordination Group coordinates field operations from a JFO. In coordination with State, tribal, and/or local agencies, Emergency Support Functions assess the situation and identify requirements. Federal agencies provide resources under DHS/FEMA mission assignments or their own authorities.

8. As immediate response priorities are met, recovery activities begin. Federal and State agencies assisting with recovery and mitigation activities convene to discuss needs.
9. The Stafford Act Public Assistance program provides disaster assistance to States, tribes, local governments, and certain private nonprofit organizations. FEMA, in conjunction with the State, conducts briefings to inform potential applicants of the assistance that is available and how to apply.
10. Throughout response and recovery operations, DHS/FEMA Hazard Mitigation program staff at the JFO look for opportunities to maximize mitigation efforts in accordance with State hazard mitigation plans.
11. As the need for full-time interagency coordination at the JFO decreases, the Unified Coordination Group plans for selective release of Federal resources, demobilization, and closeout. Federal agencies work directly with disaster assistance grantees (i.e., State or tribal governments) from their regional or headquarters offices to administer and monitor individual recovery programs, support, and technical services.

The following chart summarizes Stafford Act support to States.



**M: BIPARTISAN INFRASTRUCTURE DEAL**

NOVEMBER 06, 2021

## Fact Sheet: The Bipartisan Infrastructure Deal



**Update: see the Guidebook to the Bipartisan Infrastructure Law for current implementation details.**

Today, Congress passed the Bipartisan Infrastructure Deal (Infrastructure Investment and Jobs Act), a once-in-a-generation investment in our nation's infrastructure and competitiveness. For far too long, Washington policymakers have celebrated "infrastructure week" without ever agreeing to build infrastructure. The President promised to work across the aisle to deliver results and rebuild our crumbling infrastructure. After the President put forward his plan to do exactly that and then negotiated a deal with Members of Congress from both parties, this historic legislation is moving to his desk for signature.

This Bipartisan Infrastructure Deal will rebuild America's roads, bridges and rails, expand access to clean drinking water, ensure every American has access to high-speed internet, tackle the climate crisis, advance environmental justice, and invest in communities that have too often been left behind. The legislation will help ease inflationary pressures and strengthen supply chains by making long overdue improvements for our nation's ports, airports, rail, and roads. It will drive the creation of good-paying union jobs and grow the economy sustainably and equitably so that everyone gets ahead for decades to come. Combined with the President's Build Back Framework, it will add on average 1.5 million jobs per year for the next 10 years.

This historic legislation will:

**Deliver clean water to all American families and eliminate the nation's lead service lines.** Currently, up to 10 million American households and 400,000 schools and child care centers lack safe drinking water. The Bipartisan Infrastructure Deal will invest \$55 billion to expand access to



clean drinking water for households, businesses, schools, and child care centers all across the country. From rural towns to struggling cities, the legislation will invest in water infrastructure and eliminate lead service pipes, including in Tribal Nations and disadvantaged communities that need it most.

**Ensure every American has access to reliable high-speed internet.**

Broadband internet is necessary for Americans to do their jobs, to participate equally in school learning, health care, and to stay connected. Yet, by one definition, more than 30 million Americans live in areas where there is no broadband infrastructure that provides minimally acceptable speeds – a particular problem in rural communities throughout the country. And, according to the latest OECD data, among 35 countries studied, the United States has the second highest broadband costs. The Bipartisan Infrastructure Deal will deliver \$65 billion to help ensure that every American has access to reliable high-speed internet through a historic investment in broadband infrastructure deployment. The legislation will also help lower prices for internet service and help close the digital divide, so that more Americans can afford internet access.

