



Our Environment

INTRODUCTION

While the environmental effects and increased demands on resources due to climate change and population growth affect everyone, people of color, residents of historically underserved neighborhoods, and low-income residents are more vulnerable to these threats. For example, Erika, a single mother lives in an older, predominantly Black neighborhood and owns a home that is 60 years old. The neighborhood was built in a low-lying area before modern stormwater regulations were in place, and the roads flood every time it rains, making it difficult and unsafe for her to drive to her job or pick up her kids from school. Her house has flooded during hurricanes and heavy rain events, which seem to be happening more frequently, and has caused thousands of dollars in property damage and raised her insurance rates to a point where she has had to pick up a second job to pay the bills. Her home has suffered water damage which she has been unable to repair, and mold has started growing which has worsened the severity of her son's asthma. Saving up for the needed repairs has caused her to put other necessary home improvements and repairs on the back burner, such as replacing a 25-year-old A/C unit that always seems to stop working on the hottest days, or the leaking, inefficient toilet that has been there since the house was built. Her utility bill is typically upwards of \$300/month due to the inefficiency of her home, and is just one more expense that makes it harder for her to save and fix the issues.

Where We Are & How We Got Here:

Our environment plays a significant role in maintaining the health and vitality of our communities. It creates the conditions for which all Gainesville neighbors can live, work, and play. This concept is called Environmental Justice, which is the fair treatment and involvement of all people in environmental decision-making.¹ In light of increasing pressures due to climate change and statewide population growth, now more than ever it is important to responsibly manage our resources and infrastructure to ensure Gainesville's communities can adapt and thrive.

Today, who you are and where you live in Gainesville determines how you experience the environment. For example, due to historic disinvestment in Gainesville's communities of color, existing infrastructure is older and more vulnerable to drainage and flooding issues. Our environment and climate is inextricably connected to wellbeing, housing, health, food, and jobs. Negative environmental impacts can compound with economic and social conditions and result in higher levels of chronic health problems such as diabetes and asthma for low-income communities and communities of color.²

The City's historic disinvestment in Gainesville's Black communities and in particular, East Gainesville, lead to today's aging infrastructure that was constructed before the introduction of modern environmental regulations. This creates challenges with flooding and drainage, access to safe and affordable drinking water, and safe wastewater collection, while Gainesville's westside benefits from new infrastructure and development. In addition, a disproportionate number of hazardous industries are located around

¹ U.S. Environmental Protection Agency (EPA) (2017) Learn About Environmental Justice.

² U.S. CDC (2020) "COVID-19 in Racial and Ethnic Minority Groups."



communities of color. These disparities are the result of historic decisions such as redlining and racial covenants made by both the City, State, and Federal government, which disproportionately impact Black residents. In turn, Gainesville's Black residents are more likely to experience the impacts of climate change, displacement, and be exposed to harmful pollutants and toxins than their white counterparts.

In addition, climate change increases the risk of severe weather events, which disproportionately impacts communities with high social vulnerability and further taxes aging infrastructure. The increase in tropical related weather will increase challenges related to flooding. Those living in low lying areas and near creeks will deal with property damage, limited access to emergency services during storm events, and higher insurance costs. Higher temperatures that are exasperated by heat island effect can lead to negative health impacts and higher utility costs for residents without access to housing with efficient cooling systems. As climate risks increase in frequency and severity, central Florida and Gainesville will likely experience an influx in residents as Florida's coastal areas become less desirable due to rising seas.

In addition to inequitable exposure and impacts, where and how climate solutions are prioritized in Gainesville are uneven. Conversations regarding Gainesville's environment, including regulations and conservation programs, largely leave out perspectives from Black residents and communities of color. Current public engagement is dominated by white and upper- to middle-class residents. Current solutions do not address the challenges East Gainesville residents experience with proximity to an abundance of environmentally sensitive areas, including wetlands, floodplain, strategic ecosystems that have yet to be developed, and forested areas containing large numbers of heritage trees. In addition, East Gainesville neighborhoods tend to be older, with aging structures that may not meet safety and energy efficiency standards required of new construction. Current conservation and energy efficiency programs, which are focused on new construction, do not benefit many East Gainesville residents and lower-income homeowners are unable to update or renovate their home due to high costs.

