

Fayetteville, Arkansas



CITY OF
FAYETTEVILLE
ARKANSAS

FAYETTEVILLE CLIMATE ACTION PLAN

FEBRUARY 2024

olsson®

Acknowledgments

City of Fayetteville Departments and Divisions:

Sustainability and Resilience Department
Geographic Information System Division
Utilities Department
Public Works Department
Parks, Natural Resources and Cultural Affairs Department
Communications Department
Development Services Department
Engineering Division
Transportation Division
Fleet Operations Division
Park Operations Division
Urban Forestry Division

Stakeholder Group Consisting of City Boards, Community-Environmental-Non-Profit Organizations:

Citizen Representative	Beaver Watershed Alliance
City Council	Illinois River Watershed Partnership
Environmental Action Committee	Northwest Arkansas Regional Planning Commission
Parks and Recreation Advisory Board	Northwest Arkansas Land Trust
Active Transportation Committee	Watershed Conservation Resource Center
Urban Forestry Advisory Board	Arkansas Natural Heritage Commission
Fayetteville Community Development and Assistance Programs Advisory Board	Fayetteville Black Heritage Preservation Commission
Fayetteville Natural Heritage Association	



Table of Contents

1.0 Introduction	2
Purpose.....	3
2.0 Feeling the Impacts of Climate Change	4
2.1 Economic Impacts.....	5
2.2 Social Impacts.....	6
2.3 Environmental Impacts.....	7
3.0 Mitigation and Adaptation	9
3.1 What is the difference between mitigation and adaptation?.....	9
3.2 What are emission reduction strategies?.....	9
3.3 What are Nature-Based Solutions?.....	11
3.4 Benefits of Nature-Based Solutions?.....	12
4.0 Planning Process	20
4.1 What is a climate action plan?.....	20
4.2 Background.....	21
4.3 Public Engagement.....	28
5.0 Planning Tools	29
5.1 Climate Resilience Map.....	29
5.2 Prioritization Tool.....	32
6.0 Emissions Reduction Goals	36
Energy.....	37
Transportation.....	39
Waste.....	42
Water.....	44
7.0 Nature-Based Solutions Goals	47
Ecosystem Services.....	48
Ecosystem Resilience.....	52
Carbon Sequestration.....	56
8.0 Climate Equity Goals	58
8.1 Strategies & Actions for Climate Equity.....	59
Endnotes	62
Appendices	66
Appendix A - Public Engagement and Stakeholder Report	
Appendix B - Climate Resilience GIS Technical Report	
Appendix C - Action Prioritization Tool	
Appendix D - Sector Goals, Strategies, & Actions	
Appendix E - Native Plant Species for Climate Resilience	
Appendix F - Greenhouse Gas Inventory	





1.0 Introduction

Fayetteville is facing a climate crisis. Extreme weather events and constrained resources directly affect our residents, especially those who live in low-income and disadvantaged neighborhoods. How we address this crisis will affect current and future generations' abilities to thrive and exist. To meet the magnitude of this crisis, we are joining the global community of cities developing a comprehensive climate strategy. Building off Fayetteville's 2018 Energy Action Plan, this Climate Action Plan (CAP) sets ambitious mitigation targets, including an overarching goal of net-zero emissions by 2050. Setting a net-zero goal aligns Fayetteville with international targets that aim to balance greenhouse gas (GHG) production with atmospheric removals. To be on track to be net zero by 2050, the community will need to decrease our cumulative GHG emissions by 37 percent by 2030.

In addition to ambitious mitigation targets, the CAP also introduces nature-based climate adaptation goals that recognize climate change is already having a significant impact on our daily lives. This CAP is the city's framework and policy commitment to mitigate GHG emissions and to use nature-based solutions to enhance ecosystem services and adaptive resilience.



Purpose

This plan reflects the latest science and aligns with international standards for measuring GHG emissions. Goals, strategies, and actions are grounded through science-based targets designed to reach net-zero carbon emissions by 2050. Science-based targets are a way for organizations to define emissions reduction targets by focusing on the quantity of emissions that need to be reduced to meet the targets set out in the Paris Climate Agreement, limiting global warming to 1.5 Celsius (C). Net-zero is a key part of the Paris Climate Agreement, defined as a condition in which human-caused residual GHG emissions are balanced by human-led removals over a specific period and within specified boundaries.¹

This five-year plan update also broadens the scope of influence beyond carbon emissions through the addition of a Nature-Based Solutions Chapter that addresses carbon sequestration and climate change adaptation strategies to improve resilience to extreme weather. A focus on resilient natural ecosystems as components of the city's gray and green infrastructure is a necessary addition considering the progression of climate change. Climate models show an increasingly shorter opportunity to keep global surface temperatures from rising 1.5 C. Meanwhile, extreme weather events are already affecting cities and communities. Mitigating the drivers of climate change is still critical, but we must also begin adapting to the impacts of climate change now.

Intentionally, this CAP aligns with other city master plans and is meant to complement and reinforce the sustainability and resilience-oriented goals, strategies, and actions identified in the City Plan 2040, the Fayetteville Mobility Plan, the Parks Master Plan, the Recycling and Trash Master Plan, the Urban Forestry Master Plan, and the Active Transportation Plan.



CITY PLAN 2040
FAYETTEVILLE, ARKANSAS



FAYETTEVILLE MOBILITY



2.0 Feeling the Impacts of Climate Change

In the coming decades, Arkansas will become warmer and experience more severe floods and droughts.² As the region's climate changes, heavier rainfall events are expected to lead to more stormwater runoff and flash flooding.³ Though storm events are expected to become more intense, climate change is also expected to produce fewer rainfall events overall, which will lead to more regional droughts and a resulting drop in surface water and groundwater recharge.⁴ Extreme heat will also exacerbate the effects of drought on the region's water supply. Heat causes an increase in the evapotranspiration rate and decreases water availability.^{5, 6} In addition to environmental impacts, these climate change effects will negatively affect Fayetteville's economy and the quality of life of many city residents.^{7, 8}

Global Climate Change Data Trends

The National Oceanic and Atmospheric Administration (NOAA) monitors global climate data and has provided the following global data trends:

- *Global temperatures rose about 1° C from 1901 to 2020.⁹*
- *The amount of carbon dioxide in the atmosphere has risen by 25 percent since 1958 and by about 40 percent since the Industrial Revolution.¹⁰*
- *Sea-level rise has accelerated from 1.7 millimeters (mm)/year throughout most of the twentieth century to 3.2 mm/year since 1993.^{11, 12}*

2.1 Economic Impacts

Fayetteville is also susceptible to economic impacts from the effects of climate change, including flooding, drought, and extreme heat.

- **Infrastructure Costs:** The city may face escalating costs related to the maintenance and repair of infrastructure. Extreme weather events, such as floods and storms, can damage roads, bridges, and other critical infrastructure, requiring substantial financial resources for rehabilitation.
- **Insurance Premiums:** The increased frequency and severity of climate-related events can lead to higher insurance premiums for both the city and its residents. This places an additional financial burden on the local government and property owners.
- **Agricultural Impacts:** If the local agricultural sector is affected by changing climate conditions, it can affect food production and supply chains. This situation may lead to increased food prices, affecting both businesses and consumers in Fayetteville.
- **Public Health Expenditures:** Climate change can influence public health, leading to increased incidents of heat-related illnesses, the spread of diseases, and higher health care costs. The city may need to invest more in health care infrastructure and services to address these emerging challenges.
- **Tourism and Recreation:** If local natural attractions, parks, or recreational areas are adversely affected by climate change, it could affect tourism and outdoor activities. A decline in tourism may have a ripple effect on the local economy, affecting businesses in the hospitality and service sectors.
- **Property Values:** Climate-related risks, such as increased flood susceptibility, can influence property values. This may lead to potential financial losses for property owners and affect the overall tax base of the city.
- **Energy Costs and Demands:** Changes in climate patterns may influence energy consumption and costs. Higher temperatures could lead to increased demand for cooling, affecting energy infrastructure and expenses for both residents and businesses.

Addressing these economic impacts requires strategic planning, investment in resilient infrastructure, and the development of adaptive policies. Fayetteville will need to collaborate with stakeholders, implement sustainable practices, and prioritize climate resilience to safeguard the city's economic stability in the face of ongoing climate change.





2.2 Social Impacts

Climate change poses profound and far-reaching social impacts, affecting communities globally. One of the most significant threats is the exacerbation of existing inequalities. Vulnerable populations, including low-income communities, indigenous groups, and marginalized individuals, often bear the brunt of climate-related disasters and disruptions.

Extreme weather events, such as hurricanes, floods, and droughts, can displace entire communities, leading to forced migration and heightened competition for resources. This scenario not only strains social cohesion, but also amplifies the risk of conflict and displacement. Inadequate infrastructure and limited access to resources exacerbate the vulnerability of marginalized groups, leaving them disproportionately affected by the consequences of climate change.

Health is a major social concern as rising temperatures contribute to the spread of infectious diseases, increase the frequency of heat-related illnesses, and compromise access to clean water and sanitation. Vulnerable populations face heightened risks of malnutrition, waterborne diseases, and vector-borne illnesses.

Addressing the social impacts of climate change necessitates a comprehensive and inclusive approach. Adaptation and mitigation strategies must prioritize vulnerable communities, assuring equitable access to resources, health care, and opportunities for sustainable livelihoods. Additionally, fostering community resilience, enhancing education and awareness, and promoting regional and international cooperation are crucial components in building a more socially resilient world in the face of climate challenges.

2.3 Environmental Impacts

Intense rainfall and increased runoff will affect Fayetteville's environment, causing issues like flash floods, landslides, and harm to riparian areas because of stream bank erosion.^{15, 8} This circumstance poses a threat to wildlife by disrupting habitats and migration routes. Additionally, lakes and water bodies will suffer from sedimentation and nutrient loading, negatively affecting water quality and aquatic ecosystems.^{14, 8, 7}

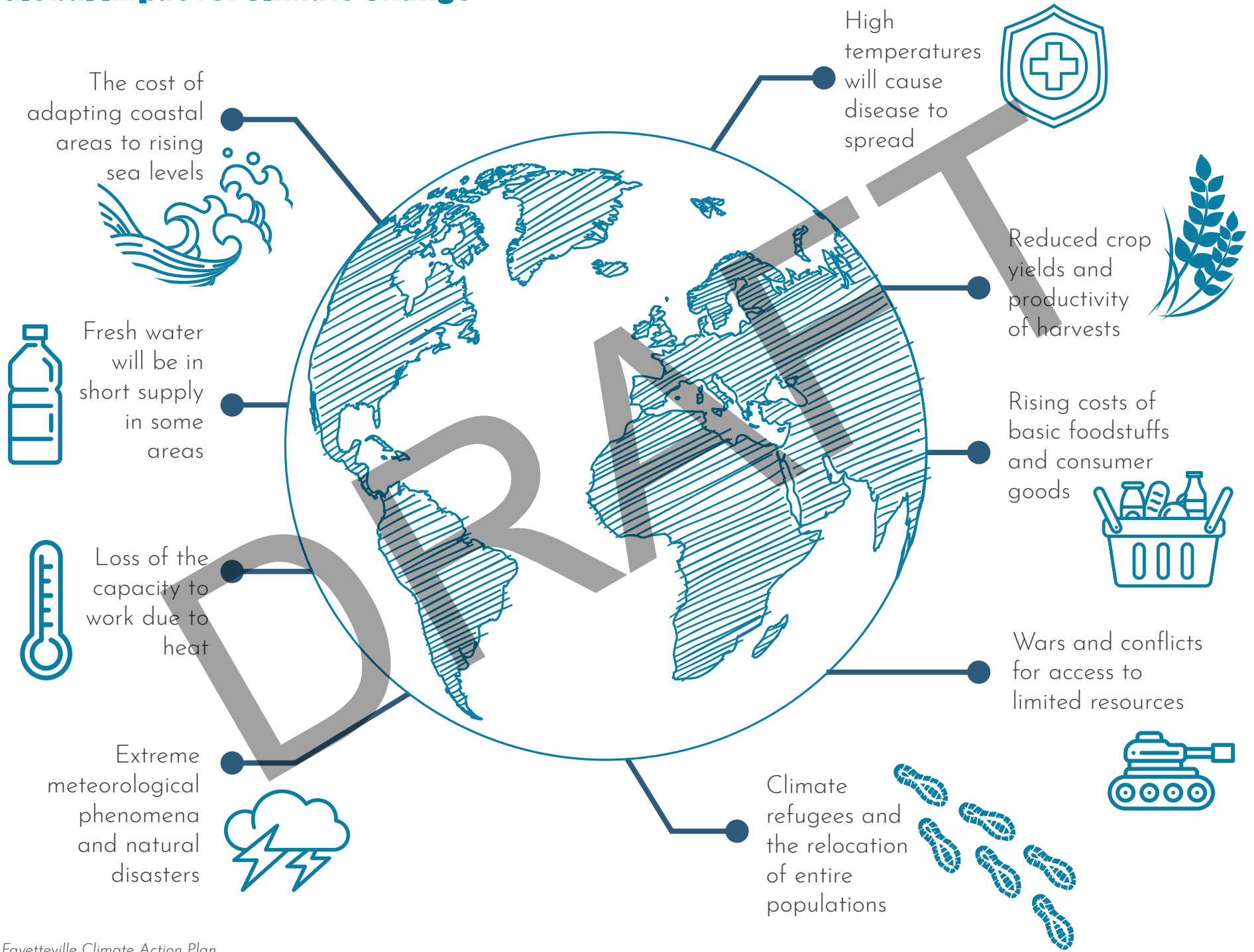
Conversely, prolonged droughts will also affect Fayetteville's ecosystems. Groundwater levels will drop, leading to the drying up of streams and negatively affecting aquatic life. This situation can particularly harm federally listed threatened and endangered species like the Ozark cavefish (*Amblyopsis rosae*) and Benton County cave crayfish (*Cambarus aculabrum*). Wildlife may face challenges in accessing water because of climate change effects on Beaver Lake and wetlands, which will affect habitat quality for species like amphibians.

A drier landscape will affect vegetation, leading to changes in species composition and exacerbating the urban heat island effect. Extreme heat and drought raise the risk of wildfires, threatening vegetation and increasing the likelihood of landslides during heavy rain events. Aquatic ecosystems will suffer from reduced stream flows, altered hydrology, and warmer water temperatures, affecting aquatic organisms. Fragmented ecosystems hinder the natural migrations of species in response to temperature changes.

Terrestrial ecosystems will witness decreased biodiversity because of the stress on trees and vegetation. Urban development disrupts heat-induced migration patterns, and extreme summer heat negatively affects urban trees, promotes the spread of invasive species, and increases pest outbreaks, affecting biodiversity and hindering ecological resilience to climate change effects in Fayetteville.



Global Impact of Climate Change



3.0 Mitigation and Adaptation

3.1 What is the difference between mitigation and adaptation?

Climate Change Mitigation and Adaptation: Climate change is a global issue felt most acutely at the local level through extreme weather events. Cities play a leading role in developing strategies to limit those effects through GHG reduction and carbon sequestration. What is becoming abundantly clear, however, is that as human GHG production continues to increase, cities must also be prepared to respond and adapt to the effects of climate change. Fayetteville's response thus involves a two-pronged approach for achieving net-zero emissions communitywide. This approach is realized through the following.

- **Mitigation** - Reducing the flow of heat-trapping GHG into the atmosphere and enhancing the carbon sinks, such as forests and soils, that sequester these gases. The goal of mitigation is to stop the accumulation of GHG levels to allow ecosystems to adapt naturally to climate change.
- **Adaptation** - Adjusting to actual or expected future climate to reduce harmful impacts of climate change and extreme weather such as flooding and heat waves. The goal of adaptation is to reduce or manage the risks to climate change impacts.

The CAP addresses both mitigation and adaptation through emission reduction measures and nature-based solutions. These two strategies overlap, and many actions in the CAP address both mitigation and adaptation simultaneously across sectors.

3.2 What are emission reduction strategies?

One way to mitigate climate change is by reducing GHG emissions. Emission reduction strategies are targeted at decoupling GHG emissions from energy production and economic activity. The CAP addresses mitigation through four key high-emission sectors: energy, transportation, waste, and water. Activities like renewable energy generation, electric vehicle use, energy efficiency improvements, public transit, urban form enhancements, waste reduction and recycling, water use reduction, and infrastructure improvements all play a role in reducing emissions and mitigating the effects of climate change.



MITIGATION

actions to reduce emissions that cause climate change

ADAPTATION

actions to manage the risks of climate change



Energy Efficiency



Renewable Energy



Sustainable Transportation

Education & Outreach



Urban Forests

Water Conservation



New Energy Systems



Infrastructure Upgrades



Disaster Management & Business Continuity



Flood Protection



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3.3 What are Nature-Based Solutions?

The International Union for Conservation of Nature (IUCN) defines nature-based solutions as actions that “protect, sustainably manage, and restore natural and modified ecosystems [to] address societal challenges effectively and adaptively, simultaneously benefiting people and nature.”¹⁵ Nature-based solutions can serve both a mitigation and adaptation role. The IUCN recommends that nature-based solutions be used to both reduce and stabilize GHG levels in the atmosphere (mitigation) and adapt to the climate change that is already underway because of existing GHGs (adaptation).

