



CITY OF JACKSONVILLE MAYOR
DEEGAN'S TRANSITION
INFRASTRUCTURE COMMITTEE

RESILIENCE SUBCOMMITTEE
FINAL REPORT

August 2023



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COJ Mayor Deegan Transition Infrastructure Committee Resilience Subcommittee Final Report August 2023

Green, Ashantae; Boren, Sarah; Gellers, Joshua C. (August 2023). "COJ Mayor Deegan Transition Infrastructure Committee: Resilience Subcommittee Final Report"

Design Prepared by A Green Design Co. for the City of Jacksonville, Florida

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CHAPTER

01

EXECUTIVE SUMMARY

MISSION, CHARGE,
STRENGTHS, WEAKNESSES,
OPPORTUNITIES & CHALLENGES

Mission & Charge

The Resilience Committee is charged with enhancing Jacksonville's resilience by exploring how individuals and the city effectively navigate challenging experiences and addressing the impacts of climate change. The committee collaborates with key stakeholders to identify necessary adjustments to zoning and building codes that promote density and efficiency and prioritize community needs, health, equity, and other opportunities for proactive action.

Executive Summary

Mayor Deegan should establish the framework to build internal culture and track and ensure accountability and oversight by establishing

the Department of Resilience and Sustainability, appointing a Chief Sustainability Officer, creating a technical advisory committee, and organizing an internal agency and departmental working group, along with allocating essential resources such as staff, office space, and direct access to the Mayor.

Implement Existing Plans: Resilient Jacksonville Plan, COJ Climate Action Plan, COJ City Council Special Committee on Resiliency Final Report, Adaptation Action Area Working Group Recommendations, and all of the other city plans that exist on the topic.

Expand the city's focus on resilience beyond infrastructure, flooding, and heat to encompass broader aspects of sustainability, the root causes of climate change (especially greenhouse gas emissions), climate-smart development, community well-being, food security, environmental stewardship, equity, and environmental justice, as well as the effective adaptation and mitigation of various chronic stresses or everyday challenges and acute shocks or sudden events.

Integrate Resilience, Sustainability, and Environmental Stewardship into every city department across the city's goals, plans, projects, regulations, codes, and policies, and into personnel training and performance reviews.

Fund incentives aimed at improving resilience and sustainability and resolving issues related to the built environment, facilities/critical institutions, climate change and environment [land, trees, air, water (ocean, river, navigable bodies)], health (mental and physical), well-being, food system resilience, environmental justice, and community education/engagement. Specific emphasis should be placed on projects relating to septic tanks, legacy and ongoing pollution, green infrastructure, efficient use of vacant land, engaging the youth, and ensuring food security.

Collaborate with key stakeholders including hospitals, governmental bodies, businesses, non-profits, faith-based organizations, and other vital assets to ensure awareness and accountability in supporting the goals of resilience and addressing climate change, along with the following:

- **American Red Cross**
- **COJ Boards & Commissions**
- **Tree Commission**
- **DIA**
- **DCPS**
- **EPA**
- **FDEP**
- **FDOT**
- **FFWCC**
- **JAA**
- **JAXPORT**
- **JEA**
- **JTA**
- **NEFRC**
- **SJRWMD**
- **UF/IFAS**
- **USDA**
- **US Military**

Measure and Evaluate Success

Designate a department or individual as the party responsible for identifying, measuring, and assessing documented outcomes associated with each recommendation, including budgetary items and grants, to determine successes, failures, and areas of improvement (compared to years prior to implementation) on an annual basis.

Observations/Current Conditions

Strengths

- A Chief Resilience Officer (CRO) actively developing a resilience plan based on the best available science and data.
- Abundance of experts and community members who are genuinely invested, possess a wealth of experience, and have been actively involved for many years.
- Access to multi-million dollar Tree Fund to aid in addressing trees/green infrastructure, resilience, and climate change.
- **Resilience is a bi-partisan issue, as demonstrated by City Council's adoption of the City Council Special Committee on Resiliency Final Report.**

Weaknesses

- Historically, numerous recommendations have been formulated but their implementation has been limited. It is essential to transition from constant planning to decisive action and implementation.
- There is a need for robust communication, marketing efforts, and enhanced community education and engagement.
- Lack of administrative capacity and dedicated team for resilience, sustainability, and environmental stewardship.
- Jacksonville lags behind numerous major cities in establishing climate and sustainability goals.
- Jacksonville lacks a Chief Sustainability Officer (CSO) or sustainability department, setting it apart as one of the few major cities without dedicated resources for this purpose.
- Lack of enforcement of and compliance with regulatory protections.

Opportunities

- Unprecedented level of resilience-related Federal funding and grants.
- Strong potential for extensive collaboration among various departments, agencies, and community partners.
- Opportunity for the Mayor to champion resilience and sustainability to reduce the impacts of climate change in an equitable way.
- Move beyond enforcement and compliance into environmental stewardship.
- Jacksonville can join other major cities in leading the way on resilience, sustainability, and addressing climate change.
- Tackling resiliency and climate change issues will dramatically enhance the quality of life and equity across the community.
- Educate youth and the broader public on the drivers of and solutions to resiliency challenges present at the local level.

Challenges

- A significant portion of the population does not understand the concept of resilience but feels the need for its solutions.
- The need for resilience and climate change action is urgent and complex. These issues demand long-term dedication, ongoing efforts, and a sense of optimism. Meeting these challenges necessitates substantial collaboration, widespread public engagement, and effective communication.
- **Lack of coordination between independent authorities and the administration presents an obstacle to achieving a cohesive approach to local resiliency.**

CHAPTER

02

COMMITTEE OVERVIEW

MEMBERS, EXPERTS, MEETINGS & METRICS

Community Involvement

The Resilience Subcommittee, composed of 23 members and 15 subject matter experts, prioritized community engagement through five meetings and over 40 submitted input forms, yielding more than 210 suggestions across diverse areas like climate change, health, and environmental justice. Valuable public comments further enriched the process. The Subcommittee also conducted numerous one-on-one sessions with stakeholders, which enhanced the resulting insights.

Moreover, the Subcommittee researched and engaged with regional leaders and other cities to learn about effective strategies designed to address resilience and climate change. From the community, a strong emphasis on community education emerged, alongside a desire for innovative projects and incentives. Approaches like cooling centers were well-received, and community members expressed interest in collaborative efforts between City departments for tree planting, resilience projects, and funding initiatives to address various challenges.