Progress to Build On:

The City, in partnership with Gainesville Regional Utilities (GRU) and the County, recognize a need to address disparities in existing infrastructure, service quality; and combat the impacts of climate change both by reducing the City's emissions and by investing in climate and community resilience. Recent efforts include the adoption of the Zero Waste Plan with Alachua County, and the development of the City's first Urban Forest Management Plan, which guides the management of the City's urban forest based on the values of Gainesville residents for the next 20 years. The Urban Forest Management Plan prioritizes forest management strategies based on community values and needs and was created as a collaborative effort between the City, the University of Florida, local businesses, and Gainesville residents. The plan focuses on addressing community needs such as providing shade/reducing heat islands, stormwater attenuation, energy conservation, equitable access to parks and greenways, air and water quality, greenhouse gas sequestration, equitable access to outreach and education efforts regarding the urban forest, and continued social surveys to ensure efforts are targeted at the neighborhood level based on need.

The City in partnership with Alachua County is providing household hazardous waste events in East Gainesville to make hazardous waste services more accessible for residents. Zero Waste ordinances addressing wasted food diversion and the recovery of construction and demolition debris are underway. The City's Zero Waste Subcommittee, which has been working on waste reduction, reuse, and recycling will be transforming into the Nature Policies Subcommittee to support Gainesville to implement resilience and sustainability policy goals.



What's At Stake:

Ensuring that all Gainesville residents can enjoy their environment is critical to building quality of life and wellbeing. The City developed this plan as a first step towards creating an equitable environment and climate that prioritizes neighborhoods that disproportionately experience the negative impacts of climate change and our environment.

Outcome 1: Gainesville's water, waste, and energy infrastructure will be modern, safe, and reliable across all neighborhoods, addressing historic disinvestment and ensuring all communities are protected from flooding and the growing environmental effects of climate change.

In Gainesville, historic disinvestment in East side communities and other neighborhoods of color has led to aging infrastructure not built to current standards leaving residents vulnerable to flooding, storms, and other extreme weather events. Lower-income homeowners also have greater difficulty completing improvements and renovations to their homes. By targeting infrastructure improvements and investments where the need is greatest, we can ensure all Gainesville communities are ready to adapt to the environmental effects of climate change. In addition, programs targeted to Gainesville's most vulnerable residents will overcome the cost barrier to ensuring their homes are safe and energy efficient.

Strategies:

1. **Develop a clear capital investment prioritization framework that incorporates social vulnerability into decision-making processes to ensure the City allocates capital funding based on disproportionate need and risk across all neighborhoods.** City leadership and Public Works will create a process that requires decisions on project prioritization, design, and location are informed by updated data and environmental justice and socioeconomic considerations. This includes:
 - a) Regularly collect and update Gainesville's climate and hazard risk projections to support decision-making.
 - b) Develop process to require that decisions are informed by framework and updated risk data.
2. **Identify and prioritize existing and new sources of funding, such as grants, to modernize infrastructure in areas with substandard infrastructure, high risk of flooding, and/or with limited resources to address flooding and other climate events.** City Leadership and Public Works will leverage funding to modernize infrastructure in Gainesville communities that have experienced disinvestment and as a result, currently experience nuisance flooding and drainage challenges.
3. **Develop and promote new programs to support low-income homeowners and owners of low-income housing to modernize on-site infrastructure.** For example, many low-income homeowners have inefficient energy systems, increasing utility costs, and high vulnerability during storm events and extreme temperatures. The City and GRU will identify barriers property owners face in



converting to modern, safer, lower-cost technologies and develop strategies to overcome them. Strategies may include the development of cost-shares and other incentive programs to assist low-income households carry out conversions.

4. **Mitigate the impacts of new development on stormwater runoff and other infrastructure challenges.** Development, by introducing hard surfaces and regrading sites, has the potential to increase stormwater runoff on neighboring sites and otherwise overtax existing water, waste, or energy infrastructure. To avoid these impacts, the Department of Sustainable Development, Department of Strategic Initiatives, Public Works, and GRU will:
 - a) Implement a soil amendment ordinance for new development to reduce soil contamination.
 - b) Expand neighborhood workshop requirements for new development to ensure community feedback on drainage and flooding are heard and integrated into the design. This will ensure that community safety and damage to adjacent properties will be avoided or mitigated by any new development, while also prevent delays to new development that will provide positive community benefits, such as new housing.
5. **Implement waste-related services equitably across all Gainesville communities, prioritizing expansion and investment in communities that are currently underserved.** To date, the City has been focused on maintaining current recycling participants and improving service quality and therefore, has not directly engaged residents in recycling and solid waste education. Public Works will allocate resources to educate residents on the individual and community-wide benefits of reducing, reusing, and recycling. Additionally, the City will provide additional opportunities to properly dispose of household hazardous waste by conducting collection events in low-income neighborhoods.
6. **Create a climate action and resilience coordination role in the City to oversee climate strategic planning and policy, recommend priority investments and funding allocations for climate initiatives, and coordinate across government infrastructure, utilities, and land management functions.** This role will build greater coordination across the City, support in implementation, and build accountability. The climate action and resilience role will include:
 - a) Convening a Climate Working Group with City departments, GRU, Alachua County, community members and others.
 - b) Representing the City of Gainesville in regional coordination with Alachua County, and neighboring cities and regions to address climate and environmental justice.
 - c) Leading the development of the environmental justice study and coordinate across departments to support implementation.
7. **Establish regional coordination strategies with Alachua County, neighboring cities, and others to prepare for and address climate risks grounded in racial equity and environmental justice.** In addition to a state of good repair, the City needs to plan capital improvements that protect climate-vulnerable communities from the impacts of severe weather, prioritizing communities with high social vulnerability. In addition, a heat vulnerability analysis will be completed to identify areas of high risk and social vulnerability, and strategies created to mitigate the impact of extreme heat on these communities. The Department of Sustainable Development, Public Works,