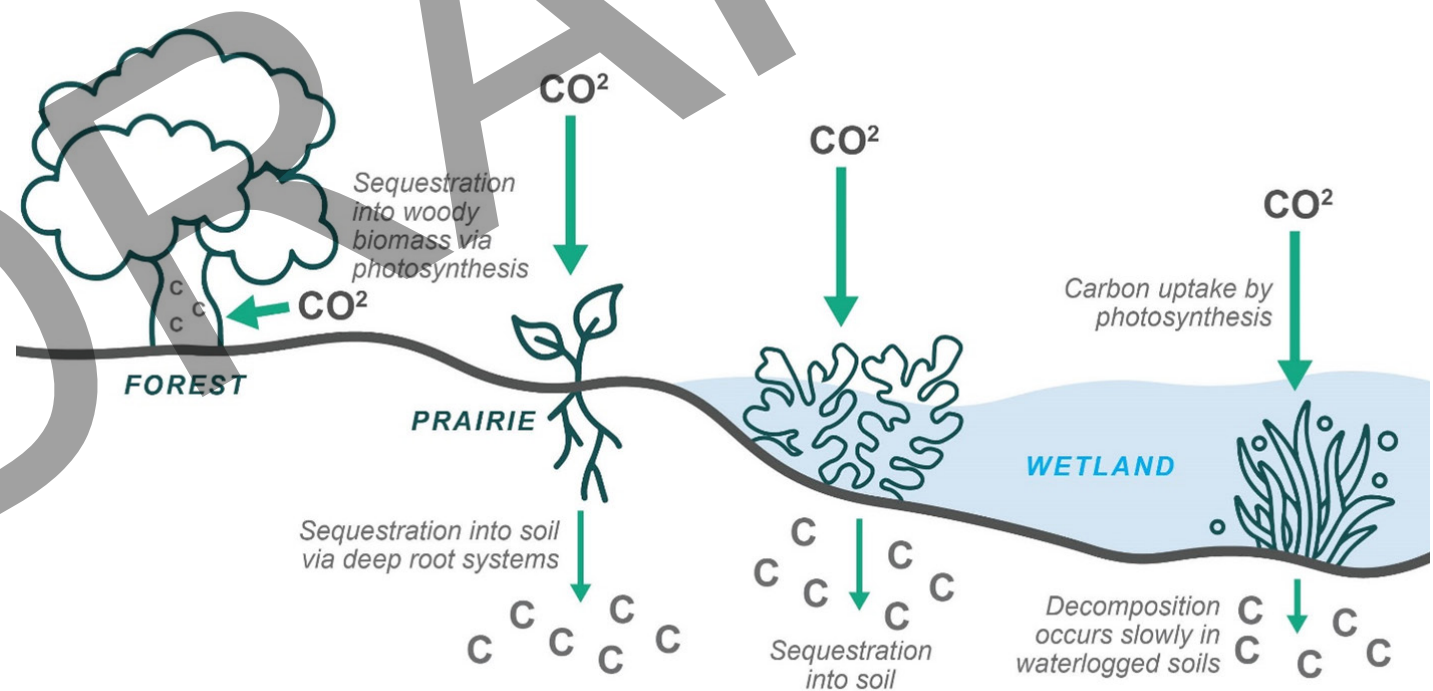
Nature-based solutions for mitigation include (1) measures that decrease GHG emissions from deforestation, soil disturbance, and land use; and (2) measures that sequester and store carbon dioxide from the atmosphere. Actions can include protecting high-value urban ecosystems from degradation, restoring urban ecosystems that have already been degraded, and sustainably managing urban natural areas such as city parks or rights-of-way. Mitigation strategies are essential to rapidly cutting GHG emissions and removing carbon dioxide from the atmosphere to avoid the worst consequences of climate change.

Nature-based solutions for adaptation focus on benefits that humans derive from biodiversity and ecosystem services. These benefits can be used to manage risk from climate change impacts. Healthy ecosystems provide ecosystem services that contribute to climate change adaptation.

Conservation measures and ecosystem restoration reduce the vulnerability of people and the environment to climate change. These measures can be implemented alone or with engineered approaches (such as low-impact development principles or reservoir construction).

What is Carbon Sequestration?

“Carbon sequestration” refers to the processes by which carbon dioxide is removed from the atmosphere and held in liquid or solid form. A carbon sink is anything that sequesters and stores more carbon from the atmosphere than it releases. It is estimated that nature-based solutions can account for up to 37 percent of the climate mitigation needed to keep average global temperatures from increasing 2 C by 2030 (IPBES, 2019),¹⁶ and 20 percent of the carbon sequestration needed to keep average global temperatures from increasing 2 C by 2050.¹⁷

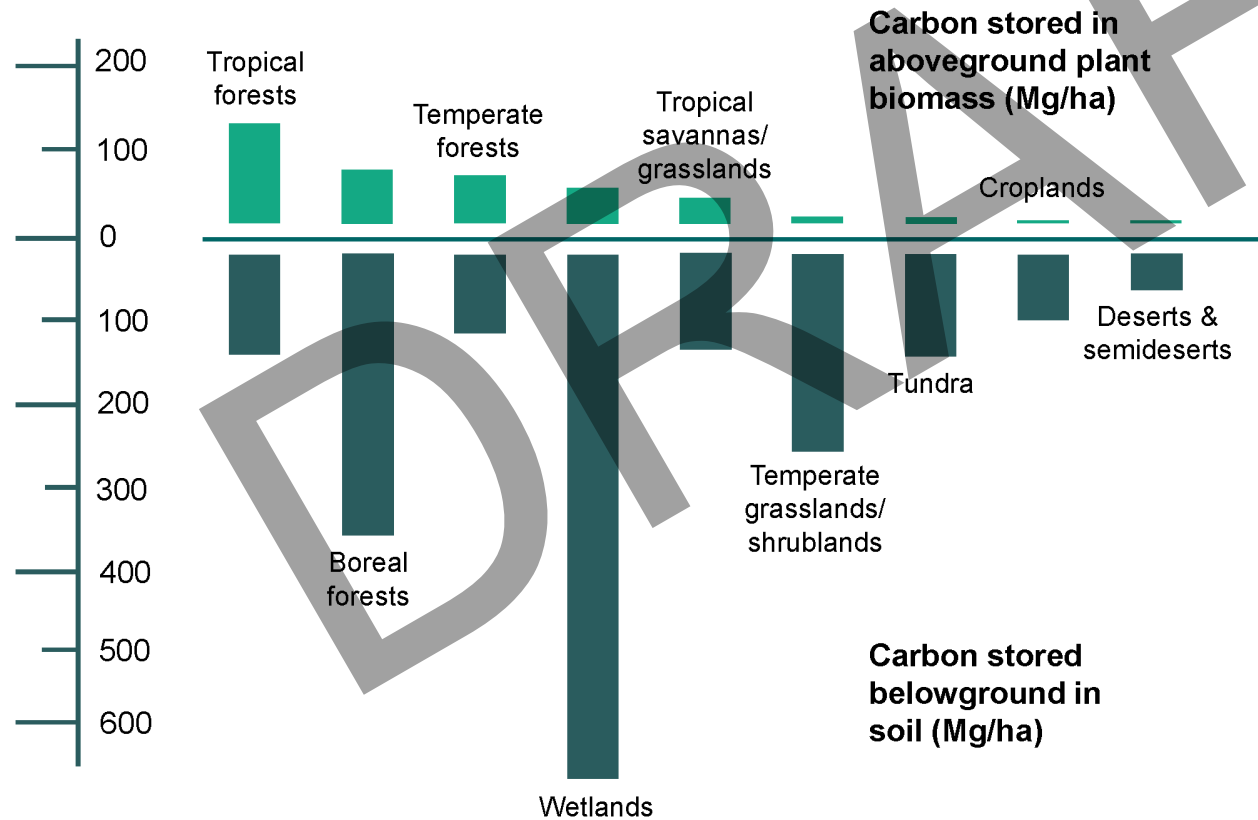


3.4 Benefits of Nature-Based Solutions

In its most recent report, the Intergovernmental Panel on Climate Change demonstrated that nature-based solutions are among the top five most effective strategies for mitigating carbon emissions by 2030.¹⁸ A joint report by the International Federation of Red Cross and Red Crescent Societies and the World Wide Fund for Nature found that nature-based solutions could reduce the intensity of climate and weather-related hazards by 26 percent.¹⁹

The natural resources found in Fayetteville that provide nature-based solutions for adaptation and mitigation are discussed below.

Aboveground and Belowground Carbon Storage of Different Biomes²⁰



What are Ecosystem Services?

“Ecosystem services” refers to benefits that the natural environment and healthy ecosystems provide to humans and can include flood control and extreme heat mitigation.

What is Ecosystem Resilience?

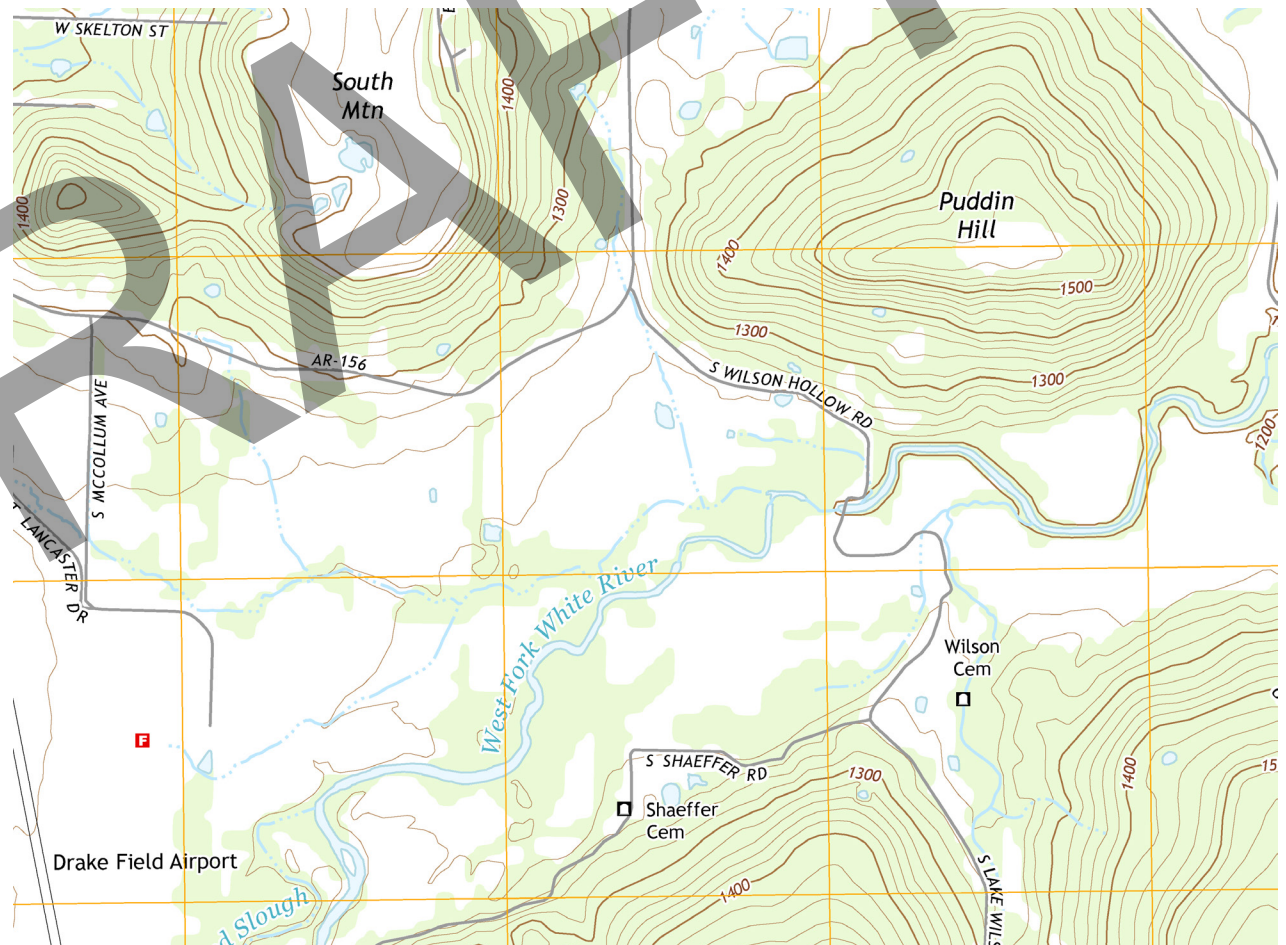
Ecosystem resilience refers to the ability of an ecosystem to absorb various disturbances or environmental stressors and to reorganize itself to maintain its critical functions. Healthy and resilient ecosystems provide better ecosystem services than less-resilient ecosystems. According to researchers, ecosystems are more resilient to climate change when they are high in biodiversity, high in topographic diversity, and are interconnected in the landscape.

Biodiversity

Biodiversity is the measure of all the distinct kinds of life in an area. The greater the number of different species of plants, animals, fungi, etc. found in an area, the more biodiverse it is. Each of these species and organisms work together to form an ecosystem, which acts like an intricate web to maintain balance and support life. The greater an ecosystem's biodiversity, the better able it is to handle environmental stressors such as those expected from climate change. In a highly biodiverse ecosystem, if one or a few species are affected by an environmental stressor, such as extreme heat, there are likely to be other species that will be available to fill their niche in the ecosystem until that ecosystem is able to recover from the stressor.

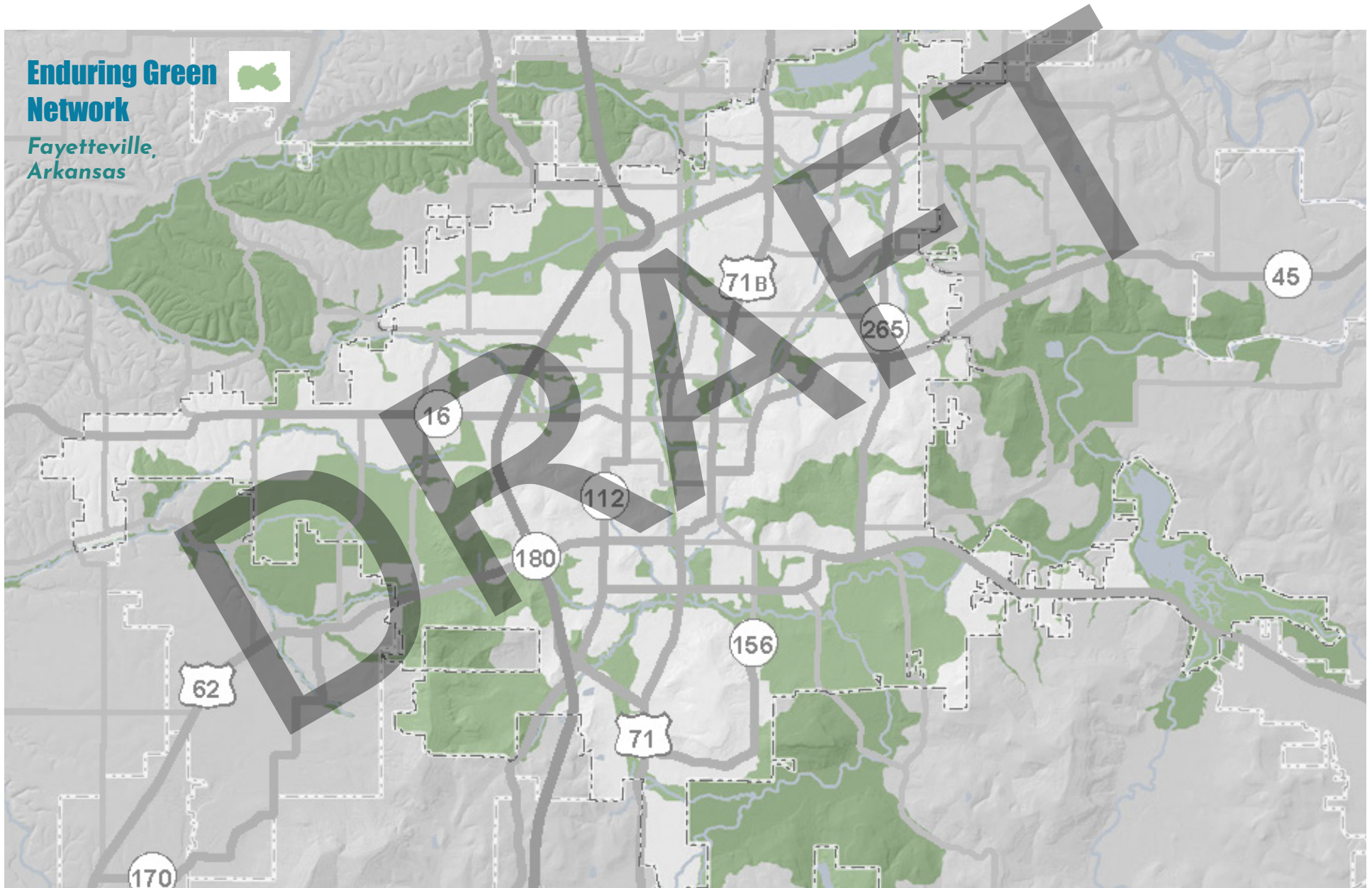
Topographic Diversity

Topographic diversity refers to the varying degrees of elevation in an area. The more hills, mountains, valleys, and lowlands there are, the greater that area's topographic diversity. Topographic diversity provides connected microclimates that create options for species as they adapt to the effects of climate change. The more topographically diverse an area is, the more options a species has to find the resources it needs to complete its life cycle.