23

Committee Members from diverse backgrounds & neighborhoods

15

Subject Matter Experts

210

Submitted suggestions & Recommendations [HERE](#)

6

Public Committee Meetings

Sub-Committee Members



Ashantae Green
Sub-Committee Chair
A Green Design Co.
Duval Soil & Water
Conservation District



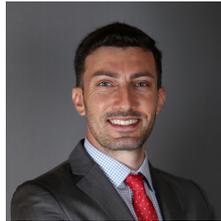
James Richardson
Sub-Committee Co-Chair
COJ Environmental
Protection Board



Sarah Boren
Sub-Committee Co-Chair
City of Atlantic Beach
Environmental Stewardship
Committee



Megan Hayward
Committee Sgt at Arms
Temporary Assistance Guru



Josh Gellers, PhD
University of North Florida



Adam Hoyles
SWCA Environmental
Consultants



Dr. Adam Rosenblatt
University of North Florida
& Citizens' Climate Lobby



Amanda Polematidis, PE
TLC Engineering Solutions
& USGBC North Florida



Dante Jennings
GreenLining Jax



Joshua Rosenberg
NativeJax



Emily Pierce
Rogers Towers, P.A.



Josh Melko
University of North Florida



John Sapora
Local Initiatives Support
Corporation (LISC)



Matthew Colaciello
Hire Ground



Nathan Ballentine
Overalls



Rebecca Williams
FOBT Pipeline Inc.



Jim Minion
Farm Out Design Services



Logan Cross
Sierra Club



Dr. Todd Sack, MD
My Green Doctor



Alexander Traversa
Jacksonville
Transportation Authority
(JTA)



Christina Kelcourse
Sunshine Organics &
Compost



Sean Lahav
Half



Shanell Davis-Bryant
Sage Growth Solutions

Staff & Subject Matter Experts



Katie Jones
Committee Assistant
UNF Environmental
Leadership Program



Carly Smith
Committee Assistant
UNF Environmental
Leadership Program



Tara Jefferson
Committee Staff Support
City of Jacksonville



Lisa Rinaman
St. Johns Riverkeeper



Cantrece Jones
Acuity Design Group, Inc.



Stephen Jennewein, PhD
Duval UF/IFAS Extension



Crystal Markley, P.E.
U.S. Army Corps of
Engineers



Jimmy Orth
St. Johns Riverkeeper



Jackie Wade
American Red Cross
North Florida Region



Americus Spencer-Harold
Spencer Construction &
Engineering



Angela TenBroeck
Center for Sustainable
Agriculture Excellence and
Conservation (CSAEC)



Darrin Eakins
Golden Age Innovations



**Laura Phillips
Edgecombe**
Build Up Downtown



Wayne A. Dunn P.E.
E. W. Dunn



Deborah Thompson
NAACP Jacksonville,
Environmental & Climate
Justice Subcommittee

Speakers & Presenters

CITY- COJ CRO, PLANNING & PUBLIC WORKS



Garrett Dennis
Chair, COJ Mayor
Deegan Transition
Infrastructure Committee



Bill Killingsworth
COJ Director
Planning & Development



Anne Coglianese
COJ Chief Resilience
Officer

Steve Long
COJ Director Public Works

REGIONAL- NEFRC & FUNDING



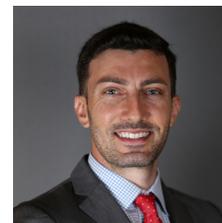
Fara Ilami
Regional Resiliency Manager
NEFL Regional Council



Lisa King
Funding Resources
Manager at Half



Cantrece Jones
CEO, Acuity Design Group,
Inc.



Josh Gellers, PhD
Professor, University of
North Florida

COMMUNITY- EJ, ENGAGEMENT & SOLUTIONS

CHAPTER

03

COMMITTEE RECOMMENDATIONS

ACTIONABLE ITEMS, FUNDING, & KEY TAKEAWAYS

Recommendations

There are 4 Core recommendations with multiple sub-actions

Recommendations have been split into short-term, mid-term, and long-term actions. Key collaborators, funding opportunities, and metrics have been identified for each.

See other recommendations [HERE](#)

1

THE MAYOR SHOULD URGENTLY CHAMPION DATA-DRIVEN AND FORWARD-THINKING RESILIENCE AND SUSTAINABILITY POLICIES, rooted in both local risk and global climate imperatives, to ensure Jacksonville's environmental, health, and economic prosperity through comprehensive strategies, environmental stewardship, targeted carbon reduction milestones, and robust collaboration with internal and external agencies.

2

FOCUS ON THE BUILT ENVIRONMENT (VERTICAL, HORIZONTAL, AND NATURAL) THROUGH THE USE OF BUILDING CODES AND ORDINANCE CHANGES related to facilities, institutions, and natural resources to include resilience, sustainability, and environmental stewardship in a holistic and comprehensive manner.

3

INTEGRATE EDUCATION, PROMOTION, AND MEASUREMENT OF HEAT/HEALTH MANAGEMENT, COUNTY FARMING, SOCIAL CONNECTIVITY, AND SUPPLY CHAIN MANAGEMENT into a comprehensive plan for addressing mental and physical health, well-being, & food resilience.

4

ENSURE THAT THE CITY'S FOCUS ON RESILIENCE, SUSTAINABILITY, AND ENVIRONMENTAL STEWARDSHIP INCLUDES environmental justice, equity, community engagement, and education (government, corporate/business, community, and youth).

Recommendation ONE



THE MAYOR SHOULD URGENTLY CHAMPION DATA-DRIVEN AND FORWARD-THINKING RESILIENCE AND SUSTAINABILITY POLICIES, rooted in both local risk and global climate imperatives, to ensure Jacksonville's environmental, health, and economic prosperity through comprehensive strategies, environmental stewardship, targeted carbon reduction milestones, and robust collaboration with internal and external agencies.

Actionable Items

Short-Term (Immediate to 120 days):

1.1 Issue a Mayoral Declaration regarding climate change and carbon emissions reductions that outlines her vision to take local action to tackle the root causes of climate change and achieve 100% zero-carbon energy by 2050.

1.2 Establish the Department of Resilience and Sustainability within the Mayor's Office and appoint a Chief Sustainability Officer (CSO).

1.3 Create a COJ Sustainability, Resilience, and Environmental Stewardship Technical Advisory Committee (TAC) that has the authority to provide recommendations, advice, and resources, is charged with helping staff implement the recommendations from the Transition Committees, the COJ Climate Action Plan, Resilience plan, and future plans, and, if appropriate, serves as a member liaison on IDA, DDRB, and/or the Planning Commission.

- a. Lead and Partners: Mayor and City Council for legislation; Working group/team that includes City departments and boards/commissions, and independent authorities (Port, JEA, JTA, JAA, DIA, etc., and regional entities such as NEFRC)
- b. Funding: None (use existing staff)
- c. How: Introduce and adopt legislation to create TAC
- d. Measure progress and success: Quarterly report out on created annual plan to Mayor, CRO, and CSO

1.4 Organize an internal agency and departmental working group for resilience, sustainability, and environmental stewardship.