and GRU will support and participate in Alachua County's effort to create and implement the Joint Climate Action Plan.

Indicators:

- Percentage of households served by the sewer system by community
- Rating of water, sewer, and energy infrastructure by community
- Dollars identified to support expansion of high quality infrastructure by community need
- Amount of new infrastructure receiving investment by community
- Amount of infrastructure in high-risk areas that has been replaced or improved
- Social surveys indicating success of prioritization framework
- Implementation of Advanced Metering Infrastructure (AMI) by community
- Recycling set out rates by community

Outcome 2: All residents enjoy a healthy environment, with clean air, water, and land, equitable access to natural areas, and no neighborhood bearing an unequal share of polluting uses or sites.

Environmental health is linked to human health. Exposure to poor air and water quality can lead to increased incidence of illnesses such as asthma, cancer, and waterborne diseases that would otherwise be preventable. Accessibility to natural areas such as parks, greenways, and trails also effects health in many ways, from providing opportunities for exercise and recreation, to mental health benefits from spending time in nature. By improving air and water quality, and ensuring all residents have access to clean water, air, and natural areas, regardless of where they live, we are investing in the health of our residents.

1. **Conduct a comprehensive environmental justice study to determine Environmental Justice (EJ) areas and recommend strategies and timelines to address disparities.** The study will define areas that are disproportionately impacted by toxicity and pollution, face high social vulnerability, and experienced systemic racism and inequitable resource distribution. Strategies to address disparities in EJ areas may include reduction, relocation, or closure of polluting uses; remediation of polluted sites, including through cleanup programs prioritized by community based on need and exposure to past or present harm; and policies and actions that ensure all responsible parties share responsibility with the City government for prevention, cleanup, and remediation.
2. **Prioritize land acquisition for conservation and park uses in historically disinvested areas that lack publicly-owned natural parks and dedicated conservation areas.** The City will maximize the protection of environmentally sensitive lands through the nomination of properties for acquisition with the Alachua County Forever program and other relevant funds. The City will focus on building equitable access and conserving lands containing high-quality, environmentally sensitive resources. PRCA, GIS, and Mobility Departments will collect data on Gainesville parks accessibility and identify barriers to access. Building on this, they will develop strategies and



pursue funding to address management and staffing challenges for the acquired conservation of lands and parks.

- 3. Continue to implement and update the City's Urban Forest Management Plan (UFMP) and Ecological Analysis.** Build on the UFMP and incorporate socioeconomic, heat vulnerability, pollution, and public health data into the analysis to guide future investment and resource prioritization. Meet current objectives of the UFMP and complete alternatives for action that address issues including but not limited to shading/canopy cover, energy savings, air and water quality, greenhouse gas sequestration, equitable access to parks and greenways, stormwater attenuation, equitable access to outreach and education efforts, and addressing values specific to neighborhoods or districts for capital improvement projects. Repeat and revise the social survey to ensure all communities and demographic groups are reached and included. Public Works and the Department of Sustainable Development will build on the UFMP and incorporate socioeconomic, heat vulnerability, pollution, and public health data into the analysis to guide future investment and resource prioritization; meet current objectives of the UFMP and complete alternatives for action that address issues including but not limited to shading/canopy cover, energy savings, air and water quality, greenhouse gas sequestration, equitable access to parks and greenways, stormwater attenuation, equitable access to outreach and education efforts, and addressing values specific to neighborhoods or districts for capital improvement projects; and repeat and revise the social survey to ensure all communities and demographic groups are reached and included.
- 4. Develop strategies to address barriers to the productive use of citywide contaminated sites with a focus on areas that can address community needs such as parks, housing, and other community-serving uses like grocery stores.** The Departments of Sustainable Development, Housing, and Strategic Initiatives will develop strategies that may include but are not limited to cost shares or permitting fee waivers to overcome the burden of cleanup costs, and assistance with community engagement and communications to overcome negative perceptions of development on a brownfield site.