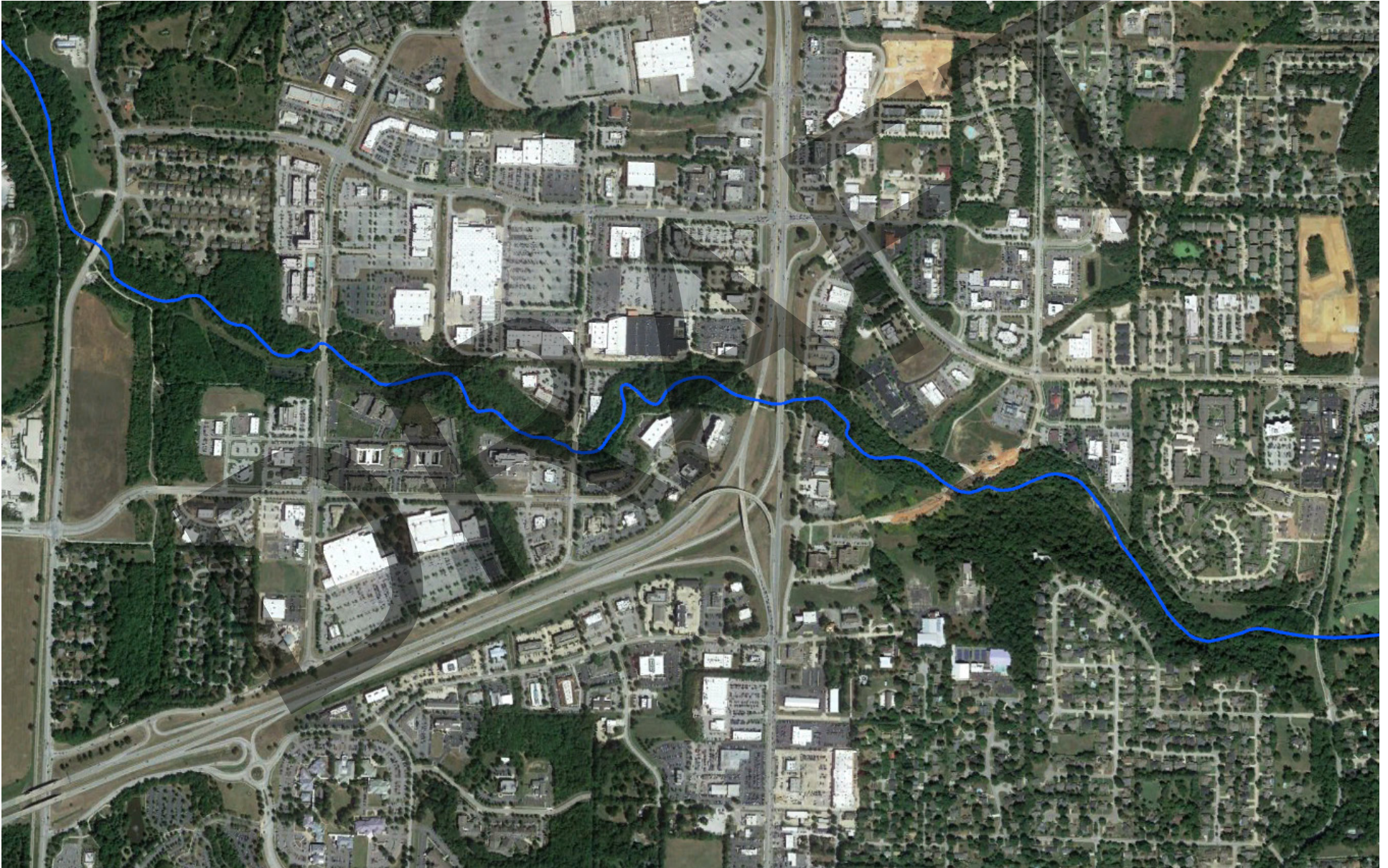
Habitat Connectivity

Habitat connectivity is the degree of connection between the various natural environments on a landscape. Habitat connectivity allows species to move across sites as they adjust to the effects of climate change which is essential for maintaining regional biodiversity and ecosystem resilience so that plant and animal populations can take advantage of microclimate options without their movements being restricted by human development.^{21, 22}



Riparian Areas

Riparian areas are those on the landscape along the edges of lakes and streams. Riparian areas provide ecosystem services such as flood control and pollutant filtration, and they also help reduce streambank erosion. Tree canopy in riparian areas provides shade that can help reduce water temperatures that can be beneficial for aquatic life. Riparian areas can also serve as wildlife corridors, connecting different biodiversity hotspots in a region.



Wetlands

Wetlands are areas inundated or saturated by surface or groundwater at a frequency and duration that supports vegetation adapted to these conditions. Wetlands provide unique habitat to species dependent on these landscape features to complete all or part of their life cycles. They are often biodiversity hotspots that contribute to ecological resilience of the landscape.

Wetlands act as natural sponges by capturing and slowing down the flow of surface water and then gradually releasing it after peak flood flows have passed. This capability helps to reduce the frequency and intensity of floods by absorbing and storing significant amounts of stormwater, which reduces property damage and erosion downstream. Trees, root mats, and other wetland vegetation also slow the speed of flood waters and distribute these waters more slowly over the floodplain. This combined water storage and braking action lowers flood heights and reduces erosion. The cumulative presence of wetlands in a watershed can reduce flood flows during intense storm events. Wetlands also store water on the landscape, mitigating the effects of drought. The longer water sits in a wetland, the more time it has to infiltrate the soil and to recharge groundwater supplies. Groundwater helps to keep streams flowing, which can help mitigate the effects of droughts on aquatic species.

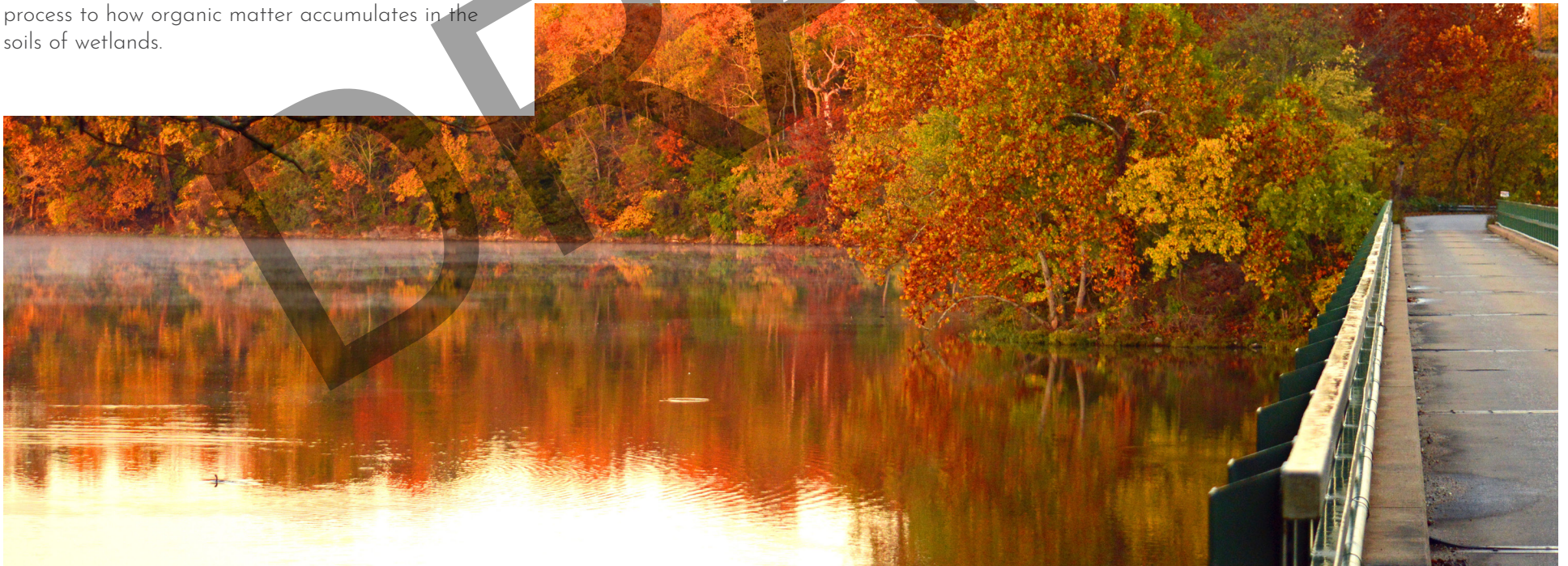
Wetlands play a role in reducing the amount of carbon in the atmosphere by acting as a “carbon sink.” As carbon is removed from the atmosphere through the photosynthetic activity of a plant, it is first stored in the plant’s biomass and then stored in wetland soil after the plants complete their life cycle. Because of the low levels of oxygen in the saturated soils of wetlands, organic matter decomposes very slowly, and it accumulates faster than it decomposes, building up over time.



Lakes and Ponds

Ponds and reservoirs capture and store stormwater, reducing the frequency and intensity of floods, and thereby reducing property damage and erosion downstream. The cumulative presence of lakes and ponds in a watershed can reduce flood flows during big storm events. Lakes and ponds store water on the landscape, preventing it from leaving our region as stormwater runoff or from flowing away. These lakes and ponds provide alternative water supplies for humans and wildlife during dry periods. Lakes and ponds also help recharge groundwater supplies, which also helps to keep streams flowing during dry periods.

Like wetlands, decomposition in the soils of lakes and ponds happens very slowly because of the low oxygen levels. As living organisms complete their life cycles, some of the organic matter that once composed their living tissues sinks to the bottom of the lake or pond, where it accumulates in a similar process to how organic matter accumulates in the soils of wetlands.





Prairies

Prairies are ecosystems composed mostly of grasses and wildflowers with little to no woody species such as trees and shrubs present. Prairies are often biodiversity hotspots and provide habitat for many different species of wildlife. Prairie plants remove carbon from the atmosphere through photosynthesis and store it in their root systems. The root systems of many perennial prairie plants grow very deep into the soil. When the prairie plant completes its life cycle, most of this carbon remains in the soil after the roots decompose.



Forests

Forest trees store the carbon they remove from the atmosphere during photosynthesis in both their aboveground and belowground biomasses. Trees that grow larger and that are longer lived can sequester and store more carbon than smaller short-lived trees can. However, the carbon in the tree's aboveground biomass is only stored for as long as the tree is alive, after which most of it is returned to the atmosphere as the tree decomposes.

Urban Tree Canopy

Tree canopy provides shade that helps reduce ground surface temperatures, making it less expensive to cool our homes and reducing heat-related illnesses.

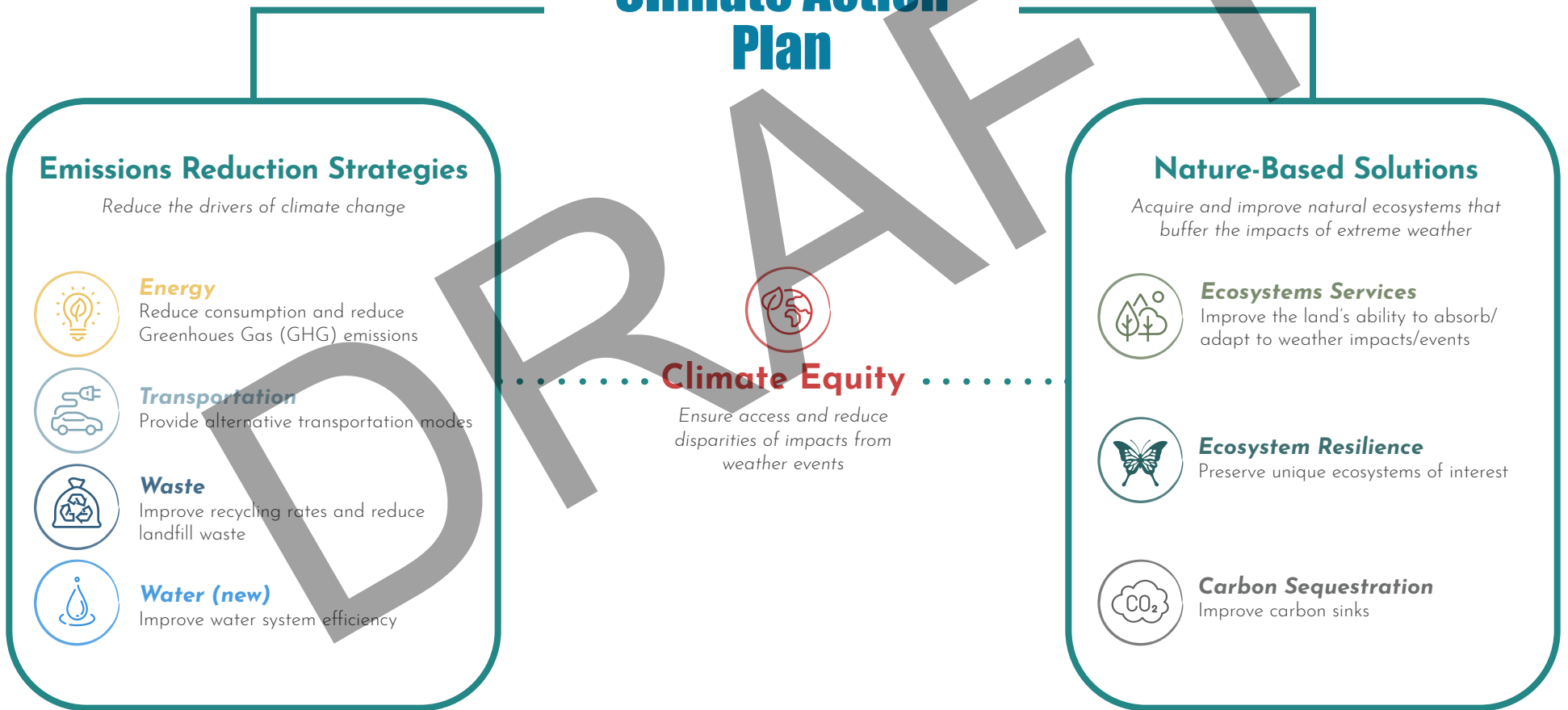


4.0 Planning Process

4.1 What is a climate action plan?

A climate action plan is a strategic framework for both mitigating GHG emissions and adapting to a changing climate and extreme weather events. Climate action plans provide the road map for informed decision-making on policy and program initiatives that achieve realistic science-based carbon reduction and long-term resilience goals, strategies, and actions. Climate action plans include inventories of existing emissions, reduction strategies and targets, and prioritized actions.

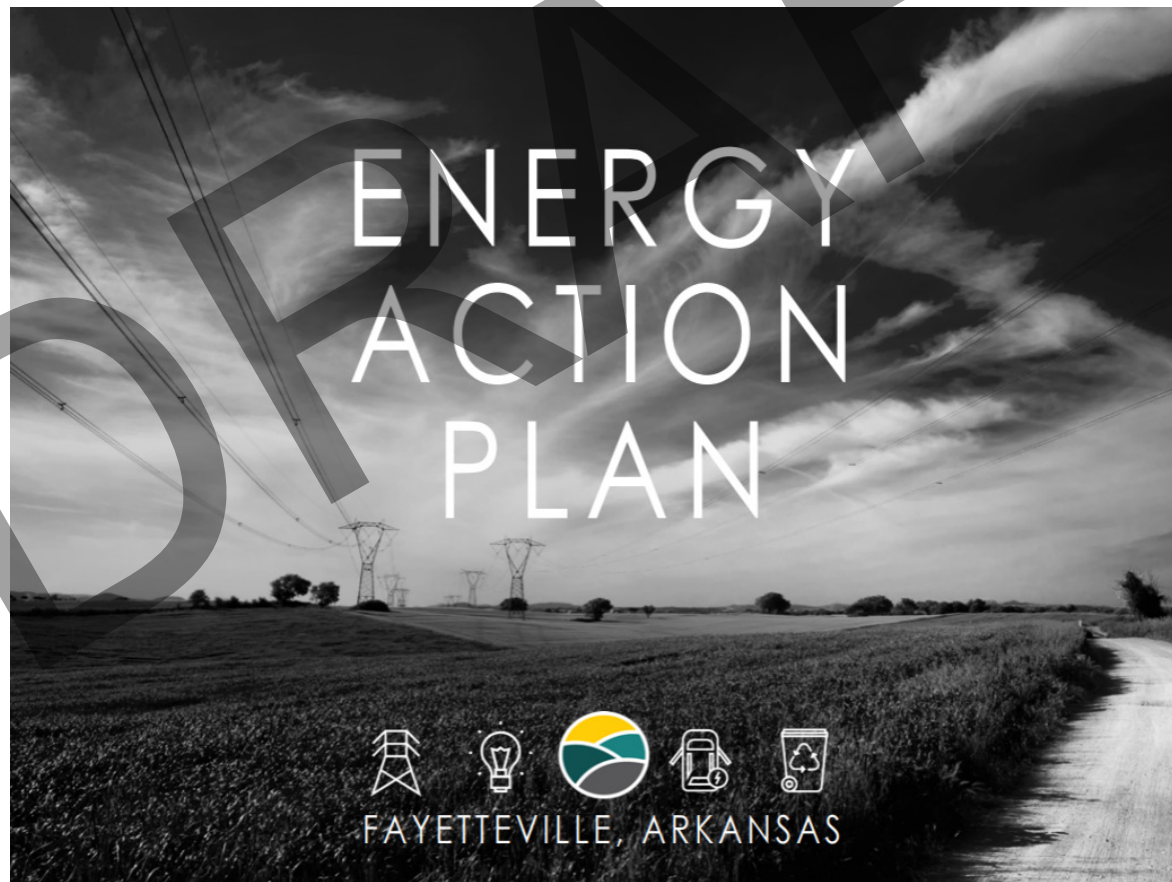
Climate Action Plan



4.2 Background

The city council originally adopted an Energy Action Plan (EAP) by resolution No. 25-18 in 2018. The 2018 plan was primarily focused on goals and strategies to identify, measure, and act to reduce GHG emissions produced by city government operations and the broader community. The plan identified four areas of emphasis: energy, buildings, transportation, and waste and was broad in its approach. Some goals, strategies, and actions out of the city's control have had varying levels of success, while many of the actions identified as under direct city control have been completed or are in progress. Notable actions that have been completed include the following:

- The completion of 10 megawatts of solar power and associated battery storage at the city's two wastewater treatment plants increased the city's clean energy percentage from 16 percent to 72 percent and significantly advanced the EAP goal of 100 percent clean energy for government operations by 2030.
- Ongoing energy efficiency upgrades to city government facilities will result in 27 percent energy use reductions.
- Fayetteville became a SolSmart designated solar-ready community by permitting commercial and residential solar energy as a use by right in all zoning districts and streamlining the permitting process to incentivize solar energy installations.