1.5 Introduce language (e.g. City Council of Orlando’s [Resolution](#)) and collaborate with the COJ City Council to formally commit to the following:

1. Use 100% carbon-free energy for all municipal operations by 2035
2. Use 100% carbon-free energy for the entire community by 2050

1.6 Review all members of boards, commissions, and authorities—especially those of JEA—to ensure openness and willingness to include resilience, sustainability, and environmental stewardship in decision-making.

1.7 Initiating a COJ-wide review of environmental stewardship policies, ordinances, enforcement, and status of Jacksonville’s waterways to ensure Jacksonville's health, sustainable neighborhoods, and economic prosperity.

1.8 Leverage resources from the Tree Protection and Related Expenses Tree Fund to set a tree canopy goal with no net loss. Fund the Urban Forestry Master Plan, initiate a strategic tree planting initiative, and implement recommendations from the [Jacksonville Trees to Offset Stormwater Case Study](#).

1.9 Initiate a comprehensive baseline assessment of legacy and ongoing pollution sources threatening community health and Jacksonville’s waterways (e.g., modified Social Vulnerability Assessment), marking the initial step towards fulfilling Action Item #15 in the Resilient Jax Action Plan to enhance watershed health and improve water, soil, and air quality.

Mid-Term (1-2 years):

1.10 Require a review of all current and future infrastructure projects to identify opportunities to incorporate resilience strategies and reduce carbon emissions, and aggressively seek state and Federal funding to support such projects.

Long-Term (2+ years):

1.11 Build and implement a data-driven infrastructure investment plan prioritizing human health, equity, environmental stewardship, and economic growth.

Funding Opportunities

1. \$2.6 billion from NOAA for conservation, restoration, and protection of coastal habitats and resources.
2. \$3 billion from EPA for Environmental and Climate Justice Block grants for addressing extreme heat and local heat islands and addressing climate resilience/adaptation.
3. \$5 billion from EPA for Climate Pollution Reduction grants to implement plans for reducing greenhouse gases.
4. Funding opportunities for independent authorities:
 - a. Clean Energy Tax Credits: Investment tax credits would cover 30% of the total project cost for a renewable energy project for Authorities, but is boosted to 40% if the project is located in a brownfield site or coal community (much of Jacksonville's Northside would qualify for the bonus).
 - b. \$40 billion in federally guaranteed loans for new clean energy projects.
 - c. \$250 billion in federally guaranteed loans for energy projects that repurpose or replace energy systems in order to lower greenhouse gas emissions. Authorities could use this loan to finance the retirement of coal plants, clean up the toxic coal ash, redevelop the site into a clean energy project, and retrain the workforce at the plant for new clean energy jobs.

Who else needs to be involved:

- City Council
- CRO, CSO
- All independent and other relevant governmental authorities (i.e., DIA, DCPS, FDEP, FDOT, FFWCC, JAA, JAXPORT, JEA, JTA, SJRWMD, US Military, etc.)
- Downtown Investment Authority
- Relevant non-profit and education partners, (i.e., Scenic Jacksonville, UNF, JU, FSCJ, UF/IFAS, EWU, NAACP EJC committee, Greenlining Jax, Global Shapers, NEFL Green Chamber, St. Johns Riverkeeper, American Red Cross, etc.)
- Relevant for-profit partners

Evaluation and Success:

1. All short-term actions are taken and documented.
2. Number of trees retained, planted, and maintained through maturity.
3. Percentage increase in tree canopy.
4. Usage of tree funds.
5. Revision of charge of boards to include resilience, sustainability, and environmental stewardship.
6. The passing of legislation and annual review of progress towards these goals.

Recommendation TWO



FOCUS ON THE BUILT ENVIRONMENT (VERTICAL, HORIZONTAL, AND NATURAL) THROUGH THE USE OF BUILDING CODES AND ORDINANCE CHANGES related to facilities, institutions, and natural resources to include resilience, sustainability, and environmental stewardship in a holistic and comprehensive manner.

Actionable Items

Short-Term (Immediate to 120 days):

2.1 Strengthen and enforce the current sustainable building ordinance 2009-11 by implementing these [changes](#).

- a. Lead: Planning and Development, Building Inspection Division
- b. Partners: DIA, DDRB, USGBC North Florida, NEFBA, ABC, AIA, FCMA, City Council
- c. How: Implement existing and adopt amended legislation
- d. Funding: a) Money for private sector incentives from Resilient Florida and IRA; b) additional staff (same as a)
- e. Measurement: Number of sustainable and resilient buildings each year; Percentage of building permits complying each year increased year over year

2.2 Fund and prioritize existing CIP projects addressing legacy pollution such as septic tanks and infrastructure improvements (e.g., untreated drainage).

- 2.3** Enroll in and implement the PACE program (Property Assessed Clean Energy).
- a. Lead: Public Works
 - b. Partners: CRO, CSO, Sewer and Water Authority, EQD
 - c. How:
 - i. Reprioritize CIP
 - ii. Enroll in PACE program
 - iii. Implement PACE program
 - d. Funding: Existing budget and future funding (general revenue); grants (e.g. Septic Tank Removal Program)
 - e. Measurement: Number of septic tanks removed accelerated; number of projects that use PACE; number of CIP projects that incorporate resilient features

Mid-Term (1-2 years):

- 2.4** Enhance and incentivize resilient requirements for all buildings including public and private sectors using at least these suggestions.
- a. Lead: Planning Department
 - b. Partners: DIA, DDRB, USGBC North Florida, NEFBA, ABC, AIA, FCMA, City Council
 - c. How:
 - i. Draft legislation and provide incentives for resilient design, construction, and operation
 - ii. Promote and implement legislation (Long: 2+ years)
 - d. Funding: Resilient Florida implementation grant
 - e. Measurement: Number of projects that utilize incentives

2.5 Create Resilience and Sustainability Hubs at existing community centers. Enhancements to our community centers could include electrical upgrades, adding generators, and improving HVAC systems to ensure these centers can serve as Resilience Hubs so that in the recovery phase of a hurricane, residents can use the facility to charge phones, access Wi-Fi, apply for benefits, or contact loved ones. Furthermore, these facilities can act as distribution centers for sandbags, water, food, or other supplies and services for residents.

These centers are already used year-round as neighborhood centers for building social connectivity, community-building activities, fostering greater community cohesion and health, building trust with local government, and connecting neighbors.

- a. Lead: CRO, CSO, and COJ Parks and Recreation
- b. Partners: Other City departments and independent authorities and DCPS, JSO, City Council members
- c. How:
 - i. Identify locations
 - ii. Apply for funding
 - iii. Implement and construct
 - iv. Coordinate on use
- d. Funding: BRIC, Schools, IJJA, and IRA
- e. Measurement: Number of hubs established; Degree of utilization; Degree of accessibility

Long-Term (2+ years):

2.6 Implement legislation incentivizing resilient strategies for all buildings including public and private sectors using the aforementioned suggestions.