Indicators:

- Heat vulnerability by community
- Air and water quality of neighborhood
- Acreage of park lands, open space, and conservation lands by community.
- Qualitative assessment of park lands, open space, and conservation lands by community.
- Number of active site remediations and completed site cleanups compared to baseline.
- Number and composition of participants in site remediations and cleanups.
- Results of social surveys to determine success of mediation efforts

Outcome 3: Gainesville will make significant progress to reduce the City's carbon footprint, incorporate renewable sources for energy production, and reduce landfill waste, and lead regional efforts to combat climate change.



Now more than ever, it is important for Gainesville to responsibly manage its resources in light of increasing pressures of climate change and population growth. By reducing our carbon footprint, providing assistance to residents to reduce their energy use, and reducing and diverting our waste, we can ensure Gainesville is able to adapt and thrive despite these pressures.

1. **By 2045, Gainesville will generate all energy from renewable sources.** The City will seek opportunities to add solar on City properties and GRU will continue to pursue larger solar projects, purchase renewable energy from available sources, and determine the feasibility of biomass projects.
2. **Create comprehensive strategies to lower carbon impacts from City government operations that clearly identify responsible agencies and departments.** The Departments of Public Works, Strategic Initiatives, and Fleet Management will work across departments to reduce energy consumption in new and current buildings, identify solar opportunities on City property, expand its electric vehicle fleet, reduce vehicle idling times, identify and correct gaps in existing data on the City's carbon footprint and environmental impact; and collect data and report on progress against targets on an annual basis. In addition, the City will develop a set of policies and tools to ensure that all new investments in City facilities and infrastructure prioritize lower carbon footprints.
3. **Promote energy and resource conservation in historically disinvested communities through programs and regulations.** Actions include:
 - a. Public Works, GRU, and PRCA in partnership with the County will create education programs to engage residents on climate risk, climate science, and solutions. This includes outreach on energy, water conservation, and urban forestry programs that are targeted to the needs of residents who are the most vulnerable to environmental risks.
 - b. GRU will establish incentives for businesses and residents to encourage a reduction in energy, water, and waste consumption that specifically support historically marginalized and low-income Gainesvillians and that reduce energy consumption in older, low-income neighborhoods.
 - c. The Department of Sustainable Development will create and expand upon existing incentives in the Land Development Code to promote sustainable forms of development. This includes but is not limited to development that is less car-dependent, higher-density, more energy efficient, less water intensive, lower-impact in terms of materials and natural resources, and responsive to climate risk.
 - d. The Department of Sustainable Development will define and enforce a minimum set of energy efficiency standards for rental housing in a rental housing ordinance, which landlords are responsible for meeting.
 - e. GRU will continue and expand on the Low-income Energy Efficiency Program Plus to serve residents with the greatest need. The program currently assists low-income customers with home improvements that can lower a household's electric bill and reduce energy consumption. Today, the program offers on average \$4,250 of approved upgrades to the home.



4. **By 2040, the City will divert 90% of citywide solid waste from methane producing landfills by expanding composting, recycling, and waste reduction efforts, including community-driven efforts.**
 - a. The City Commission and Department of Public Works will codify the City's Zero Waste Plan to modify existing policies, systems, programs and infrastructure in order to reduce waste and improve diversion opportunities, in particular reducing the need for solid waste facilities.
 - b. The Department of Public Works will implement a food waste diversion programs for commercial, single-family, and multifamily properties prioritizing program expansion and outreach in communities of greatest need.
 - c. The Departments of Public Works, Sustainable Development and GRU will develop a new soil amendment ordinance to create the demand for the beneficial use of wastewater residue, biosolids, and food waste which create environmental benefits and lower GHG emissions to the environment.
 - d. The Department of Public Works will develop a new household items and furniture reuse program to offer used items at affordable prices to Gainesville residents. As a part of program development, Public Works will create program criteria to ensure these items first are available to low-income residents.
 - e. The City will develop a citywide ordinance to require any construction or demolition permits to recycle, reuse, and/or recover materials. The City will work with the County to site regional facilities to process the reuse of materials and expand current processing capacity.

Indicators:

- Per capita energy and water consumption by community
- Trends in implementation and effectiveness of energy, water, and urban forestry conservation programs across the City and by census block group
- City government carbon impacts versus benchmark year
- Percentage of energy sourced from renewables
- Results of social surveys to determine success of outreach and education programs
- Landfilled waste per capita
- GRU GHG emissions per customer

Potential Data

- Map of areas of high flood risk, or stormwater systems that are not up to par
- Map of undeveloped strategic ecosystem areas
- Map and acreage of nature parks and conservation areas