Buildings

ACTION ITEM	TIMELINE	PRIMARY STAKEHOLDERS	GHG IMPACT
Partner with utility providers to create an education and outreach campaign to connect homeowners and renters to existing energy efficient programs provided by utility companies.	Ongoing	Sustainability, Community Resources, Communications, Non-profits	High
Publish local government energy benchmarking reports and maintain a web-based interface to provide local government energy data to the public.	Ongoing	Sustainability, IT	Low
Require that public infrastructure and facility managers consider energy and water consumption implications for new or upgraded infrastructure investments.	Ongoing	Facilities, Water & Sewer, Transportation	Medium
Create a program to connect low-income renters and homeowners with utility-sponsored programs to reduce their energy costs.	Short-term	Sustainability, Community Resources, Communications, Non-profits, Utilities	Medium
Identify high energy use City facilities and develop an energy efficiency and renewable energy innovation agenda to realize long-term savings and demonstrate the financial impact of energy improvements.	Short-term	Facilities, Water & Sewer, Sustainability	Medium
Encourage green roofs on new and existing buildings and consider the feasibility of incentivizing green roofs through a mechanism like a storm water utility fee.	Medium-term	Development Services	Medium
Encourage heat island mitigation features to help lower utility costs for residents and businesses.	Medium-term	Urban Forestry, Sustainability	Medium
Encourage local utility providers to offer energy commissioning programs.	Medium-term	Sustainability, Utility Companies	Medium
Evaluate the feasibility of creating incentives to encourage the new construction of energy efficient buildings.	Medium-term	Development Services, Economic Development, Sustainability	High
Promote the use of cooling and light-colored roofing materials and coatings for both new and existing building stock.	Medium-term	Development Services, Urban Forestry	Medium

Energy

ACTION ITEM	TIMELINE	PRIMARY STAKEHOLDERS	GHG IMPACT
Procure clean energy from utilities or other generators when feasible.	Ongoing	Sustainability	High
Assess if regulatory restrictions or undue burden exists for the development of residential and small businesses renewable energy installations.	Short-term	Building Safety, Sustainability, IT	Medium
Create a policy to ensure that the local government's energy supplies increasingly come from renewable sources and/or enter into direct purchase agreement with utility companies for clean energy sources.	Short-term	Sustainability, Purchasing	High
Earn recognition as a Solar-Ready community.	Short-term	Building Safety, Sustainability, IT	Medium
Encourage the development of residential and small business renewable energy sources using the existing net-metering program.	Short-term	Sustainability	Medium
Explore incentives to support the development of renewable energy.	Long-term	Sustainability, Finance	Medium



Open Space

ACTION ITEM	TIMELINE	PRIMARY STAKEHOLDERS	GHG IMPACT
Conduct an assessment to determine heat island mitigation feature distribution across the City to identify locations with disproportionate heat island effects.	Short-term	GIS, Urban Forestry	Low
Conduct an assessment to discover if there is a park or natural space within a 10-minute walk of all residents.	Short-term	Parks and Recreation, Sustainability, GIS	Low
Encourage tree planting, green roofs, and other energy-saving techniques across the City through education, outreach, and tree giveaways.	Short-term	Urban Forestry	Low
Explore options to develop a tree planting program partnering with residents, business owners, and institutions for the planting of trees in right-of-way, on easements, or on private properties.	Short-term	Urban Forestry, Sustainability, Facilities	Medium
Target areas in need of additional tree canopy by creating a tree canopy map layer.	Short-term	Urban Forestry, GIS	Low



Transportation

ACTION ITEM	TIMELINE	PRIMARY STAKEHOLDERS	GHG IMPACT
Continue to implement the City's complete streets policy and street cross-sections for all street projects.	Ongoing	Planning, Transportation, Engineering	High
Install public use electric vehicle fueling stations on city owned properties and encourage public-use alternative charging stations at publicly accessible locations across the City.	Ongoing	Sustainability, Fleet, Facilities Management	Medium
Partner with private businesses to ensure that more electric vehicle charging stations become available at workplaces, residential developments, and other frequently visited locations. Install public alternative fueling stations on City-owned properties.	Short-term	Sustainability, Fleet, Facilities Management	Medium
Establish a community-wide bike-share program.	Short-term	University, Sustainability	Medium



Waste

ACTION ITEM	TIMELINE	PRIMARY STAKEHOLDERS	GHG IMPACT
Develop a new education and community outreach plan to announce the city's commitment to waste diversion and to build community buy-in for new initiatives.	Ongoing	Recycling and Trash, Communications	Medium
Modify City development codes to require new commercial, institutional, and multi-family developments to provide adequate space and access for recycling and organics recovery.	Short-term	Recycling and Trash, Planning	Medium
Develop a technical assistance program to inform businesses, institutions, and multi-family complexes of the City's waste diversion commitment and help them prepare for new recycling initiatives.	Short-term	Recycling and Trash, Communications	Low
Explore options for curbside recycling at small multi-family complexes or complexes that make curbside collection feasible	Short-term	Recycling and Trash	Medium
Develop a detailed plan and schedule to initiate a voluntary organics recovery program focused initially on large food waste generators like schools, grocery stores, and institutions.	Short-term	Recycling and Trash, Communications	High
Require private haulers of food waste to enter into franchise agreements with the City so that these quantities can be reported for the City's diversion rate.	Short-term	Recycling and Trash, Legal	Low



Cross-Sector

ACTION ITEM	TIMELINE	PRIMARY STAKEHOLDERS	GHG IMPACT
Work with the University of Arkansas Office of Sustainability to collaboratively complete a regional resilience assessment and publish a report of findings.	Short-term	Sustainability, University	Low
Consider amending the 'Purpose and Duties of the Environmental Action Committee' to include consideration of climate mitigation and adaptation strategies.	Short-term	Environmental Action Committee	Low
Consider amending the 'Purpose and Duties of the Environmental Action Committee' to include policy recommendations regarding energy efficiency efforts and clean energy purchasing decisions.	Short-term	Environmental Action Committee	Low
Investigate the feasibility of a stormwater utility fee to improve green stormwater infrastructure.	Short-term	Engineering, Legal, Finance	Medium
Integrate Fayetteville's sustainability brand and energy action goals into future marketing and outreach efforts for business and talent retention.	Short-term	Communications, Economic Vitality, Sustainability	Medium
Reinvigorate the support for and momentum around Fayetteville Resolution no. 164-13 to support a national revenue-neutral carbon fee and dividend program.	Medium-term	Sustainability	High

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4.3 Public Engagement

The CAP was informed by the community. The city's sustainability team worked with project consultant Olsson to develop a Public Engagement Plan at the beginning of the project to direct public and stakeholder engagement activities. The Public Engagement Plan was continually updated throughout the project as schedules and project activities were adjusted to meet the project goals. The Public Engagement Plan broke the engagement process into two steps: (1) project launch and goals, and (2) project strategies. To inform the project's goals, strategies, and actions, the project team engaged stakeholders with subject matter expertise and conducted public outreach.

At the project launch, the project team convened a stakeholder committee made up of environmental and sustainability professionals from area nonprofits, environmental and conservation advocacy groups, and city advisory boards. The committee's purpose was to assist with goal setting and provide ongoing project feedback. In February 2023, representatives from the city and the consultant team facilitated an initial virtual stakeholder meeting to educate and connect stakeholders and to gather input on goals and strategies. After an overview presentation of the project, the stakeholder group was divided into breakout rooms on eight different topics: energy, waste, water, transportation, ecosystem services, ecological resilience, carbon sequestration, and climate justice. Breakout rooms reported out priorities identified by their groups. The project team used these priorities to draft goals and strategies for each topic area.

In the spring of 2023, the team conducted public outreach on the draft goals and strategies. A suite of educational display boards was created for both in-person and online use that provided background information on emission reduction strategies and nature-based solutions for climate change adaptation. The city hosted four public input events at the following places: (1) the Saturday Farmers Market, (2) Fayetteville Public Library, (3) Earth Day celebrations at the Marion Orton Recycling Center, and (4) Bryce Davis Park. Attendees conversed with staff about the development of the CAP and provided input on strategies and actions that the city could take. Survey access was provided on mobile tablets, and printed cards with the survey webpage and links were handed out for attendees to access the survey at home. In total, the CAP received 367 survey responses and staff estimated that 100 people were reached in person. Considering the comprehensive and technical aspects of climate change mitigation and adaptation efforts, the project team was pleased with the public input response.

A second stakeholder meeting was held in August 2023 to review the public input received, review and prioritize goals and strategies, and gather feedback before the draft and final CAP was prepared in the fall of 2023. Additional details on the public and stakeholder engagement process can be found in **Appendix A**.

Stakeholder Committee

1. *Active Transportation Committee*
2. *AR Natural Heritage Commission*
3. *Beaver Watershed Alliance*
4. *Black Heritage Preservation Commission*
5. *Citizen Representative*
6. *City Council*
7. *Community Development and Assistance
Environmental Action Committee*
8. *Fayetteville Natural Heritage Association*
9. *Illinois River Watershed Partnership*
10. *NWA Land Trust*
11. *NWA Regional Planning Commission
(Open Space Representative)*
12. *Parks and Recreation Advisory Board*
13. *Programs Advisory Board*
14. *Urban Forestry Advisory Board*
15. *Watershed Conservation Resource Center*

5.0 Planning Tools

5.1 Climate Resilience Map

Background

With feedback from the public survey, stakeholders, and the city's Environmental Action Committee, the project team and city geographic information system (GIS) staff developed a mapping tool to understand the climate resilience value of each parcel in the city's planning area. Each parcel is assigned a climate resilience score, which is a composite of three subscores related to the features and characteristics of that parcel that provide nature-based solutions to climate change. The climate resilience score is ranked as follows:

1. Ecosystem Services Subscore (*adaptation*)
2. Ecosystem Resilience Subscore (*adaptation*)
3. Carbon Sequestration and Storage Subscore (*mitigation*)

For the subscores related to adaptation, equal weight is given to both Ecosystem Services and to Ecosystem Resilience; eight indicators were analyzed for each of the two categories. The tool also identifies locations for potential projects to improve climate adaptation, such as parcels with identified streambank erosion risks, impaired streams, floodways, or potential sites where the construction of ponds for surface water retention and groundwater recharge may be considered at some point in the future.

For the mitigation subscore, four indicators of the carbon sequestration and storage value of a parcel were used to identify high-value natural carbon stocks for potential preservation.

Some parcels have multiple indicators. This is intentional, because these features on the landscape provide multiple benefits for climate resilience. For example, wetlands and riparian areas can each provide flood control, wildlife habitat, and carbon sequestration while also improving water quality. Similarly, tree canopy can reduce urban heat while also indicating the presence of high-quality riparian areas and forested carbon stocks. Additional details on background and logic used for the Climate Resilience Map can be found in **Appendix B**.

Recommended Uses

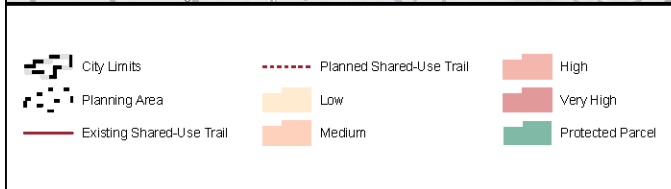
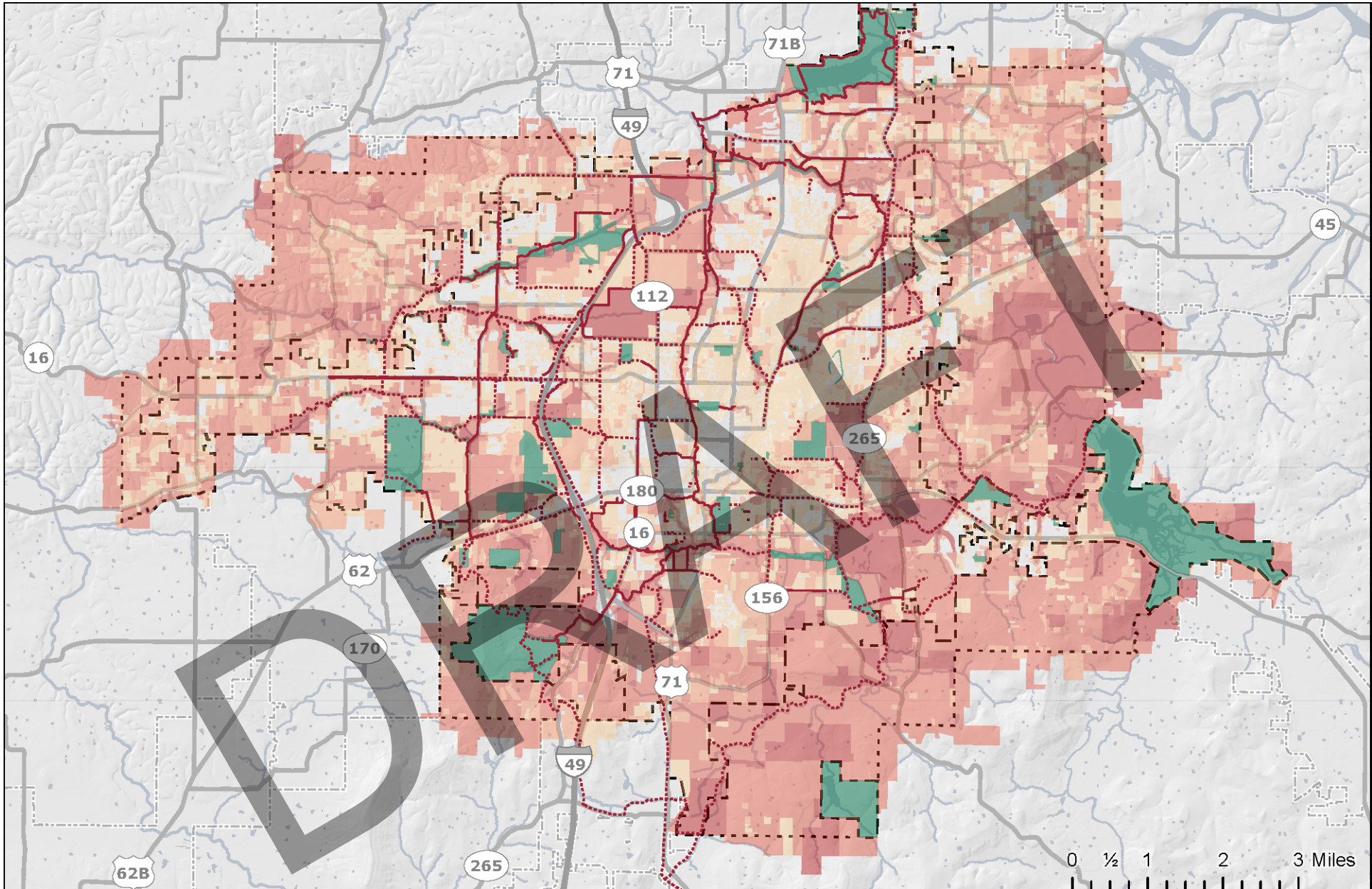
The Climate Resilience Map is public-facing and intended for a wide range of uses and users, including the following:

- Helping appointed or elected officials gain a fuller understanding of any impacts their decisions may or may not have on the natural resources within the city's planning area.
- Allowing city staff to objectively quantify and compare different parcels as policies, ordinances, and city master plans are developed or updated.
- Helping city staff and community advocacy organizations assess the benefits a particular natural resource may have to underserved or disadvantaged communities or identify where improvements to natural resources are needed to assure the equitable distribution of benefits from nature-based solutions to underserved or disadvantaged communities.
- Informing environmental organizations and nonprofits as they work to improve, restore, or preserve natural areas within the city.
- Helping private landowners or land managers understand the ecological value of land they own or manage and what improvements to advance climate resilience may be needed.
- Helping residents to better understand their natural environment and engage with city initiatives.

A Dynamic, Living Tool

The Climate Resilience Map lays a foundation that can be improved and built on over time. Additional layers can be added as more data becomes available or as additional parcels are improved or preserved. City staff members may become aware of additional details about certain parcels through ground-truthing efforts or from local and regional experts in natural resources, and the Climate Resilience Map should be updated to include this additional data to improve the accuracy and level of detail captured by the tool.

Finally, additional components may also be added to allow the tool to be implemented across a greater sphere within the region by linking this tool with other GIS tools or by using the Climate Resilience Score as a component to inform additional geospatial analyses conducted by the city or by regional organizations.



Climate Resilience Score

Fayetteville, AR






The data contained herein was compiled from various sources for the sole use and benefit of the City of Fayetteville Geographic Information System and the public agencies it serves. Any use of the data by anyone other than the City of Fayetteville is at the sole risk of the user, and by acceptance of this data, the user does hereby agree to indemnify the City of Fayetteville and hold the City of Fayetteville harmless from and without liability for any claims, actions, cost for damages of any nature, including the city's cost of defense, asserted by user or by another arising from the use of this data. The City of Fayetteville makes no express or implied warranties with reference to the data. No word, phrase, or clause found herein shall be construed to waive that tort immunity set forth under Arkansas law.

Created: 12/29/2023
 Path: G:\GIS\2023\Projects\2022\Climate Resilience Plan\Climate Resilience\Climate Resilience.aprx



5.2 Prioritization Tool

The project team compiled the data, comments, and aspirations gathered during the community and stakeholder input to develop goals, strategies, and actions for both the emission reductions and nature-based solutions sections of the plan. This culminated in a hierarchy of 27 goals, with 53 underlying strategies and 80 actions. The 80 actions were further refined by analyzing and scoring their efficacy and feasibility based on the following factors: necessary funding, feasibility, revenue potential, climate equity potential, GHG emissions reductions, resilience impact potential, city control, and community support. A score was then assigned to the action for each prioritization factor. A final relative priority score was assigned by summing the scores from each of the efficacy and feasibility factors. The prioritization tool and factor definitions are found in **Appendix C** of this document. Below is a list of the highest priority actions for each category in this plan.