Recommendation THREE



INTEGRATE EDUCATION, PROMOTION, AND MEASUREMENT OF HEAT/HEALTH MANAGEMENT, COUNTY FARMING, SOCIAL CONNECTIVITY, AND SUPPLY CHAIN MANAGEMENT into a comprehensive plan for addressing mental and physical health, well-being, & food resilience.

Actionable Items

Short-Term (Immediate to 120 days):

3.1 Strengthen and fund a heat health management plan that addresses heat-related illnesses, heat emergencies, public park infrastructure, health education management (including education of health professionals and first responders), and public and employee health, and then implement the plan throughout the City.

3.2 Tackle extreme heat and heat island effect by developing and launching a cool communities initiative that provides a proactive plan for cooling communities. This plan may include painting streets with a reflective coating, installing awnings, planting trees, prioritizing green infrastructure where possible, and incentivizing reflective and green roads city-wide.

3.3 Identify public vacant land that could be used for urban and resilient agriculture.

Mid-Term (1-2 years):

3.4 Develop and launch an urban/resilient agriculture initiative to implement comprehensive policy, provide education and staffing support, facilitate enterprise development, ensure access to water and land, and foster partnerships with non-profits and businesses to promote urban agriculture and enhance community well-being.

3.5 Work with regenerative/resilient farming professionals, groups, enterprises, and community members to develop vacant land and build economic and ecological benefits within designs. Prioritize food deserts.

3.6 Allocate resources toward robust incentives that directly acknowledge and address mental health concerns, and alleviate anxiety and distress stemming from climate-related stressors and displacement caused by disasters or extreme weather events.

3.7 Foster robust ongoing social connectivity to improve mental health and well-being by utilizing street-level asset-based community development to facilitate social connectivity, placemaking, and neighborliness across the City, within and across neighborhoods and communities, and providing small matching grants to make our community better in the interest of supporting mental health and well-being.

3.8 Develop a resilient food supply chain that incorporates a social, economic, and infrastructural vulnerability assessment, develop cooperative enterprise and a local food purchasing policy for city-wide authorities to facilitate collaboration among local food purveyors to decentralize primary production and enhance food system redundancy in the interest of strategic food security (e.g., [SVI link](#), [food desert map](#), etc.)

Funding Needs

1. Staffing in collaboration with Health Department and management
2. Utility subsidies for water access
3. Mini-matching grants for community initiatives
4. Tracking data
5. Resilient design

Funding Opportunities

1. US Department of Health & Human Services
2. City farming: USDA, UF SeedIt Grants
3. ABCD (Asset Based Community Development), Florida Blue Foundation, Humana

Who else needs to be involved:

- CRO & Chief Health Officer and Medical groups
- City Council members
- Duval UF/IFAS Extension
- Neighborhoods Department
- Private food supply chain: food distributors, grocers, etc.
- FDACS / USDA
- Feeding Northeast Florida and other similar groups
- COJ economic development, SBDC
- COJ Parks and Recreation Department
- Urban Forestry Department
- Regenerative farming/land use professionals and groups
- Regenerative Agriculture Development
- Savory Institute
- Regrarians

Evaluation and Success:

1. Decrease heat-related illnesses, excess death/ER rates, hospitalizations
2. Number of farms and crops in Duval using USDA census
3. Number of neighbor-led community initiatives
4. Industry-standard measure of food supply chain resilience
5. Establish evaluation of current statuses to track and report today and for future uses

Recommendation FOUR



ENSURE THAT THE CITY'S FOCUS ON RESILIENCE, SUSTAINABILITY, AND ENVIRONMENTAL STEWARDSHIP INCLUDES **environmental justice, equity, community engagement, and education (government, corporate/business, community, and youth).**

Actionable Items

Short-Term (Immediate to 120 days):

4.1 Apply a social justice and equity lens to all resiliency projects by employing a process like Equity Impact Assessment or other similar tools.

Resources:

- [Equity Impact Assessment \(Michigan Department on Health & Human Services\)](#).
- [Equity Impact Assessment Tool Washington State University Vancouver](#)
- [State of Vermont Equity Impact Assessment Tool](#)
- Flanagan et al. (2018), Measuring Community Vulnerability to Natural and Anthropogenic Hazards: The Centers for Disease Control and Prevention's Social Vulnerability Index
- [CDC/ATSDR Social Vulnerability Index \(CDC/ATSDR SVI\)](#).

4.2 Expand collaborative and sustained engagement efforts that connect community-based organizations and local non-profits that support community-identified resilience, sustainability, and environmental stewardship needs.

- Create a process that incorporates and ensures broad public input into the planned revisions to the land development code and CIP prioritization process beyond minimum public meetings.
- Implement a range of participatory strategies including but not limited to citizen panels, juries, and asynchronous commenting periods.

4.3 Include leaders and businesses from historically underrepresented black, indigenous, and people of color (BIPOC) communities and low-income neighborhoods in decision-making processes.

Mid-Term (1-2 years):

4.4 Develop and implement a comprehensive community engagement plan that includes communications, outreach, engagement, and educational methods designed to inform decision-making related to mitigating and adapting to climate change, creating community resilience, and achieving the long-term sustainability of the region.

4.5 Create workforce opportunities and training programs in small and medium enterprises that enhance economic mobility and advance the just transition to a resilient City.

Long-Term (2+ years):

4.6 Implement an ongoing inter-agency evaluation and tracking methodology that includes environmental justice, community engagement, outreach, and education metrics.

Funding Opportunities

- [1. NOAA Climate Ready Workforce Development](#)
- [2. EPA Inflation Reduction Act Environmental Climate Justice Program](#)

Who else needs to be involved:

- City Council
- Independent agencies, City departments, and regional partners
- Non-profits and community-based organizations (BIPOC, NAACP, LIFTJAX, LISC, Kumpin for Success, etc.)
- Academic institutions
- Faith-based organizations
- Duval County Public Schools
- K-12 afterschool and out-of-school time organizations

Evaluation and Success:

1. Number of planned and executed meaningful and targeted community and educational programming events
2. Polling and surveying that demonstrates the change in public perception of the City's response to and citizen's personal capacity to meaningfully influence environmental decision-making
3. Implementation of tools and strategies that address equity in community engagement in environmental decision-making
4. Annual review of progress toward completing these recommendations

Key Takeaways & Conclusion

- 1 _____ The Mayor should immediately set the framework vision for resilience, sustainability, and environmental stewardship in Jacksonville.
- 2 _____ Resilience, sustainability, and environmental stewardship influence every City department and the entire community.
- 3 _____ Need for a more holistic and expanded view of resilience, sustainability, and environmental stewardship in Jacksonville.
- 4 _____ More staff, funding, and implementation authority for the CRO & CSO.
- 5 _____ Implementation of the Resilient Jacksonville Plan, Climate Action Plan, and all of the other City plans that exist on the topic.
- 6 _____ Need for better community engagement, education, and marketing.
- 7 _____ Immediate investment is needed to reduce growing future costs.