**Repair and rebuild our roads and bridges with a focus on climate change mitigation, resilience, equity, and safety for all users.**

In the United States, 1 in 5 miles of highways and major roads, and 45,000 bridges, are in poor condition. The legislation will reauthorize surface transportation programs for five years and invest \$110 billion in additional funding to repair our roads and bridges and support major, transformational projects. The Bipartisan Infrastructure Deal makes the single largest investment in repairing and reconstructing our nation's bridges since the construction of the interstate highway system. It will rebuild the most economically significant bridges in the country as well as thousands of smaller bridges. The legislation also includes the first ever Safe Streets and Roads for All program to support projects to reduce traffic fatalities, which claimed more than 20,000 lives in the first half of 2021.

**Improve transportation options for millions of Americans and reduce greenhouse emissions through the largest investment in public transit in U.S. history.**

America's public transit infrastructure is inadequate – with a multibillion-dollar repair backlog, representing more than 24,000 buses,

5,000 rail cars, 200 stations, and thousands of miles of track, signals, and power systems in need of replacement. Communities of color are twice as likely to take public transportation and many of these communities lack sufficient public transit options. The transportation sector in the United States is now the largest single source of greenhouse gas emissions. The legislation includes \$39 billion of new investment to modernize transit, in addition to continuing the existing transit programs for five years as part of surface transportation reauthorization. In total, the new investments and reauthorization in the Bipartisan Infrastructure Deal provide \$89.9 billion in guaranteed funding for public transit over the next five years – the largest Federal investment in public transit in history. The legislation will expand public transit options across every state in the country, replace thousands of deficient transit vehicles, including buses, with clean, zero emission vehicles, and improve accessibility for the elderly and people with disabilities.

**Upgrade our nation's airports and ports to strengthen our supply chains and prevent disruptions that have caused inflation. This will improve U.S. competitiveness, create more and better jobs at these hubs, and reduce emissions.** Decades of neglect and underinvestment in our infrastructure have left the links in our goods movement supply chains struggling to keep up with our strong economic recovery from the pandemic. The Bipartisan Infrastructure Deal will make the fundamental changes that are long overdue for our nation's ports and airports so this will not happen again. The United States built modern aviation, but our airports lag far behind our competitors. According to some rankings, no U.S. airports rank in the top 25 of airports worldwide. Our ports and waterways need repair and reimagining too. The legislation invests \$17 billion in port infrastructure and waterways and \$25 billion in airports to address repair and maintenance backlogs, reduce congestion and emissions near ports and airports, and drive electrification and other low-carbon technologies. Modern, resilient, and sustainable port, airport, and freight infrastructure will strengthen our supply chains and support U.S. competitiveness by removing bottlenecks and expediting commerce and reduce the environmental impact on neighboring communities.

**Make the largest investment in passenger rail since the creation of Amtrak.** U.S. passenger rail lags behind the rest of the world in reliability, speed, and coverage. China already has 22,000 miles of high-speed rail, and is

planning to double that by 2035. The legislation positions rail to play a central role in our transportation and economic future, investing \$66 billion in additional rail funding to eliminate the Amtrak maintenance backlog, modernize the Northeast Corridor, and bring world-class rail service to areas outside the northeast and mid-Atlantic. This is the largest investment in passenger rail since Amtrak's creation, 50 years ago and will create safe, efficient, and climate-friendly alternatives for moving people and freight.

**Build a national network of electric vehicle (EV) chargers.** U.S. market share of plug-in EV sales is only one-third the size of the Chinese EV market. That needs to change. The legislation will invest \$7.5 billion to build out a national network of EV chargers in the United States. This is a critical step in the President's strategy to fight the climate crisis and it will create good U.S. manufacturing jobs. The legislation will provide funding for deployment of EV chargers along highway corridors to facilitate long-distance travel and within communities to provide convenient charging where people live, work, and shop. This investment will support the President's goal of building a nationwide network of 500,000 EV chargers to accelerate the adoption of EVs, reduce emissions, improve air quality, and create good-paying jobs across the country.