SECTOR	ACTION ID	CAP ACTION
 ENERGY	E.A-3	Install ground and structure mounted solar to offset electricity usage for City government operations.
	E.A-6	Develop community-scale solar and alternative energy systems.
 TRANSPORTATION	T.A-2	Evaluate and prioritize sidewalks, trails and bike lanes to ensure active transportation infrastructure is distributed equitably across the City.
	T.A-3	Install safe and accessible bus stops and shelters to make transit comfortable, safe and attractive for users
	T.A-4	Support local and regional transit through City funding of transit.
	T.A-7	Transition City fleet vehicles to fuel efficient hybrid, electric vehicles, and other alternative fuel vehicles.
 WASTE	W.A-2	Implement the Recycling Processing Facility improvements project to increase materials collection, processing, and storage capacity.
	W.A-4	Review and amend the current trash and recycling rate structures to incentivize recycling and ensure equitable trash and recycling services are provided.

SECTOR

ACTION ID

CAP ACTION



WATER

Wtr.A-5 Adopt water utility rate adjustments that encourage water conservation.

Wtr.A-6 Support the creation of a stormwater utility.

Wtr.A-8 Incrementally retrofit water infrastructure with smart technologies.

EcoSrv.A-1 Update and refine the Enduring Green Network spatial layers and explore additional regulatory protections to ensure the development of a complete and connected network of useful public open space.

EcoSrv.A-3 Support Parks efforts to develop a conservation plan to identify and preserve unique ecosystems and habitats. (Resilient Natural Systems)

EcoSrv.A-4 Review development code regulations related to open space and amend as necessary to spur acquisition and preservation of natural lands. (Parks Master Plan) (Conservation Plan)

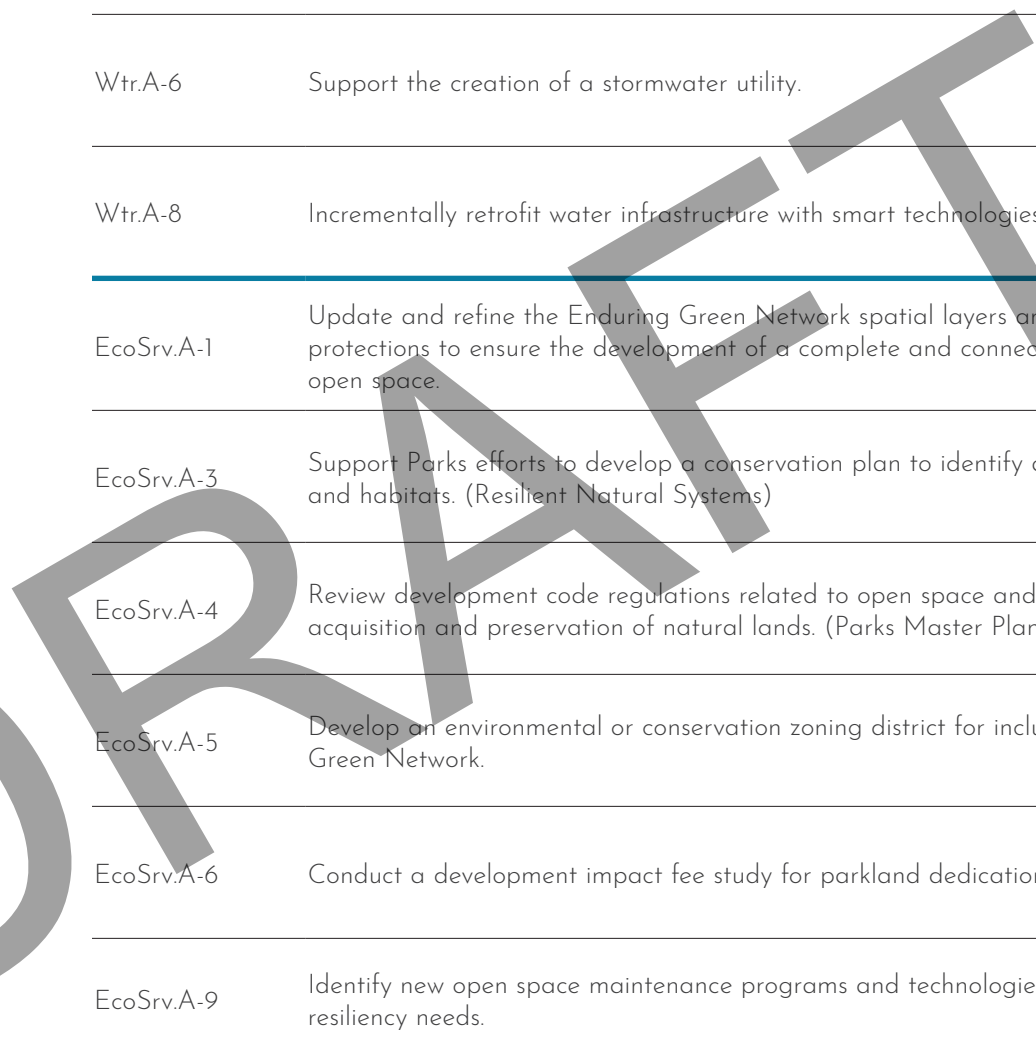
EcoSrv.A-5 Develop an environmental or conservation zoning district for inclusion in the City's Enduring Green Network.

EcoSrv.A-6 Conduct a development impact fee study for parkland dedication.

EcoSrv.A-9 Identify new open space maintenance programs and technologies to address climate issues and resiliency needs.



ECOSYSTEM SERVICES



SECTOR

ACTION ID

CAP ACTION



ECOSYSTEM SERVICES

(Continued)

EcoSrv.A-10	Restore urban streambanks to reduce erosion and improve water quality.
EcoSrv.A-12	Secure the necessary funding to meet the annual tree planting targets and implement a tree establishment program.
EcoSrv.A-13	Develop a multi-year program with support from additional conservation organizations to allocate funding for land acquisition.
EcoSrv.A-14	Explore bond potential for land acquisition and conservation.
EcoSrv.A-15	Update response measures in Fayetteville emergency management plan to account for more frequent and extreme weather events (Heat, drought, flood, winter storms).



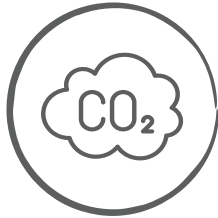
ECOSYSTEM RESILIENCE

EcoRes.A-5	Plant species that provide optimal ecological benefit in City owned parks, trails, and rights-of-way.
EcoRes.A-7	Update tree lists that prioritize native and climate-resilient tree species.
EcoRes.A-11	Acquire land with high ecosystem resilience to the impacts of climate change.

SECTOR

ACTION ID

CAP ACTION



CARBON SEQUESTRATION

CrbSq.A-2 Implement strategies and actions identified in the 2023 Urban Tree Plan and Assessment.

CrbSq.A-3 Plant native tree and plant species that provide optimal carbon sequestration benefit in City owned parks, trails, and rights-of-way.

CrbSq.A-6 Acquire lands with high carbon sequestration value.

Eaty.A-2 Develop a public-facing Nature-Based solutions parcel score and map that identifies and spatially represents proximity and accessibility to public open space.

Eaty.A-3 Coordinate with Urban Forestry to continue implementing tree planting initiatives in low-income/ disadvantaged neighborhoods to mitigate the impacts of extreme heat.

Eaty.A-4 Incrementally acquire land and construct stormwater infrastructure improvements to reduce flooding especially in low-income neighborhoods.

Eaty.A-5 Coordinate with the Parks Master Plan to continue to incrementally acquire parkland and trail corridors in areas with low accessibility or proximity to public open space.

Eaty.A-6 Construct or retrofit transportation infrastructure to meet the access standards in the Americans with Disabilities Act (ADA).

Eaty.A-7 Develop mitigation, acquisition, or relocation measures to minimize flooding loss and displacement of low-income or disadvantaged groups or individuals.



CLIMATE EQUITY

DRAFT

6.0 Emissions Reduction Goals

Stakeholder groups, community members, and City staff developed the following goals across four key sectors: energy, transportation, waste, and water. Over the last five years, our community has seen progress in energy efficiency and renewable energy, while transportation and natural gas usage remain primary contributors to city-wide emissions. As we complete major city government actions, we will shift resources to address these primary and other community-level contributors. In addition to concrete targets and the overarching net-zero by 2050 goal, we have added strategies and goals that capture year-over-year and per capita trends. This shift in approach will make it easier to compare the City of Fayetteville's progress to other communities. A more in-depth discussion of each goal and its related strategies is available below.



ENERGY

1. Achieve 100% clean energy usage for City of Fayetteville government operations by 2030.
2. Achieve community-wide 100% clean energy usage by 2050.
3. Reduce community per capita greenhouse gas (GHG) emissions year over year.



TRANSPORTATION

1. Reduce community per capita transportation emissions year over year.
2. Create an equitable and sustainable multimodal transportation system for all ages and abilities.
3. Transition City's fleet to 10% alternative fuel vehicles by the year 2030 and reduce fleet emissions year over year.



WASTE

1. Achieve a 40% waste diversion rate.
2. Increase commercial and residential recycling program participation rates year over year.
3. Reduce per capita waste to the landfill year over year.



WATER

1. Prepare, plan, and develop community response strategies and contingencies for extreme weather events such as heatwaves, droughts, and floods.
2. Achieve per capita water consumption reductions year over year.
3. Identify and prioritize the repair and installation of water system infrastructure to alleviate water leakage and accommodate growing system demands.



ENERGY

Fayetteville’s energy goals follow the framework set out in the 2016 Paris Climate Agreement. To keep the City aligned with the most up-to-date national and international targets, our goals are moving to include a science-based, net-zero target as our organizing philosophy. We are continuing to use the most up-to-date emissions factors in monitoring community progress.

GOAL #1: Achieve 100% clean energy usage for City of Fayetteville government operations by 2030.

The City of Fayetteville is committed to providing a roadmap for broader clean energy usage community wide. Increased energy efficiency, renewable energy, and electric retrofits will help the City lead by example. The strategies and action items below address the City’s government operation targets for 2030 and beyond.

KEY ACTION: Install ground and structure mounted solar to offset electricity usage for City government operations.

STRATEGIES

Partner with utilities to achieve 100% renewable energy for the community’s energy supply.

Reduce natural gas usage and transition to electric furnaces and appliances to improve efficiency and reduce GHG emissions.

ACTIONS

Install ground and structure mounted solar to offset electricity usage for City government operations.

Develop community-scale solar and alternative energy systems.

Explore the efficacy of purchasing carbon offsets to advance net-zero emissions.

Retrofit existing City government facilities to make them more energy efficient.

Advocate for the expansion of energy efficiency programs at the State and utility scale.

Transition City government facilities from gas furnaces to heat pumps.

GOAL #2: Achieve community-wide 100% clean energy usage by 2050.

The City of Fayetteville is committed to working with state and regional stakeholders and utility companies to work towards developing and implementing programs that help residents make their homes and businesses more energy efficient.

KEY ACTION: Advocate for the expansion of energy efficiency programs at the State and utility scale.

STRATEGIES	ACTIONS
Pursue grants and other funding opportunities to develop energy efficiency programs and projects for low-income households and neighborhoods. Pursue grants and other funding opportunities to develop energy efficiency programs and projects for low-income households and neighborhoods.	Develop clean and renewable energy sources targeted at low-income households and neighborhoods through partnerships, grants, and utility rebate programs.
Partner with utilities to achieve 100% renewable energy for the community's energy supply.	Advocate for the expansion of energy efficiency programs at the State and utility scale.
Improve residential and commercial energy efficiency throughout the community.	Develop community-scale solar and alternative energy systems. Explore the development of local renewable gas capture through waste processing technologies.
	Advocate for the expansion of energy efficiency programs at the State and utility scale.

GOAL #3: Reduce community per capita greenhouse gas (GHG) emissions year over year.

Achieving city-wide energy goals will require partnerships and the participation of the entire community. Many of the key players and stakeholders necessary to achieve community level emission reductions are outside the City of Fayetteville's jurisdiction. As a result, the strategies and actions listed below are targeted towards working with utilities and other partners. Our region is well-positioned for increased solar and wind development, which is becoming more cost competitive and accessible year after year. Capturing these opportunities will be critical to achieving the City's community-wide goals.

KEY ACTION: Develop clean and renewable energy sources targeted at low-income households and neighborhoods through partnerships, grants, and utility rebate programs.

STRATEGIES	ACTIONS
Pursue grants and other funding opportunities to develop energy efficiency programs and projects for low-income households and neighborhoods.	Advocate for the expansion of energy efficiency programs at the State and utility scale.
Partner with utilities to achieve 100% renewable energy for the community's energy supply.	Develop clean and renewable energy sources targeted at low-income households and neighborhoods through partnerships, grants, and utility rebate programs.
Improve residential and commercial energy efficiency throughout the community.	Develop community-scale solar and alternative energy systems. Explore the development of local renewable gas capture through waste processing technologies.
	Design and construct new City Government facilities that are energy efficient. Advocate for the expansion of energy efficiency programs at the State and utility scale.



TRANSPORTATION

Vehicle emissions are the second-largest contribution to city-wide greenhouse gas emissions. In Fayetteville, our daily per capita vehicle miles traveled (VMT) has remained steady at 24.5 miles between 2018 and 2023. Transportation remains a challenging sector for emissions reduction, involving individual behavior changes, infrastructure decisions, local economic strength, and other factors. The following goals emphasize year-over-year change and actions within City control to promote overall success in this sector.

GOAL #1: Reduce community per capita transportation emissions year over year.

Evaluating community transportation emissions on a per capita level will allow the City to better evaluate progress as our population continues to grow. We can also better compare our emissions to other similarly situated communities. Key strategies within the City’s control will include continued investment in active transportation, micro-mobility, electric vehicle, and public transit infrastructure.

KEY ACTION: Initiate a City-led rezoning of the 71B-College Ave. corridor to set the stage for thoughtful urban redevelopment.

STRATEGIES	ACTIONS
Deploy publicly available alternative fuel infrastructure (EV charging stations)	Install publicly accessible Electric Vehicle (EV) charging stations.
Support development of an on-going and sustainable funding source to support regional transit operations.	Support local and regional transit through City funding of transit.
Support and encourage the expansion of alternative and active transportation options	Evaluate and prioritize sidewalks, trails and bike lanes to ensure active transportation infrastructure is distributed equitably across the City.
	Install safe and accessible bus stops and shelters to make transit comfortable, safe and attractive for users
	Support local and regional transit through City funding of transit.
	Install publicly accessible Electric Vehicle (EV) charging stations.
Support the creation and implementation of robust and efficient public transportation systems.	Gather, track, and evaluate active transportation and micro-mobility user numbers and trends and measure success.
	Expand opportunities to advance micro-mobility (e.g., electric bikes, scooters, etc.).
	Develop an e-bike incentive program to offset costs for low-income e-bike purchases.
Utilize funding support opportunities to develop and expand the community’s electric vehicle charging stations.	Initiate a City led rezoning of the 71B-College Ave. corridor to set the stage for thoughtful urban redevelopment.
	Support local and regional transit through City funding of transit.
	Expand opportunities to advance micro-mobility (e.g., electric bikes, scooters, etc.).
	Install publicly accessible Electric Vehicle (EV) charging stations.

GOAL #2: Create an equitable and sustainable multimodal transportation system for all ages and abilities.

Common transportation modes include vehicles, buses, bicycles, and pedestrians. Multimodal transportation systems invest in infrastructure for all these modes and more, increasing public transit and active transportation while removing additional vehicles from the street system. This can reduce congestion, pollution, and overall transportation sector emissions. Strategies targeting this goal include investment in local public and active transportation systems, as well as public transit at the regional level.

KEY ACTION: Support local and regional transit through City funding of transit.

STRATEGIES	ACTIONS
Support development of an on-going and sustainable funding source to support regional transit operations.	Support local and regional transit through City funding of transit.
	Evaluate and prioritize sidewalks, trails and bike lanes to ensure active transportation infrastructure is distributed equitably across the City.
Support and encourage the expansion of alternative and active transportation options	Install safe and accessible bus stops and shelters to make transit comfortable, safe and attractive for users
	Support local and regional transit through City funding of transit.
	Install publicly accessible Electric Vehicle (EV) charging stations.
	Gather, track, and evaluate active transportation and micro-mobility user numbers and trends and measure success.
	Expand opportunities to advance micro-mobility (e.g., electric bikes, scooters, etc.).
	Develop an e-bike incentive program to offset costs for low-income e-bike purchases.
Support the creation and implementation of robust and efficient public transportation systems.	Initiate a City led rezoning of the 71B-College Ave. corridor to set the stage for thoughtful urban redevelopment.
	Support local and regional transit through City funding of transit.
	Expand opportunities to advance micro-mobility (e.g., electric bikes, scooters, etc.).

GOAL# 3: Transition City's fleet to 10% alternative fuel vehicles by the year 2030 and reduce fleet emissions year over year.

The city government fleet includes vehicles used for maintenance, fire and police, and day-to-day operations. Currently, the city fleet is the second largest source of city government greenhouse gas emissions. Transitioning the city fleet to electric and hybrid vehicles will significantly reduce the city's carbon footprint and annual fuel costs.

KEY ACTION: Transition City fleet vehicles to fuel efficient hybrid, electric vehicles, and other alternative fuel vehicles.