CHAPTER

04

FUNDING & RESOURCES

GRANTS, PROGRAMS, CASE
STUDIES, TOOLS, ARTICLES,
PRESENTATIONS & PARTNERS

Funding & Resources

Federal funding

- Breaking down the Inflation Reduction Act Program by Program, Incentive by Incentive (Rocky Mountain Institute)
- IRA Funding Pots for Local Entities (e.g. COJ, nonprofits) (Josh Melko, UNF)
- Buildings and the IRA: The New Incentives for Going Green (U.S. Green Building Council)
- 2023 Inflation Reduction Act Climate Ready Workforce for Coastal States, Tribes, and Territories (Notice of Federal Funding Opportunity)
- Lisa King's funding resources presentation
 - Department of Agriculture
 - Urban and Community Forestry Inflation Reduction Act Grants
 - Economic Development Administration
 - Economic Development Disaster Supplemental
 - Environmental Protection Agency (EPA)
 - Clean Water State Revolving Fund
 - Drinking Water State Revolving Fund
 - Environmental Justice Thriving Communities Grantmaking Program
 - Grants to Reduce Air Pollution at Ports
 - Environmental and Climate Justice Block Grants
 - Federal Emergency Management Administration (FEMA)
 - **Building Resilient Infrastructure and Communities (BRIC)**
 - **COJ/JEA received \$32m for Buckman Water Reclamation Facility Outfall Flood Mitigation and Wastewater Reliability in August of 2022**
 - **Hazard Mitigation Grant Program (HMGP)**
 - Flood Mitigation Assistance (FMA)
 - Safeguarding Tomorrow Revolving Loan Fund (STORM)
 - Army Corps of Engineers
 - Coastal Storm Risk Management Studies
 - Department of Transportation
 - Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
 - **Promoting Resilient Operations for Transformative, Efficient and Cost-Saving Transportation (PROTECT)**
 - **Reconnecting Neighborhoods**
 - National Oceanic and Atmospheric Administration (NOAA)
 - Climate Resilience Regional Challenge
 - National Integrated Heat Health Information System
 - National Fish and Wildlife Foundation
 - **National Coastal Resilience Fund**
 - **Groundwork Jax received \$5.8m for the design and permitting of the Hogan's Creek section of the Emerald Trail in December of 2022.**
 - Department of Energy
 - Weatherization Assistance Program
 - Department of Housing and Urban Development (HUD)
 - **Community Development Block Grant - Mitigation (CDBG-MIT) AND Community Development Block Grant - Disaster Recovery (CDBG-DR)**
 - Green Resilient Retrofit Program
 - Department of Agriculture (USDA) - **Funding available for food security in urban and rural areas: <https://www.nifa.usda.gov/grants/programs/hunger-food-security-programs>**

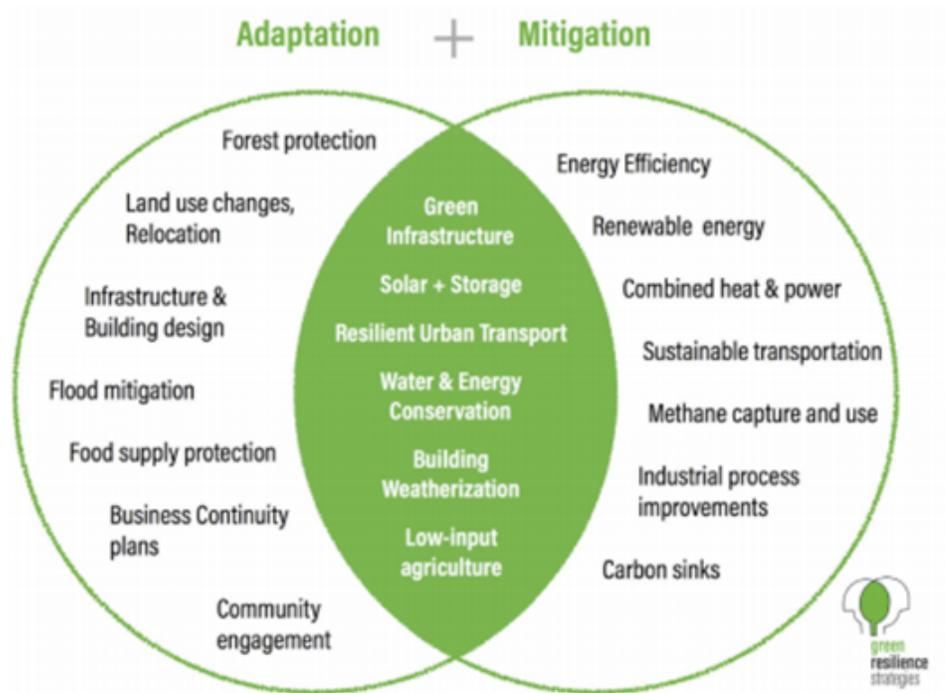
State funding

- Resilient Florida – Implementation Grants
- Water Quality Improvement Program
- Rebuild Florida
- FEMA’s Building Resilient Infrastructure and Communities
- Ken Knight Drive CDBG-DR –
<https://www.jacksonville.com/story/news/local/2020/09/09/jacksonville-picks-ken-knight-drive-5-million-home-buyout-program/5739979002/>
- Aggressively seek resilience funding through the next Federal water projects authorization bill