**Upgrade our power infrastructure to deliver clean, reliable energy across the country and deploy cutting-edge energy technology to achieve a zero-emissions future.** According to the Department of Energy, power outages cost the U.S. economy up to \$70 billion annually. The Bipartisan Infrastructure Deal's more than \$65 billion investment includes the largest investment in clean energy transmission and grid in American history. It will upgrade our power infrastructure, by building thousands of miles of new, resilient transmission lines to facilitate the expansion of renewables and clean energy, while lowering costs. And it will fund new programs to support the development, demonstration, and deployment of cutting-edge clean energy technologies to accelerate our transition to a zero-emission economy.

**Make our infrastructure resilient against the impacts of climate change, cyber-attacks, and extreme weather events.** Millions of Americans feel the effects of climate change each year when their roads wash out, power goes down, or schools get flooded. Last year alone, the United States faced 22 extreme weather and climate-related disaster events with losses exceeding

\$1 billion each – a cumulative price tag of nearly \$100 billion. People of color are more likely to live in areas most vulnerable to flooding and other climate change-related weather events. The legislation makes our communities safer and our infrastructure more resilient to the impacts of climate change and cyber-attacks, with an investment of over \$50 billion to protect against droughts, heat, floods and wildfires, in addition to a major investment in weatherization. The legislation is the largest investment in the resilience of physical and natural systems in American history.

**Deliver the largest investment in tackling legacy pollution in American history by cleaning up Superfund and brownfield sites, reclaiming abandoned mines, and capping orphaned oil and gas wells.** In thousands of rural and urban communities around the country, hundreds of thousands of former industrial and energy sites are now idle – sources of blight and pollution. Proximity to a Superfund site can lead to elevated levels of lead in children’s blood. The bill will invest \$21 billion clean up Superfund and brownfield sites, reclaim abandoned mine land and cap orphaned oil and gas wells. These projects will remediate environmental harms, address the legacy pollution that harms the public health of communities, create good-paying union jobs, and advance long overdue environmental justice. This investment will benefit communities of color as, it has been found that 26% of Black Americans and 29% of Hispanic Americans live within 3 miles of a Superfund site, a higher percentage than for Americans overall.

###

N: FEMA PROGRAMS RECEIVING FUNDS

| FEMA Programs Receiving Bipartisan Infrastructure Law (BIL) Funds |  |                              |                      |
|---|--|------------------------------|----------------------|
| FEMA Program  | Brief Program Description  | Total Available              | Provided BIL FY 2022 |
| Building Resilient Infrastructure and Communities                 | Mitigation projects, capability and capacity building activities, and management costs.  | \$1 billion for five years   | \$136 million        |
| Cybersecurity   | Improving cybersecurity and critical infrastructure through two grant programs: the State and Local Cybersecurity Grant Program (SLCGP) and the Tribal Cybersecurity Grant Program (TCGP).   | \$1 billion for four years   | \$185 million        |
| Flood Mitigation Assistance                                       | Mitigation projects that reduce or eliminate the risk of repetitive flood damage to buildings insured by the National Flood Insurance Program.   | \$3.5 billion for five years | \$24 million         |
| National Dam Safety Program                                       | Strengthening state dam safety grants and rehabilitation of eligible high hazard potential dams (HHPD).  | \$733 million for five years | \$15 million         |
| Flood Mitigation Assistance Swift Current Initiative              | Flood mitigation assistance available within the disaster recovery timeframe, for repetitively flooded and substantially damaged buildings insured under the National Flood Insurance Program (NFIP) in advance of the annual grant process.   | \$60 million                 | \$30 million         |
| Safeguarding Tomorrow Revolving Loan Fund                         | Capitalization grants for administration of revolving loan funds for mitigation projects and activities to increase resilience and mitigate impacts from natural hazards. Loans may be used to satisfy a local government's non-federal cost share requirement for Hazard Mitigation Assistance, Building Resilience Infrastructure and Communities and Flood Mitigation Assistance. | \$500 million for five years | \$50 million         |

Source: [www.build.gov/resources/state-fact-sheets](http://www.build.gov/resources/state-fact-sheets)

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