STRATEGIES	ACTIONS
Increase the percentage of fuel efficient and alternative fuel vehicles in City fleet to reduce GHG emissions.	Develop a comprehensive City fleet transition plan and timeline. Transition City fleet vehicles to fuel efficient hybrid, electric vehicles, and other alternative fuel vehicles. Transition maintenance equipment to low emissions technology

DRAFT



WASTE

The anaerobic decay of waste in landfills emits greenhouse gases. To reduce the amount of waste sent to landfills, the Recycling and Trash Collection Division manages municipal recycling and compost programs for City customers. While upstream reduction of waste at an individual and commercial level are important steps to achieving a reduced waste stream, the following goals and strategies target actions within the City's control.

GOAL #1: Achieve a 40% waste diversion rate.

Increased capture of recyclable and compostable material is vital to achieving the City's waste reduction goals. Individual households and businesses play a role through actively participating in city programs. A significant portion of the City's waste stream is also generated through construction and demolition activities (C&D), which provide a new opportunity for waste diversion on a larger scale. The below strategies will help achieve all three of the City's waste goals.

KEY ACTION: Implement the Recycling Processing Facility improvements project to increase materials collection, processing, and storage capacity.

STRATEGIES

ACTIONS

Engage residents through recycling education and outreach to increase recycling participation and waste diversion rates.

Develop and implement a subscription based residential curb-side food waste collection program.

Utilize capture rate data to design and target effective recycling programs and practices.

Review and amend the current trash and recycling rate structures to incentivize recycling and ensure equitable trash and recycling services are provided.

Continue to develop, test, and implement new recycling collection methods and containers to serve the community

Develop and implement a subscription based residential curb-side food waste collection program.

Continue to develop, test, and implement new recycling collection methods and containers to serve the community

Continue to incrementally increase the number of food waste drop-off locations.

Increase community participation rates through the development of new or expanded programs.

Develop and implement a subscription based residential curb-side food waste collection program.

Grow the City's food waste collection and drop-off program to increase the amount of City generated compost.

Develop a permanent hazardous household waste and consumer electronics drop-off facility.

Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.

<p>Develop public-private partnerships to increase materials collected or reach new customers.</p>	<p>Develop and implement a subscription based residential curb-side food waste collection program.</p> <p>Develop a permanent hazardous household waste and consumer electronics drop-off facility.</p> <p>Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.</p>
<p>Expand recycling collection and processing capacity to meet growing demand and increased volume of collected materials</p>	<p>Implement the Recycling Processing Facility improvements project to increase materials collection, processing, and storage capacity.</p> <p>Mitigate the environmental degradation of adjacent City-owned lands to develop an expanded compost facility to increase collection and processing capacity.</p> <p>Continue to develop, test, and implement new recycling collection methods and containers to serve the community</p> <p>Develop and implement a subscription based residential curb-side food waste collection program.</p> <p>Develop a permanent hazardous household waste and consumer electronics drop-off facility.</p> <p>Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.</p>
<p>Work with partners and processors to develop a regional construction and demolition (C&D) processing facility.</p>	<p>Establish options for alternative waste disposal and measurable criteria for evaluating emissions impact.</p> <p>Incorporate construction and demolition (C&D) recycling requirements on City-led projects once a regional C&D facility comes online.</p> <p>Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.</p>
<p>Advocate for, and participate in, regional solutions to reduce waste, and increase recycling, and grow demand for regional circular economies.</p>	<p>Incorporate construction and demolition (C&D) recycling requirements on City-led projects once a regional C&D facility comes online.</p> <p>Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.</p> <p>Work with regional partners and cities to plan for the eventual closing of the regional EcoVista landfill.</p>

GOAL #2: Increase commercial and residential recycling program participation rates year over year.

[To be added.]

KEY ACTION: [To be added.]

STRATEGIES

ACTIONS

Engage residents through recycling education and outreach to increase recycling participation and waste diversion rates.

Develop and implement a subscription based residential curb-side food waste collection program.

Utilize capture rate data to design and target effective recycling programs and practices.

Review and amend the current trash and recycling rate structures to incentivize recycling and ensure equitable trash and recycling services are provided.

Develop and implement a subscription based residential curb-side food waste collection program.

Continue to develop, test, and implement new recycling collection methods and containers to serve the community

Continue to incrementally increase the number of food waste drop-off locations.

Increase community participation rates through the development of new or expanded programs.

Develop and implement a subscription based residential curb-side food waste collection program.

Develop a permanent hazardous household waste and consumer electronics drop-off facility.

Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.

Develop public-private partnerships to increase materials collected or reach new customers. (Food Waste P-U)

Develop and implement a subscription based residential curb-side food waste collection program.

Develop a permanent hazardous household waste and consumer electronics drop-off facility.

Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.

Implement the Recycling Processing Facility improvements project to increase materials collection, processing, and storage capacity.

Expand recycling collection and processing capacity to meet growing demand and increased volume of collected materials

Mitigate the environmental degradation of adjacent City-owned lands to develop an expanded compost facility to increase collection and processing capacity.

Develop and implement a subscription based residential curb-side food waste collection program.

Develop a permanent hazardous household waste and consumer electronics drop-off facility.

Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.

Work with partners and processors to develop a regional construction and demolition (C&D) processing facility.

Establish options for alternative waste disposal and measurable criteria for evaluating emissions impact.

Incorporate construction and demolition (C&D) recycling requirements on City-led projects once a regional C&D facility comes online.

Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.

GOAL #3: Reduce per capita waste to the landfill year over year.

[To be added.]

KEY ACTION: [To be added.]

STRATEGIES	ACTIONS
Engage residents through recycling education and outreach to increase recycling participation and waste diversion rates.	Develop and implement a subscription based residential curb-side food waste collection program.
Utilize capture rate data to design and target effective recycling programs and practices.	Review and amend the current trash and recycling rate structures to incentivize recycling and ensure equitable trash and recycling services are provided. Continue to develop, test, and implement new recycling collection methods and containers to serve the community
Increase community participation rates through the development of new or expanded programs.	Develop and implement a subscription based residential curb-side food waste collection program. Continue to develop, test, and implement new recycling collection methods and containers to serve the community Continue to incrementally increase the number of food waste drop-off locations.
Develop public-private partnerships to increase materials collected or reach new customers. (Food Waste P-U)	Develop and implement a subscription based residential curb-side food waste collection program. Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.
Expand recycling collection and processing capacity to meet growing demand and increased volume of collected materials	Develop and implement a subscription based residential curb-side food waste collection program. Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established. Implement the Recycling Processing Facility improvements project to increase materials collection, processing, and storage capacity. Mitigate the environmental degradation of adjacent City-owned lands to develop an expanded compost facility to increase collection and processing capacity. Develop and implement a subscription based residential curb-side food waste collection program. Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.

Work with partners and processors to develop a regional construction and demolition (C&D) processing facility.

Advocate for, and participate in, regional solutions to reduce waste, and increase recycling, and grow demand for regional circular economies.

Establish options for alternative waste disposal and measurable criteria for evaluating emissions impact.

Incorporate construction and demolition (C&D) recycling requirements on City-led projects once a regional C&D facility comes online.

Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.

Continue to develop, test, and implement new recycling collection methods and containers to serve the community

Incorporate construction and demolition (C&D) recycling requirements on City-led projects once a regional C&D facility comes online.

Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.

Work with regional partners and cities to plan for the eventual closing of the regional EcoVista landfill.

DRAFT



Water is a new sector of focus for the City’s climate mitigation strategy. The water-energy nexus is the nearly inextricable linkage between water and energy. Every step of the municipal water cycle—producing, moving, treating, and heating water, then collecting and treating wastewater—consumes energy. In recognition of this energy-water relationship, the City is seeking to address how extreme weather, water consumption, and infrastructure all play a role in climate mitigation and adaptation.

GOAL 1: Prepare, plan, and develop community response strategies and contingencies for extreme weather events such as heatwaves, droughts, and floods.

The changing climate increases the likelihood of extreme weather, many of which impact water availability and consumption. Normal fluctuations in weather also impact water use. For example, Fayetteville has higher demand for water during summer months when temperatures are higher, which will only be exacerbated as summer temperatures rise. The following strategies and actions address and plan for these realities.

KEY ACTION: Create a water education position to do community outreach on water conservation.

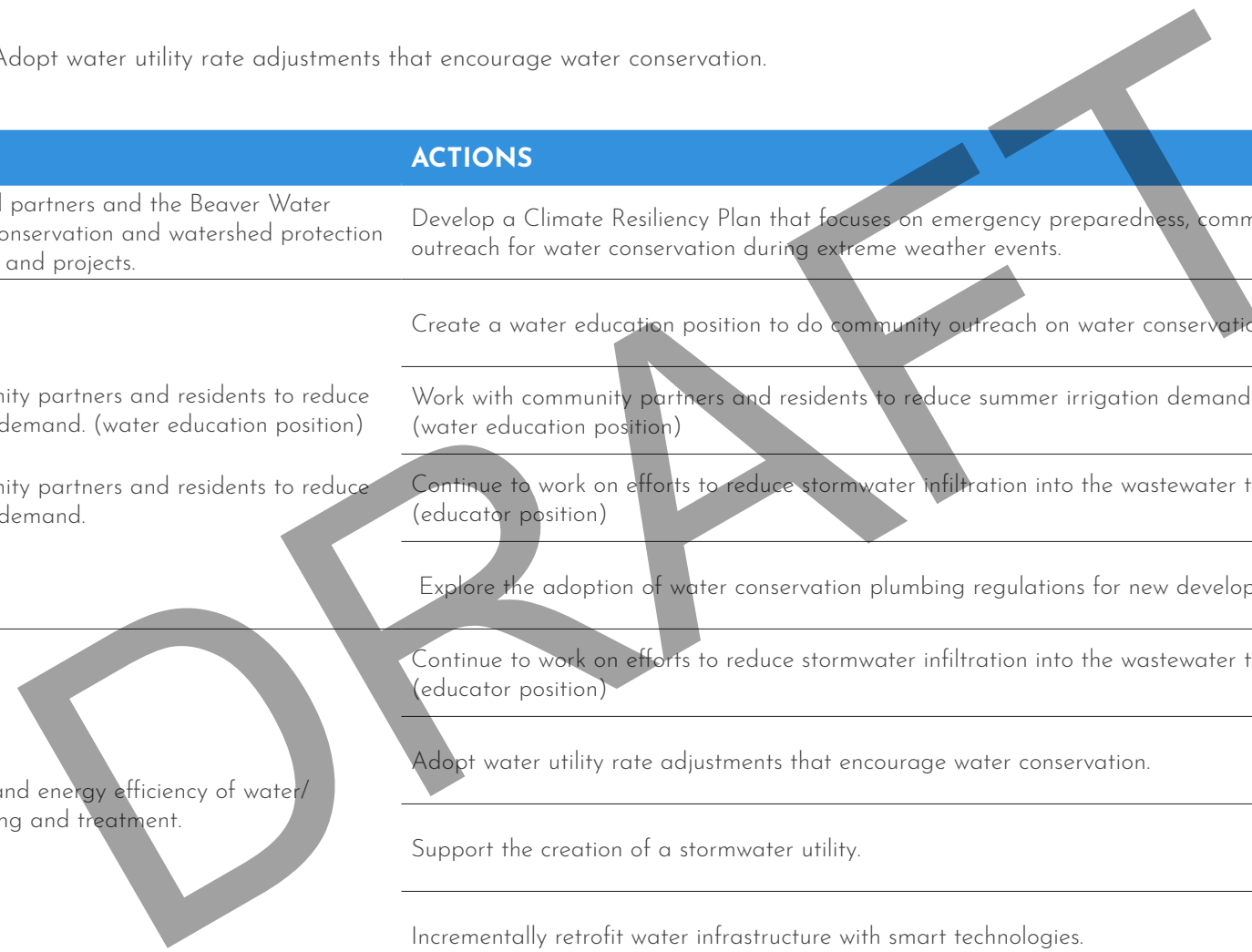
STRATEGIES	ACTIONS
Work with regional partners and the Beaver Water District on water conservation and watershed protection policies, programs, and projects.	Develop a Climate Resiliency Plan that focuses on emergency preparedness, communications, and outreach for water conservation during extreme weather events.
	Create a water education position to do community outreach on water conservation.
Work with community partners and residents to reduce summer irrigation demand. (water education position)	Adopt water utility rate adjustments that encourage water conservation.
	Explore the adoption of water conservation plumbing regulations for new development.

GOAL #2: Achieve per capita water consumption reductions year over year.

Reduction in consumption will require changes in individual and commercial behaviors. The City can supplement, and support changed behaviors through regulation, education, and infrastructure improvements. By measuring this goal on a per capita and year over year basis, we can ensure continual progress as our community grows.

KEY ACTION: Adopt water utility rate adjustments that encourage water conservation.

STRATEGIES	ACTIONS
Work with regional partners and the Beaver Water District on water conservation and watershed protection policies, programs, and projects.	Develop a Climate Resiliency Plan that focuses on emergency preparedness, communications, and outreach for water conservation during extreme weather events.
	Create a water education position to do community outreach on water conservation.
Work with community partners and residents to reduce summer irrigation demand. (water education position)	Work with community partners and residents to reduce summer irrigation demand. (water education position)
Work with community partners and residents to reduce summer irrigation demand.	Continue to work on efforts to reduce stormwater infiltration into the wastewater treatment system. (educator position)
	Explore the adoption of water conservation plumbing regulations for new development.
	Continue to work on efforts to reduce stormwater infiltration into the wastewater treatment system. (educator position)
Improve resource and energy efficiency of water/ wastewater pumping and treatment.	Adopt water utility rate adjustments that encourage water conservation.
	Support the creation of a stormwater utility.
	Incrementally retrofit water infrastructure with smart technologies.



GOAL #3: Identify and prioritize the repair and installation of water system infrastructure to alleviate water leakage and accommodate growing system demands.

As Fayetteville’s community continues to grow, the City must ensure that our water infrastructure is able to serve both the existing and incoming population. Increased system efficiencies can reduce overall water consumption by preventing unnecessary water loss, as well as overall energy demand.

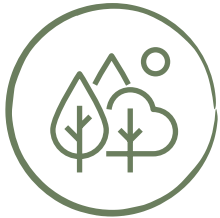
KEY ACTION: Incrementally retrofit water infrastructure with smart technologies.

STRATEGIES	ACTIONS
Improve resource and energy efficiency of water/wastewater pumping and treatment.	Continue to work on efforts to reduce stormwater infiltration into the wastewater treatment system. (educator position) <hr/> Incrementally retrofit water infrastructure with smart technologies.

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7.0 Nature-Based Solutions Goals

Stakeholder groups, community members, City staff and Olsson developed the following goals across four sectors: ecosystem services, ecosystem resilience, and carbon sequestration & storage. These goals will guide the City's efforts to adapt to extreme weather events while mitigating carbon emissions through Nature-Based Solutions using natural infrastructure in the City's planning area. A more in-depth discussion of each goal and its related strategies is available below.



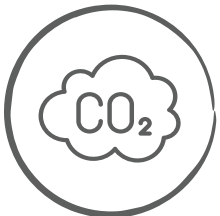
ECOSYSTEM SERVICES

1. Prepare, plan, and develop strategies and contingencies for extreme weather events.
 2. Identify lands within the City's planning area that provide highest ecosystem services for resilience to extreme weather events.
 3. Preserve lands within the City's planning area that provide high ecosystem services for resilience to extreme weather events.
 4. Restore and improve ecosystem services provided by existing preserved natural areas.
 5. Reduce climate change threats to public infrastructure and private property.
-



ECOSYSTEM RESILIENCE

1. Identify lands with high levels of biodiversity and ecosystem resilience.
 2. Preserve lands with high levels of biodiversity and ecosystem resilience.
 3. Restore and enhance City-owned or managed lands with high levels of biodiversity and ecosystem resilience.
 4. Support on-going ecological education and outreach efforts by local expert organizations.
-



CARBON SEQUESTRATION

1. Measure and track carbon sequestration in the City's tree canopy and natural environment.
2. Increase carbon sequestration into the City's soils, plants, and tree's biomass.
3. Preserve and enhance existing carbon sinks such as wetlands, prairies, and forests.



ECOSYSTEM SERVICES

Nature-based solutions that utilize ecosystem services provided by lands in the City’s planning area will help the City adapt to the impacts from extreme weather events such as flooding, drought, and extreme heat. The following goals and strategies emphasize actions within City control to identify and improve lands within the City’s planning area that provide ecosystem services such as flood and erosion control, surface water retention, groundwater recharge, and shade.

GOAL #1: Prepare, plan, and develop strategies and contingencies for extreme weather events.

The City will take a pro-active approach to extreme weather events, including but not limited to educating the residents of Fayetteville on ways in which they can help reduce impacts from these events.

KEY ACTION: Update response measures in Fayetteville emergency management plan to account for more frequent and extreme

weather events (heat, drought, flood, winter storms).

STRATEGIES	ACTIONS
Develop a Climate Resiliency Plan that focuses on emergency preparedness, communication and outreach during extreme weather events.	Update response measures in Fayetteville emergency management plan to account for more frequent and extreme weather events (heat, drought, flood, winter storms).
Reduce the impacts of drought on the regional water system through water conservation efforts.	Create a water education position to do community outreach on water conservation.
	Work with community partners and residents to reduce summer irrigation demand.

GOAL #2: Identify lands within the City’s planning area that provide the highest ecosystem services for resilience to extreme weather events.

For the City to be most effective when implementing nature-based solutions for ecological adaptation, lands which provide the highest ecosystem services for adaptation to extreme weather events must first be identified to understand how these efforts should be prioritized. This includes lands with riparian buffers, wetlands, ponds/reservoirs, tree canopy, and/or little to no impervious surfaces.

KEY ACTION: Support Parks efforts to develop a conservation plan to identify and preserve unique ecosystems and habitats.

STRATEGIES	ACTIONS
Develop additional parks planning and development tools to help preserve open space and repurpose existing city properties that provide access to nature and deliver environmental services.	Create a city-wide tool to track environmental assets and ecosystem services.
	Support Parks efforts to develop a conservation plan to identify and preserve unique ecosystems and habitats.