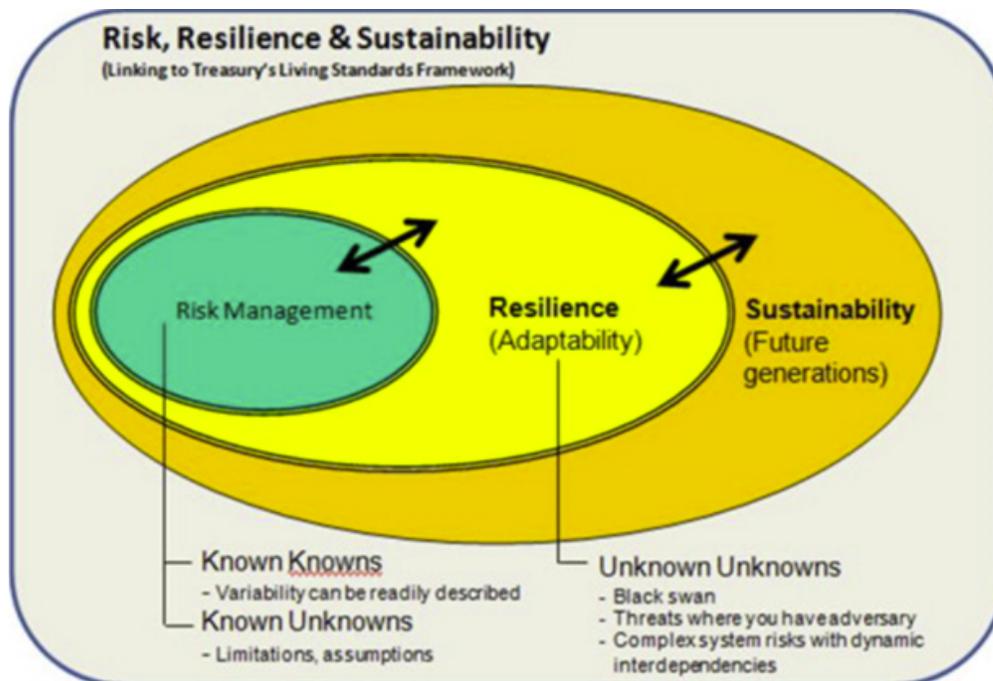
ASSESSMENT AND MATRICES

- Equity Impact Assessment (Michigan Department on Health & Human Services)
- Equity Impact Assessment Tool Washington State University Vancouver
- State of Vermont Equity Impact Assessment Tool
- Linkov et al. (2013), Measurable Resilience for Actionable Policy (<https://pubs.acs.org/doi/10.1021/es403443n>).
- Flanagan et al. (2018), Measuring Community Vulnerability to Natural and Anthropogenic Hazards: The Centers for Disease Control and Prevention’s Social Vulnerability Index (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7179070/>).
- Fox-Lent et al. (2015), A Matrix Approach to Community Resilience Assessment: An Illustrative Case at Rockaway Peninsula (<https://link.springer.com/article/10.1007/s10669-015-9555-4>).
- Bryson et al. (2012), Designing Public Participation Processes (<https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1540-6210.2012.02678.x>).
- Greg Hampton (1999), Environmental Equity and Public Participation (<https://link.springer.com/article/10.1023/A:1004591620163>).
- Nicola Hartley and Christopher Wood (2005), Public Participation in Environmental Impact Assessment: Implementing the Aarhus Convention (<https://www.sciencedirect.com/science/article/abs/pii/S019592550400160X>).

KEY FIGURES & ILLUSTRATIONS

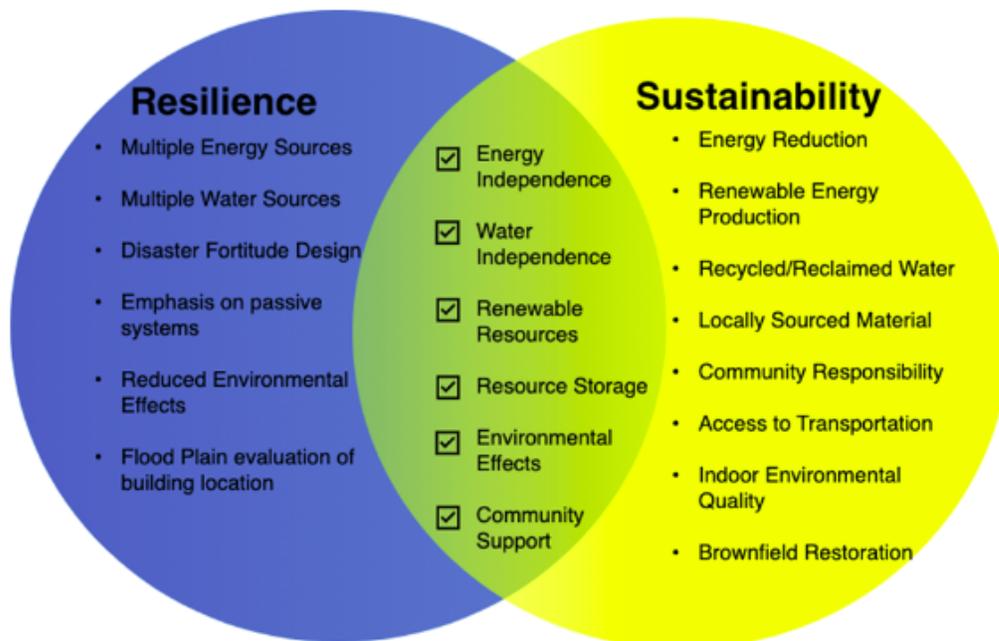


Climate Adaptation and Mitigation Synergies. Green Resilience Strategies (2017). Graphic concept modified with acknowledgment of David Macleod, City of Toronto.

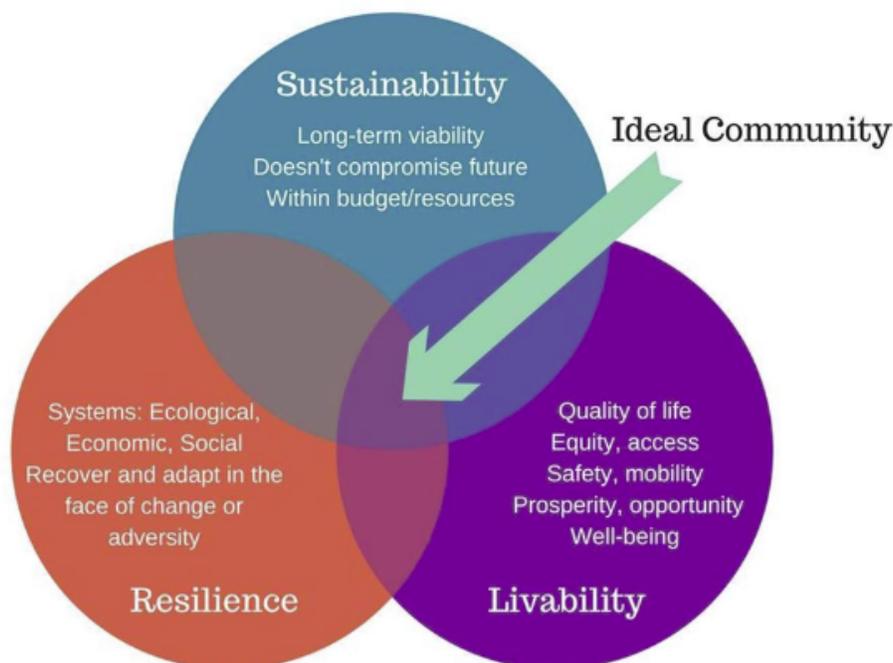


H. Blake, The treasury's higher living standards framework: update on the sustainability dimension, in: Proceedings of the Paper presented at the Sustainability Rhetoric: Facts and Fictions, 2013.

KEY FIGURES & ILLUSTRATIONS



Resilience versus Sustainability and the United Nations goals. Adapted from [Echotape \(2018\)](#).