GOAL #3: Preserve lands within the City’s planning area that provide high ecosystem services for resilience to extreme weather events.

Lands identified as having high ecosystem services value for adaptation to extreme weather events should be prioritized for preservation and conservation efforts. Preserved lands can also serve additional purposes, such as locations for city parks, trails, or outdoor recreation.

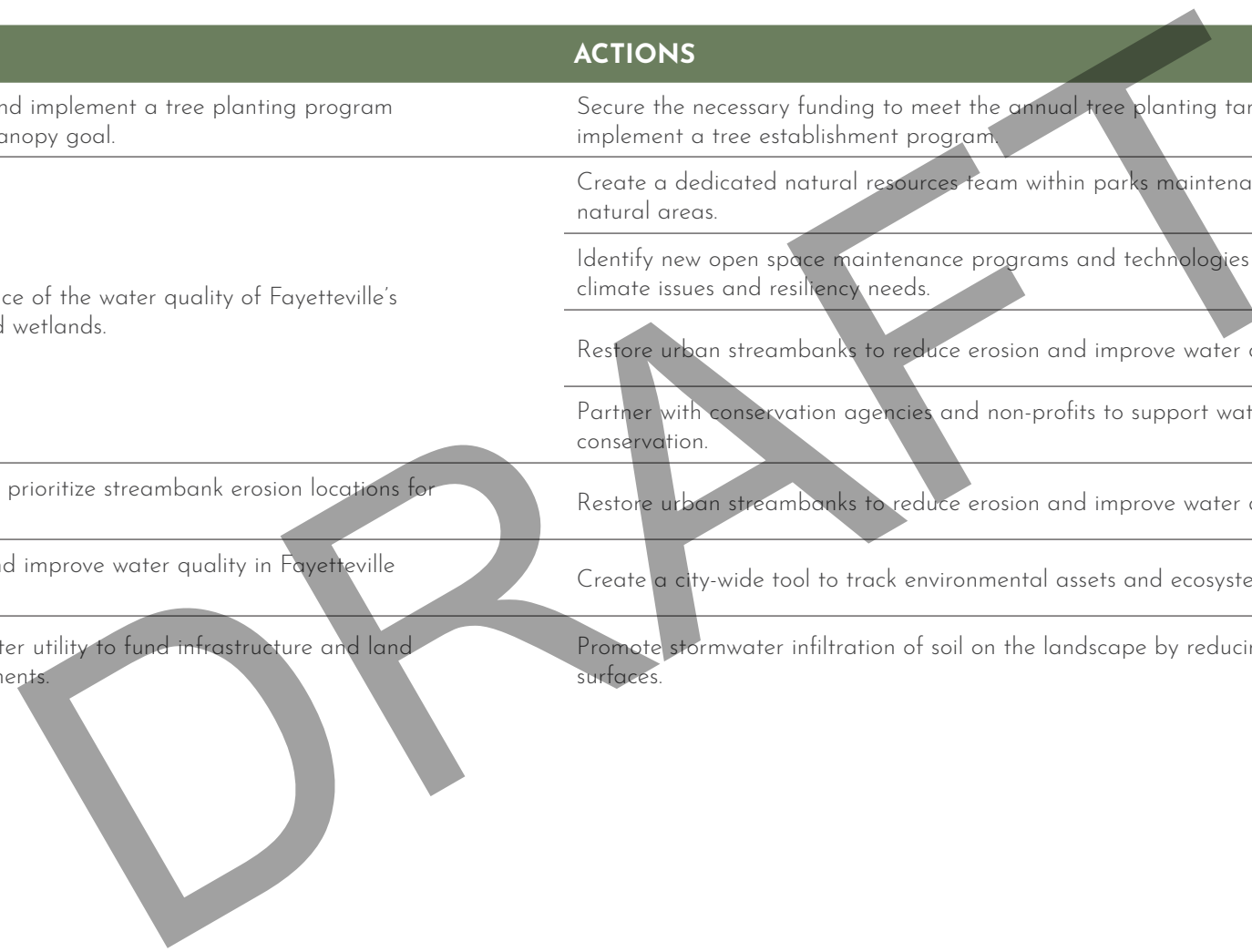
KEY ACTION: Explore bond potential for land acquisition and conservation.

STRATEGIES	ACTIONS
Update the Enduring Green Network Map to more closely align with probable acquisition and preservation pathways and concentrate priorities on achievable conservation goals.	Update and refine the Enduring Green Network spatial layers and explore additional regulatory protections to ensure the development of a complete and connected network of useful public open space.
Develop a strategy to increase the permanent preservation of lands.	<p>Conduct a development impact fee study for parkland dedication.</p> <p>Develop a multi-year program with support from additional conservation organizations to allocate funding for land acquisition.</p> <p>Explore bond potential for land acquisition and conservation.</p>
Develop zoning and development regulations to help conserve open space.	<p>Review development code regulations related to open space and amend as necessary to spur acquisition and preservation of natural lands.</p> <p>Develop an environmental or conservation zoning district for inclusion in the City’s Enduring Green Network.</p>
Protect and enhance of the water quality of Fayetteville’s streams, lakes, and wetlands.	<p>Restore urban streambanks to reduce erosion and improve water quality.</p> <p>Promote stormwater infiltration of soil on the landscape by reducing impervious surfaces.</p>
Adopt a Stormwater utility to fund infrastructure and land acquisition investments.	<p>Review development code regulations related to open space and amend as necessary to spur acquisition and preservation of natural lands.</p> <p>Repurpose areas susceptible to repetitive flooding to park/conservation areas with ecosystem benefits.</p>
Balance open space land preservation efforts by supporting increased density and development within the core of the City with consideration to linked growth concepts.	Develop an environmental or conservation zoning district for inclusion in the City’s Enduring Green Network.

GOAL #4: Restore and improve ecosystem services provided by existing preserved natural areas. Existing preserved lands identified as having high ecosystem services value for adaptation to extreme weather events should be prioritized for conservation and restoration efforts.

KEY ACTION: Create a dedicated natural resources team within parks maintenance to focus on natural areas.

STRATEGIES	ACTIONS
Develop targets and implement a tree planting program aligned with the canopy goal.	Secure the necessary funding to meet the annual tree planting targets and implement a tree establishment program.
	Create a dedicated natural resources team within parks maintenance to focus on natural areas.
Protect and enhance of the water quality of Fayetteville's streams, lakes, and wetlands.	Identify new open space maintenance programs and technologies to address climate issues and resiliency needs.
	Restore urban streambanks to reduce erosion and improve water quality.
	Partner with conservation agencies and non-profits to support watershed resource conservation.
Identify, map, and prioritize streambank erosion locations for restoration.	Restore urban streambanks to reduce erosion and improve water quality.
Measure, track, and improve water quality in Fayetteville watersheds.	Create a city-wide tool to track environmental assets and ecosystem services.
Adopt a Stormwater utility to fund infrastructure and land acquisition investments.	Promote stormwater infiltration of soil on the landscape by reducing impervious surfaces.



GOAL #5: Reduce climate change threats to public infrastructure and private property.

The reduction of threats by climate change to public infrastructure and private property can be accomplished in part by implementing nature-based solutions that reduce flooding, erosion, extreme heat.

KEY ACTION: Update response measures in the Fayetteville Emergency Management Plan to account for more frequent and extreme weather events (heat, drought, flood, winter storms).

STRATEGIES	ACTIONS
Develop a Climate Resiliency Plan that focuses on emergency preparedness, communication, and outreach during extreme weather events.	<p>Develop a Climate Resiliency Plan that focuses on emergency preparedness, communications, and outreach for water conservation during extreme weather events.</p> <p>Create a water education position to do community outreach on water conservation.</p> <p>Record, track and map areas of reoccurring flooding and extreme heat.</p>
Mitigate the impacts of extreme heat to the residents and ecosystems of Fayetteville.	<p>Implement strategies and actions identified in the 2023 Urban Tree Plan and Assessment.</p> <p>Explore the use of new technology to reduce urban heat island impacts produced by paved surfaces.</p> <p>Identify and designate resilience hubs/cooling centers in the Emergency Management/Climate Resiliency Plan.</p> <p>Promote stormwater infiltration of soil on the landscape by reducing impervious surfaces.</p> <p>Update response measures in the Fayetteville Emergency management Plan to account for more frequent and extreme weather events (Heat, drought, flood, winter storms).</p>
Review and implement recommended changes to tree ordinances.	<p>Implement strategies and actions identified in the 2023 Urban Tree Plan and Assessment.</p> <p>Plant species that provide optimal ecological benefit in City owned parks, trails, and rights-of-way.</p> <p>Update tree lists that prioritize native and climate-resilient tree species.</p>
Adopt a Stormwater utility to fund infrastructure and land acquisition investments.	<p>Support the creation of a stormwater utility.</p> <p>Identify opportunities to “rewild” parks that contribute to ecosystem resilience.</p>
Repurpose areas susceptible to repetitive flooding to park/conservation areas with ecosystem benefits.	<p>Promote stormwater infiltration of soil on the landscape by reducing impervious surfaces.</p> <p>Explore bond potential for land acquisition and conservation.</p>



ECOSYSTEM RESILIENCE

Nature-based solution that enhance the ecological resilience of lands within the City’s planning area to the impacts of climate change will improve the ability of these lands to provide ecosystem services that help the City to adapt to the impacts from extreme weather events such as flooding, drought, and extreme heat. The following goals and strategies emphasize actions within City control to improve the resilience of lands within the City’s planning area to environmental stressors associated with climate change.

GOAL #1: Identify lands with high levels of biodiversity and ecosystem resilience.

Biodiversity and topographic diversity improve an ecosystem’s resilience to impacts from climate change. For the City to be most effective when implementing nature-based solutions for ecological adaptation, lands which provide the highest ecosystem resilience to extreme weather events must first be identified to understand how these efforts should be prioritized. This includes lands with high biodiversity, topographic diversity, species of conservation concern, and/or unique habitats.

KEY ACTION: Create a city-wide tool to track environmental assets and ecosystem services.

STRATEGIES

ACTIONS

Quantify the ecosystem services of the city’s urban forest.

Create a city-wide tool to track environmental assets and ecosystem services.

Identify opportunities to “rewild” parks that contribute to ecosystem resilience.

Update the Enduring Green Network Map to more closely align with probable acquisition and preservation pathways and concentrate priorities on achievable conservation goals.

Utilize the spatial data provided in the Nature-Based solutions parcel score and map layers to update the Enduring Green Network map.

Measure, track, and improve water quality in Fayetteville watersheds.

Create a city-wide tool to track environmental assets and ecosystem services.

GOAL #2: Preserve lands with high levels of biodiversity and ecosystem resilience.

Lands identified as having high ecological resilience value for adaptation to extreme weather events should be prioritized for preservation and conservation efforts. Preserved lands can also serve additional purposes, such as locations for city parks, trails, or outdoor recreation.

KEY ACTION: Develop a multi-year program with support from additional conservation organizations to allocate funding for land acquisition.

STRATEGIES

ACTIONS

Develop additional planning and development tools to help preserve open space and repurpose existing city properties that provide access to nature and deliver environmental services.

Support Parks efforts to develop a conservation plan to identify and preserve unique ecosystems and habitats.

Create a dedicated natural resources team within parks maintenance to focus on natural areas.

Identify new open space maintenance programs and technologies to address climate issues and resiliency needs.

Utilize the spatial data provided in the Nature-Based solutions parcel score and map layers to update the Enduring Green Network map.

Develop a Conservation Development Overlay District map that identifies appropriate locations for conservation subdivision development.

Develop a strategy to increase the permanent preservation of lands.

Create environmental or conservation zoning district regulations that can be utilized by property owners to set aside land for open space or conservation.

Review development code regulations related to open space and amend as necessary to spur acquisition and preservation of natural lands.

Develop an environmental or conservation zoning district for inclusion in the City's Enduring Green Network.

Conduct a development impact fee study for parkland dedication.

Acquire land with high ecosystem resilience to the impacts of climate change.

Strengthen partnerships with existing natural resource groups to supplement the City's limited capacity for natural resource projects and encourage local stewardship.

Partner with conservation agencies and non-profits to support watershed resource conservation.

Support land trusts, watershed alliances and other non-profit organizations in their endeavors to protect, enhance, and acquire ecologically valuable open spaces and riparian corridors.

Develop a multi-year program with support from additional conservation organizations to allocate funding for land acquisition.

Develop zoning and development regulations to help conserve open space.

Develop a Conservation Development Overlay District map that identifies appropriate locations for conservation subdivision development.

Create environmental or conservation zoning district regulations that can be utilized by property owners to set aside land for open space or conservation.

Review development code regulations related to open space and amend as necessary to spur acquisition and preservation of natural lands.

Protect and enhance the water quality of Fayetteville's streams, lakes, and wetlands.

Implement priority actions identified in the Lake Fayetteville Water Quality Study.

Restore urban streambanks to reduce erosion and improve water quality.

GOAL #3: Restore and enhance City-owned or managed lands with high levels of biodiversity and ecosystem resilience.

Biodiversity is essential for healthy ecosystems and improves the ability of an ecosystem to adapt to environmental stressors and adapt to climate change. The greater the species-richness of an ecosystem, the more species are available to fill ecological niches when other species that once filled that niche are wiped out.

KEY ACTION: Plant species that provide optimal ecological benefit in City owned parks, trails, and rights-of-way.

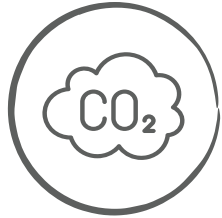
STRATEGIES	ACTIONS
Continue to seek grant funding and the use of volunteers to remove invasive plants and replace with native plants in public open spaces.	Plant species that provide optimal ecological benefit in City owned parks, trails, and rights-of-way.
Partner with conservation agencies and non-profits to develop strategies to preserve known species of conservation concern identified on City owned and/or managed property.	Identify opportunities to “rewild” parks that contribute to ecosystem resilience. Create a dedicated natural resources team within parks maintenance to focus on natural areas. Participate in the National Wildlife Federation’s Mayor’s Monarch Pledge and continue to support the creation of monarch waystations and habitats on City-owned lands.
Support land trusts, watershed alliances and other non-profit organizations in their endeavors to protect, enhance, and acquire ecologically valuable open spaces and riparian corridors.	Implement priority actions identified in the Lake Fayetteville Water Quality Study Restore urban streambanks to reduce erosion and improve water quality. Partner with conservation agencies and non-profits to support watershed resource conservation.
Utilize plant species with characteristics that provide optimal ecological benefit on City owned and/or managed properties.	Plant species that provide optimal ecological benefit in City owned parks, trails, and rights-of-way. Provide native plant species that offer optimal ecological benefit for the annual tree and plant giveaway events hosted by the Urban Forestry Division. Update tree lists that prioritize native and climate-resilient tree species. Participate in the National Wildlife Federation’s Mayor’s Monarch Pledge and continue to support the creation of monarch waystations and habitats on City-owned lands. Host native milkweed and pollinator plant giveaway events to promote pollinator friendly habitat.

GOAL #4: Support on-going ecological education and outreach efforts by local expert organizations.

Environmental education is key to build public awareness and support of the initiatives implemented by the City, as well as helping residents of Fayetteville understand how they can reduce their own impacts and improve the ecosystem services and ecological resilience where they live.

KEY ACTION: Partner with conservation agencies and non-profits to support watershed resource conservation.

STRATEGIES	ACTIONS
Partner with conservation agencies and non-profits to develop strategies to preserve known species of conservation concern identified on City owned and/or managed property.	Create a dedicated natural resources team within parks maintenance to focus on natural areas. Participate in the National Wildlife Federation’s Mayor’s Monarch Pledge and continue to support the creation of monarch waystations and habitats on City-owned lands.
Support land trusts, watershed alliances and other non-profit organizations in their endeavors to protect, enhance, and acquire ecologically valuable open spaces and riparian corridors.	Restore urban streambanks to reduce erosion and improve water quality. Partner with conservation agencies and non-profits to support watershed resource conservation.
Utilize plant species with characteristics that provide optimal ecological benefit on City owned and/or managed properties.	Plant species that provide optimal ecological benefit in City owned parks, trails, and rights-of-way. Provide native plant species that offer optimal ecological benefit for the annual tree and plant giveaway events hosted by the Urban Forestry Division. Participate in the National Wildlife Federation’s Mayor’s Monarch Pledge and continue to support the creation of monarch waystations and habitats on City-owned lands.
	Host native milkweed and pollinator plant giveaway events to promote pollinator friendly habitat.



CARBON SEQUESTRATION

Nature-based solutions that preserve existing carbon stocks and improve carbon sequestration on lands within the City’s planning area will help the City to mitigate carbon emissions from land development and other sources. The following goals and strategies emphasize actions within City control to preserve existing carbon stocks and increase carbon sequestration of lands within the City’s planning area.

GOAL #1: Measure and track carbon sequestration in the City’s tree canopy and natural environment.

Measuring the quantity of existing carbon stocks in the City’s urban tree canopy, prairies, and wetlands and tracking changes to these carbon stocks is essential for understanding the ability of lands within the City to contribute to the mitigation carbon emissions originating from deforestation, soil disturbance, and technological sources.

KEY ACTION: Calculate the carbon sequestration, storage, and avoided carbon generated from the citywide urban tree canopy cover.

STRATEGIES

Quantify the ecosystem services of the city’s urban forest.

ACTIONS

Calculate the carbon sequestration, storage, and avoided carbon generated from the citywide urban tree canopy cover.

GOAL #2: Increase carbon sequestration into the City’s soils, plants, and tree’s biomass.

Strategies to increase carbon sequestration on lands within the City planning area can also provide additional benefits that improve ecological resilience and provide ecosystem services.

KEY ACTION: Implement strategies and actions identified in the 2023 Urban Tree Plan and Assessment.