Ideal Community image created by Jan Beange

SUSTAINABILITY & RESILIENCE RESOURCES (STATE & NATIONAL)

OTHER CITIES- DEPARTMENT STRUCTURE & PLANS

- **Orlando Office of Sustainability & Resilience** - [Website](#)
 - [Resilience Hub website](#) -[Future Ready Plan](#)
- **Tampa Office of Sustainability & Resilience**- [Green Tampa website](#)
 - [Resilient Tampa](#) - [Climate Action Plan](#) - [Fast-Track Permit for Green Construction](#)
- **Miami Office of Resilience and Sustainability**- [Website](#) - [Greenhouse Gas Reduction Plan](#) / [Miami Forever Climate Ready](#) / [Climate Ready Strategy](#)
- **Miami Dade County Office of Resilience** - [Website](#) - [Resilient305](#)
- **New Orleans Office of Resilience and Sustainability** [Website](#) - [Actions](#)
- **Resilient DC** - [Strategy & 2022 Progress Report](#)
- **Sustainable DC** - Urban Sustainability Administration [Website](#)- [Plan & 2023 Progress Report](#)
- **San Francisco Environment Dept** [Website](#) - [San Francisco Living Shorelines Project](#) - [Climate Plan](#)
- **NYC Mayor's Office of Sustainability, Climate & and Environmental Justice** [GreenNYC Website](#)- [PlaNYC Report](#)
- **U.S. Climate Resilience Toolkit** - [Climate.gov](#)

LOCAL RESOURCES & ARTICLES

- [COJ municipal code](#)
- Jacksonville Climate Coalition Resilience Subcommittee [Recommendations](#)
- St. Johns Riverkeeper Resilience Subcommittee Focus Area [Recommendations](#)
- [State of the River Report](#) -
- [Center for Sustainable Agricultural Excellence and Conservation \(CSAEC\)](#) – [Logic Model Template](#) /
- JTA – [Move 2027 Plan](#) / [Jobs for Jax](#)
- [North Florida Clean Cities](#)
- [Jacksonville Trees to Offset Stormwater Case Study](#)
- [JEA Recommendations for IRA \(Joshua Melko, UNF\)](#)
- [Resilient Jax Policy Priorities](#) before COJ adopted name
- [Renew Jacksonville Campaign website: https://renewjax.org/](#)
- [Mark Gelfo designs critical facilities emergency power systems,](#)
- [PV systems and more; mark.gelfo@tlc-eng.com](#)
- NativeJax – <https://www.nativejax.com/>

Articles & Videos

- [JEA HQ: Project Article](#)
- [Video natural channel design as applied to McCoys Creek:](#)
- [Climate displacement/gentrification - JaxToday Article](#)
- [Article: Groundwork Jacksonville awarded major grant for waterways restoration \(Resident Community News\)](#)
- [Article: The Jacksonville environmental groups trying to tackle racial disparities \(The Guardian\)](#)
- [Article: J magazine: The St. Johns, a river in peril \(Florida Times-Union\)](#)
- [Article: Jacksonville named at risk for climate gentrification. How can we lessen the threat? \(ADAPT Florida\)](#)
- [Article: As seas rise, Florida will likely lose more coastal property value than any other state \(ADAPT Florida\)](#)
- [FL Woman of the Year in Agriculture: Article - Video](#)
- [Article: Food from Farms to Seniors:](#)
- [Video on how to address food deserts](#)
- [LEED Gold cities like Miami lead on climate resilience](#)
- [GSA uses SITES to nurture the landscape and manage stormwater](#)
- [A look at resilience bills in Washington state](#)
- [Enhancing resilience through building information modeling](#)
- [PEER-certified airports in India take flight with power resilience](#)
- [American Forests Releases Tree Equity Scores for 150K+ Neighborhoods in the U.S.](#)
- [Since When Have Trees Existed Only for Rich Americans?](#)
- [Local LEED projects- <https://www.usgbc.org/community/north-florida?view=projects>](#)

Certification/Rating Systems

- [Resilient Guidelines + Certification \(RELi\) Website](#)
 - [Institute for Market Transportation Guidelines for Resilient Design & Construction](#)
 - [RELi Action List](#)
 - Other resources: c3livingdesign.org
- [Sustainable Sites \(SITES\) Rating System – Website](#)
- [Performance Excellence in Electricity Renewal \(PEER\) Website](#)
- [USGBC Leadership in Energy & Environmental Design \(LEED\) Green Building Certification Website](#)
- [Adapt Action Guide - Website](#)
- [STAR Community Rating System Resilience Guide – \[STAR_Resilience-Guide_final.pdf\]\(#\)](#)
- [Florida Green Building Certification Website](#)
- [WELL Heath Safety Rating Website](#)

Links from Credible Non-profits

- U.S. Sustainable Directors Network
 - [USDN Resilience Hub website resources](#)
 - [USDN Resilience Hubs Guidance Document](#)
 - [USDN Resilience Hub White Paper](#)
- [Making Sense of FL's New Resilience Act](#) (Source: Florida Climate Center)
- US Green Building Council's Center for Resilience & Other Resources
 - [Profiles of Resilience: LEED in Practice](#) highlights several LEED-certified projects that have exhibited exemplary resilience.
 - [Resilient by Design: USGBC Offers Sustainability Tools for Enhance Resilience](#) defines resilience in the context of green buildings and LEED, while also examining how USGBC supports resilient measures and supporting activities.
 - The [LEED Climate Resilience Screening Tool for LEED v4 Projects](#) offers a framework to help identify climate-related effects on projects, and to determine effective strategies for enhanced resilience.
 - [Green Building and Climate Resilience: Understanding Impacts and Preparing for Changing Conditions](#) is a study of the impacts of climate change and examination of potential mitigation strategies for the changing conditions that result. This study was completed by the University of Michigan in collaboration with USGBC.
 - [Voluntary Resilience Standards: An Assessment of the Emerging Market for Resilience in the Built Environment](#) is a report by Meister Consulting Group that explores strategies and tools made available to facilities and managers in growing and implementing resilient buildings, including LEED, SITES, and PEER.
 - [Energy Transition Framework for Cities](#) is a study conducted by DNV-GL that examines best practices for energy in cities, including how many are working to ensure resilient communities and reliable energy performance.
 - [Natural Hazard Mitigation Saves](#) is an interim report by the National Institute of Building Science that examines incentives for resilience tactics and discusses the value of mitigation funding in planning for potential disasters.
 - A [study by University of Texas at San Antonio](#) focuses on how LEED v4: New Construction specifically addresses building resilience by providing multiple credit-based opportunities for enhancement.
 - [Water Conservation and Water Resource Management in California's Green Buildings: Insights and Opportunity](#) is a USGBC analysis of how California's green buildings have prioritized water conservation and water resource management to enhance state and local resilience.
 - [Building a Healthier, More Resilient Future](#) outlines an expanded suite of programs and resources focused on improving building and community resilience in the face of climate risks.
 - [Measuring Resilience Guide](#) -- <https://www.usgbc.org/articles/new-measuring-resilience-guide-released-cities-and-communities>
 - My Green Doctor www.MyGreenDoctor.org and www.MyGreenDoctor.es (en Español)

NATIONAL & INTERNATIONAL RESOURCES

- COMET-Farm (USDA) -- <https://www.comet-farm.com/>
- Climate Smart Restoration Tool -- <https://climaterestorationtool.org/csrt/>
- Climate Data Tool -- <https://ccafs.cgiar.org/resources/tools/climate-data-tool>
- EPA Environmental Justice Screening and Mapping Tool (EJScreen) -- <https://www.epa.gov/ejscreen>
- EPA's Climate Resilience Evaluation and Awareness Tool (CREAT) Climate Scenarios Projection Map -- <https://epa.maps.arcgis.com/apps/MapSeries/index.html?appid=3805293158d54846a29f750d63c6890e>
- CDC National Environmental Public Health Tracking Climate Change -- <https://www.cdc.gov/nceh/tracking/topics/ClimateChange.htm>
- [United Nations Convention on Climate Change](#)
- [National League of Cities](#)
- [Department of Energy](#)
- [Environmental Justice State by State: https://ejstatebystate.org/](https://ejstatebystate.org/)
- [Post Carbon Institute – https://www.resilience.org/](https://www.resilience.org/)
- [International Coalition on Sustainable Infrastructure](#)
- [International Risk Governance Council – Resource Guide on Resilience / White Paper: Measuring Urban Resilience As You Build It - Insights from 100 Resilient Cities](#)
- [Resilience Rising \(global consortium of NGOs and initiatives\) – Resources / The Climate Resilient Infrastructure Report: A focus on implementation](#)
- [US Compost Council's new research on ROI for several project uses. https://compostfoundation.org/Return-on-Investment](https://compostfoundation.org/Return-on-Investment)
- [Compost Research & Education Foundation: https://drive.google.com/u/0/open?usp=forms_web&id=1re1DgMUwx_e6sWo1JIHZoxlaaQAvcMxM](https://drive.google.com/u/0/open?usp=forms_web&id=1re1DgMUwx_e6sWo1JIHZoxlaaQAvcMxM)
- [Carbon credits and biochar: https://www.carbon-standards.com/docs/transfer/36_400EN.pdf](https://www.carbon-standards.com/docs/transfer/36_400EN.pdf)
- [Restoration Agriculture Development: Redesigning Agriculture in Nature's Image – https://www.restorationag.com](https://www.restorationag.com)
- [Regregarians – http://www.regrarians.org/](http://www.regrarians.org/)
- [Permaculture Institute in North America – https://pina.in/](https://pina.in/)
- [Savanna Institute – https://www.savannainstitute.org/](https://www.savannainstitute.org/)
- [Geoff Lawton, The Permaculture Research Institute – https://www.permaculturenews.org/author/geofflawton/](https://www.permaculturenews.org/author/geofflawton/)
- [Holmgren Design – https://holmgren.com.au/](https://holmgren.com.au/)
- [Omaha Permaculture -- https://www.omahapermaculture.org/](https://www.omahapermaculture.org/)

KEY PRESENTATIONS & REPORTS FROM PREVIOUS COJ RESILIENCE PLANNING EFFORTS

- Resilient Jacksonville [Draft Outline](#) of Actions & Sub-actions for Review & Feedback Purposes
- COJ Chief Resilience Officer – [Webpage](#) / July 21st Presentation [Part 1](#) & [Part 2](#)
- Video on understanding natural channel design as applied to McCoys Creek: <https://youtu.be/-v3NCuFLOYc>
- 2020-2021 COJ Special Committee on Resiliency – [Final Report](#) / [Webpage](#) (Presentations appear on the main page and under each subcommittee page)
- 2019 Storm Resiliency & Infrastructure Development Review Committee – [Presentation](#) / [Webpage](#)
- 2019 Adaptation Action Area Working Group – [Recommendations](#) / [Report](#) / [Webpage](#)
- [Business Case for Resilience in Southeast Florida \(2020 Urban Land Institute Report\)](#)
- [Climate Risk and Real Estate: Emerging Practices for Market Assessment](#)
- [Flood Funding Finder](#)
- [City of Jacksonville Storm Resiliency and Infrastructure Development Review Committee Presentation](#)
- [American Flood Coalition](#)
- [Financing the Flood Mitigation Project](#)
- [Flood Mitigation Presentation](#)
- [Smart Home America Presentation: Best Practices for Residential & Commercial Constr.](#)
- [Adaptation Action Area \(AAA\) Working Group Approved Recommendations - Dated 8/27/2019](#)
- [Adaptation Action Area \(AAA\) Working Group Report and Recommendations Dated - 11/2019](#)
- [Storm Resiliency and Hardening Workshop on Future Climate Scenarios Presentation by Jacobs - Dated 7/22/2020](#)
- [JEA Resilience Plan Draft Report \(Compressed\) - Dated 5/8/2020](#)

INDEX- List of Abbreviations

ABC – Associated Builders and Contractors
ABCD – Asset Based Community Development
AIA – American Institute of Architects
CIP – Jacksonville Capital Improvement Plan
CBO – Community-based organization
CHO – Chief Health Officer
CRO – Chief Resilience Officer
CSO – Chief Sustainability Officer
DDRB – Downtown Development Review Board
EJ- Environmental Justice
EJC – Ethics and Judicial Committee
EQD – Jacksonville Environmental Quality Division
EPA – U.S. Environmental Protection Agency
EWU – Edward Waters University
FCMA – First Coast Manufacturer’s Association
FDACS – Florida Department of Agriculture and Customer Services
FSCJ – Florida State College at Jacksonville
IIJA – Infrastructure Investment Jobs Act
IRA – Inflation Reduction Act
JSO – Jacksonville Sheriff's Office
JU – Jacksonville University
NAACP - National Association for the Advancement of Colored People
NEFBA – Northeast Florida Builders Association
NOAA – National Oceanic and Atmospheric Administration
PACE – Property Assessed Clean Energy
SBDC – UNF Small Business Development Center
UNF – University of North Florida
USACE – U.S. Army Corps of Engineers
USGBC North Florida – U.S. Green Building Council North Florida





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with clickable links



COJ Mayor Deegan Transition Infrastructure Committee Resilience Subcommittee Final Report August 2023

Green, Ashantae; Boren, Sarah; Gellers, Joshua C. (August 2023). "COJ Mayor Deegan Transition Infrastructure Committee: Resilience Subcommittee Final Report"

Design Prepared by A Green Design Co. for the City of Jacksonville, Florida