STRATEGIES

Identify best management practices to increase carbon sequestration on city-owned lands.

Identify, promote, and utilize native tree and plant species with characteristics that enable them to provide optimal carbon sequestration into their biomass.

Encourage the continued growth and expansion of organics capture and composting programs to build and support local soil health and carbon sequestration.

ACTIONS

Implement strategies and actions identified in the 2023 Urban Tree Plan and Assessment.

Plant native tree and plant species that provide optimal carbon sequestration benefit in City owned parks, trails, and rights-of-way.

Plant native tree and plant species that provide optimal carbon sequestration benefit in City owned parks, trails, and rights-of-way.

Distribute native tree and plant species that provide optimal carbon sequestration benefit for the annual tree and plant giveaway events hosted by the Urban Forestry Division.

Grow the City’s food waste collection and drop-off program to increase the amount of City generated compost.

GOAL #3: Preserve and enhance existing carbon sinks such as wetlands, prairies, and forests.

In general, reducing emissions by preventing the loss or degradation of natural ecosystems is more cost-effective and immediate than restoring carbon to damaged ecosystems. However, reforestation of degraded ecosystems can include a range of practices. While natural regeneration is a more cost-effective approach than planting²³ and leads to more resilient and biodiverse forests,²⁴ planting can result in more rapid absorption of CO₂ over the first twenty years.²⁵

“Reforestation” as defined by the Intergovernmental Panel on Climate Change (IPCC) is carried out on lands which have been forested at some point in the previous 50 years, while “afforestation” involves creating a forest on other non-forested lands.²⁶ While afforestation of natural grasslands, wetlands, or savannas can contribute to climate change mitigation, it is often harmful to biodiversity²⁷ and is therefore not seen as a nature-based solution.²⁸

KEY ACTION: Plant native tree and plant species that provide optimal carbon sequestration benefit in City owned parks, trails, and rights-of-way.

STRATEGIES	ACTIONS
Include carbon sequestration as a consideration for land conservation and acquisition.	Implement strategies and actions identified in the 2023 Urban Tree Plan and Assessment.
	Plant native tree and plant species that provide optimal carbon sequestration benefit in City owned parks, trails, and rights-of-way.
	Distribute native tree and plant species that provide optimal carbon sequestration benefit for the annual tree and plant giveaway events hosted by the Urban Forestry Division.
	Acquire lands with high carbon sequestration value.

Generally, tree species that provides optimal carbon sequestration and storage have more than one of the following characteristics:

- Tree species that are naturally long-lived will store carbon for a longer period,
- Tree species that produce large quantities of woody biomass can store more carbon than species that provide less woody biomass,
- Tree species that have a fast growth-rate will sequester more carbon in a shorter amount of time than slow-growing species,
- Tree species with large crowns and/or large leaf sizes provide optimal photosynthetic activity and removal of carbon from the atmosphere.

Herbaceous species that provide optimal carbon sequestration and storage have both of the following characteristics:

- Species with dense, deep fibrous root systems sequester a greater amount of carbon into the soil due to having higher root biomass than species with other types of root systems and can store carbon deeper into the soil than species with shorter root systems.
- Long-lived perennial species sequester carbon into the soil for a longer period than short-lived species such as annuals, biennials, and short-lived perennials.

8.0 Climate Equity Goals

Equity considerations include measures that align with both the Emissions Reduction and Nature-Based Solutions sections. Emission reduction strategies include clean energy procurement for the community, home weatherization programs, and equitable recycling services for all residents. Nature-Based Solutions for climate equity are focused on access to meaningful open space, mitigating property loss and resident displacement due to flooding events and providing shade to combat the effects of urban heat islands.

Stakeholder groups, community members, City staff and Olsson developed the following goals for climate equity. These goals will guide the City's efforts to ensure that all people share the benefits of climate mitigation and adaptation strategies. A more in-depth discussion of each goal and its related strategies is available below.



CLIMATE EQUITY

1. Identify, prioritize, and mitigate climate change impacts on underserved or vulnerable neighborhoods and populations.
2. Provide access to useful public open space in proximity to low-income or disadvantaged populations.
3. Build a complete and connected active transportation network within a 10-minute walk of every resident by 2030.



CLIMATE EQUITY

The Climate Resilience Map developed with this Climate Action Plan will be used to help guide the decision-making process around policies, projects and programs that will create equitable outcomes to the social impacts of climate change for all Fayetteville residents. Strategies such as documenting, mapping, and mitigating the impacts of re-occurring flood loss in low-income or disadvantaged neighborhoods create stronger and more resilient communities. Similarly, tree planting programs directed at low-income and disadvantaged communities will help reduce urban heat and improve human health outcomes.

GOAL #1: Identify, prioritize, and mitigate climate change impacts on underserved or vulnerable neighborhoods and populations.

As the City considers which nature-based solutions to implement, lands which provide ecosystem services that mitigate impacts of extreme weather events on underserved or vulnerable populations must first be identified in order to understand how these efforts should be prioritized to ensure climate equity.

KEY ACTION: Coordinate with Urban Forestry to continue implementing tree planting initiatives in low-income/disadvantaged neighborhoods to mitigate the impacts of extreme heat.

STRATEGIES

Develop mapping tools to better understand the spatial proximity of low-income/disadvantaged neighborhoods to public open space and trail corridors.

Formalize and integrate climate justice and equity considerations into planning processes.

Include climate action initiatives and infrastructure improvements in low-income/disadvantaged neighborhoods to mitigate the impact of extreme weather events such as heat, drought and floods brought on by climate change.

Support community housing policies, programs and initiatives that provide housing assistance and support services for low-income and disadvantaged families and individuals displaced by extreme weather events.

Pursue grants and other funding opportunities to develop energy efficiency programs and projects for low-income households and neighborhoods.

ACTIONS

Develop a public-facing Nature-Based solutions parcel score and map that identifies and spatially represents proximity and accessibility to public open space.

Construct or retrofit transportation infrastructure to meet the access standards in the Americans with Disabilities Act (ADA).

Record, track and map areas of reoccurring flooding and extreme heat.

Develop a public-facing Nature-Based solutions parcel score and map that identifies and spatially represents proximity and accessibility to public open space.

Coordinate with Urban Forestry to continue implementing tree planting initiatives in low-income/disadvantaged neighborhoods to mitigate the impacts of extreme heat.

Incrementally acquire land and construct stormwater infrastructure improvements to reduce flooding especially in low-income neighborhoods.

Support the creation of a stormwater utility.

Record, track and map areas of reoccurring flooding and extreme heat.

Develop mitigation, acquisition, or relocation measures to minimize flooding loss and displacement of low-income or disadvantaged groups or individuals.

Advocate for the expansion of energy efficiency programs at the State and utility scale.

Develop clean and renewable energy sources targeted at low-income households and neighborhoods through partnerships, grants, and utility rebate programs.

GOAL #2: Provide access to useful public open space in proximity to low-income or disadvantaged populations.

Useful public open space can provide locations for residents to seek refuge from extreme heat, or provide ecosystem services, such as flood control, that benefit low-income or disadvantaged populations.

KEY ACTION: Coordinate with the Parks Master Plan to continue to incrementally acquire parkland and trail corridors in areas with low accessibility or proximity to public open space.

STRATEGIES	ACTIONS
Develop mapping tools to better understand the spatial proximity of low-income/disadvantaged neighborhoods to public open space and trail corridors.	Develop a public-facing Nature-Based solutions parcel score and map that identifies and spatially represents proximity and accessibility to public open space.
Include climate action initiatives and infrastructure improvements in low-income/disadvantaged neighborhoods to mitigate the impact of extreme weather events such as heat, drought and floods brought on by climate change.	Coordinate with the Parks Master Plan to continue to incrementally acquire parkland and trail corridors in areas with low accessibility or proximity to public open space. Construct or retrofit transportation infrastructure to meet the access standards in the Americans with Disabilities Act (ADA).

GOAL #3: Build a complete and connected active transportation network withing a 10-minute walk of every resident by 2030.

An active transportation network includes infrastructure for bicycles and pedestrians, which provides safe, equitable mobility for those with limited access to vehicles, while simultaneously improving health, reducing traffic congestion, air pollution, and overall transportation sector emissions.

KEY ACTION: Construct or retrofit transportation infrastructure to meet the access standards in the Americans with Disabilities Act (ADA).

STRATEGIES	ACTIONS
Support compact, complete and connected land use development patterns that encourage multi-modal transportation options and reduce automobile dependency.	Evaluate and prioritize sidewalks, trails and bike lanes to ensure active transportation infrastructure is distributed equitably across the City. Gather, track, and evaluate active transportation and micro-mobility user numbers and trends and measure success. Construct or retrofit transportation infrastructure to meet the access standards in the Americans with Disabilities Act (ADA).
Support and encourage the expansion of alternative and active transportation options	Evaluate and prioritize sidewalks, trails and bike lanes to ensure active transportation infrastructure is distributed equitably across the City. Install safe and accessible bus stops and shelters to make transit comfortable, safe and attractive for users Support local and regional transit through City funding of transit. Gather, track, and evaluate active transportation and micro-mobility user numbers and trends and measure success. Expand opportunities to advance micro-mobility (e.g., electric bikes, scooters, etc.). Construct or retrofit transportation infrastructure to meet the access standards in the Americans with Disabilities Act (ADA).

Endnotes

- 1 University of Oxford. (2023). What is Net Zero? Net Zero Climate. <https://netzeroclimate.org/what-is-net-zero-2/>
- 2 Environmental Protection Agency. (2016). What climate change means for Arkansas, EPA 430-F-16-006. <https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-ar.pdf>
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Appendices

Appendix A

Public Engagement and Stakeholder Report

Appendix B

Climate Resilience Map Technical Report

Appendix C

Action Prioritization Tool

Appendix D

Sector Goals, Strategies, & Actions

Appendix E

Native Plant Species for Climate Resilience

Appendix F

Greenhouse Gas Inventory

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Appendix A

Public Engagement and Stakeholder Report



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Appendix B

Climate Resilience Map Technical Report



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Appendix C

Action Prioritization Tool







Action Prioritization Tool

The 80 actions in the Climate Action Plan were scored on the following factors: necessary funding, feasibility, revenue potential, climate equity potential, GHG emissions reductions, resilience impact potential, city control, and community support. A score was then assigned to the action for each prioritization factor. A final relative priority score was assigned by summing the scores from each of the efficacy and feasibility factors.

Factors

- **Funding Needed** - Will the action need funding to implement? Factor is scored with a yes/no.
- **Feasibility** - What is the political viability of the action, is their staff capacity to complete the action, what are the anticipated costs or potential funding sources for the project? Factor is scored 1-Low; 3-Medium; 5-High.
- **Revenue Potential** - Will the action create a revenue stream that can support further action? Factor is scored 0 - No; 1 - Yes
- **Climate Equity Potential** - Will the project center equitable distribution of services to city residents? Factor is scored by: 1 - N/C; 3 - Low; 5 - High.
- **GHG Emissions Reduction Potential** - How much will the action reduce GHG emissions within the city operations or the community at large? Factor is scored by: 1 - No/Low Reduction (less than 1%); 3 - Medium Reduction (1% to 10%); 5 - High Reduction (10%+). This factor is counted twice in the Emissions Reduction sectors of energy, transportation, waste, and water.
- **Resilience Impact Potential** - How will this action improve the City's resilience to extreme weather impacts? Factor is counted twice in the Nature-Based Solutions sectors of equity, ecosystem services, ecosystem resilience, and carbon sequestration.
- **City Control** - Does the city have jurisdiction to implement this action or is it outside of local government control?
- **Community Support** - What is the level of community support for this action. Community support was based on the survey conducted as part of development of the Climate Action Plan. Factor is scored by: 1 - Controversial; 3 - Neutral/Divided; 5 - Supportive
- **Relative Priority Score** - This score is the aggregate score based on each factor listed above. This score helps prioritize actions within sectors.



ENERGY

ACTION ID	CAP ACTION	FUNDING NEEDED	FEASIBILITY	REVENUE POTENTIAL	CLIMATE EQUITY POTENTIAL	GHG EMISSIONS REDUCTION POTENTIAL (2 FOR EMS)	RESILIENCE IMPACT POTENTIAL (2 FOR NBS)	CITY CONTROL	COMMUNITY SUPPORT	RELATIVE PRIORITY SCORE
						1 - NO/LOW REDUCTION (less than 1%) 3 - MEDIUM REDUCTION (1% to 10%) 5 - HIGH REDUCTION (10%+)	1 - LOW 3 - MEDIUM 5 - HIGH			
E.A-1	Retrofit existing City government facilities to make them more energy efficient.	Yes	4	0	0	2	1	5	5	19
E.A-2	Design and construct new City Government facilities that are energy efficient.	Yes	4	0	0	1	1	5	5	17
E.A-3	Install ground and structure mounted solar to offset electricity usage for City government operations.	Yes	4	0	0	3	2	5	5	22
E.A-4	Advocate for the expansion of energy efficiency programs at the State and utility scale.	No	2	0	3	2	1	0	5	15
E.A-5	Develop clean and renewable energy sources targeted at low-income households and neighborhoods through partnerships, grants, and utility rebate programs.	Yes	3	0	5	1	2	2	5	19

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TRANSPORTATION

ACTION ID	CAP ACTION	FUNDING NEEDED	FEASIBILITY	REVENUE POTENTIAL	CLIMATE EQUITY POTENTIAL	GHG EMISSIONS REDUCTION POTENTIAL (2 FOR EMS)	RESILIENCE IMPACT POTENTIAL (2 FOR NBS)	CITY CONTROL	COMMUNITY SUPPORT	SUM OF ALL SCORES, WITH GHG WEIGHTED BY 2
						1 - NO/LOW REDUCTION (less than 1%) 3 - MEDIUM REDUCTION (1% to 10%) 5 - HIGH REDUCTION (10%+)	1 - LOW 3 - MEDIUM 5 - HIGH	1 - LOW 3 - MEDIUM 5 - HIGH	1 - CONTROVERSIAL 3 - NEUTRAL/DIVIDED 5 - SUPPORTIVE	
T.A-1	Initiate a City led rezoning of the 71B-College Ave. corridor to set the stage for thoughtful urban redevelopment.	No	3	0	0	1	1	5	4	15
T.A-2	Evaluate and prioritize sidewalks, trails and bike lanes to ensure active transportation infrastructure is distributed equitably across the City.	No	4	0	5	3	3	5	5	28
T.A-3	Install safe and accessible bus stops and shelters to make transit comfortable, safe and attractive for users	Yes	5	0	4	1	2	5	4	22
T.A-4	Support local and regional transit through City funding of transit.	Yes	4	0	5	2	3	2	4	22
T.A-5	Install publicly accessible Electric Vehicle (EV) charging stations.	Yes	5	1	3	1	1	3	3	18
T.A-6	Develop a comprehensive City fleet transition plan and timeline.	No	4	0	1	1	1	5	4	17



TRANSPORTATION

ACTION ID	CAP ACTION	FUNDING NEEDED	FEASIBILITY	REVENUE POTENTIAL	CLIMATE EQUITY POTENTIAL	GHG EMISSIONS REDUCTION POTENTIAL (2 FOR EMS)	RESILIENCE IMPACT POTENTIAL (2 FOR NBS)	CITY CONTROL	COMMUNITY SUPPORT	RELATIVE PRIORITY SCORE
T.A-7	Transition City fleet vehicles to fuel efficient hybrid, electric vehicles, and other alternative fuel vehicles.	Yes	4	0	1	3	1	5	5	22
T.A-8	Gather, track, and evaluate active transportation and micro-mobility user numbers and trends and measure success.	No	4	0	1	1	1	5	3	16
T.A-9	Expand opportunities to advance micro-mobility (e.g., electric bikes, scooters, etc.).	No	4	1	3	1	1	5	3	19
T.A-10	Develop an e-bike incentive program to offset costs for low-income e-bike purchases.	Yes	4	0	4	1	1	3	3	17



WASTE

ACTION ID	CAP ACTION	FUNDING NEEDED	FEASIBILITY	REVENUE POTENTIAL	CLIMATE EQUITY POTENTIAL	GHG EMISSIONS REDUCTION POTENTIAL (2 FOR EMS)	RESILIENCE IMPACT POTENTIAL (2 FOR NBS)	CITY CONTROL	COMMUNITY SUPPORT	RELATIVE PRIORITY SCORE
W.A-1	Establish options for alternative waste disposal and measurable criteria for evaluating emissions impact.	No	5	0	0	0	0	5	3	13
W.A-2	Implement the Recycling Processing Facility improvements project to increase materials collection, processing, and storage capacity.	Yes	3	0	1	2	2	5	3	18
W.A-3	Mitigate the environmental degradation of adjacent City-owned lands to develop an expanded compost facility to increase collection and processing capacity.	Yes	4	0	1	1	1	5	4	17
W.A-4	Review and amend the current trash and recycling rate structures to incentivize recycling and ensure equitable trash and recycling services are provided.	No	5	0	3	1	1	5	4	20
W.A-5	Continue to develop, test, and implement new recycling collection methods and containers to serve the community.	Yes	4	1	3	1	1	3	5	19

1 - LOW
3 - MEDIUM
5 - HIGH

0 - NO
1 - YES

1 - N/C
3 - LOW
5 - HIGH

1 - NO/LOW REDUCTION
(less than 1%)
3 - MEDIUM REDUCTION
(1% to 10%)
5 - HIGH REDUCTION
(10%+)

1 - LOW
3 - MEDIUM
5 - HIGH

1 - LOW
3 - MEDIUM
5 - HIGH

1 - CONTROVERSIAL
3 - NEUTRAL/DIVIDED
5 - SUPPORTIVE

SUM OF ALL
SCORES, WITH GHG
WEIGHTED BY 2



WASTE

ACTION ID	CAP ACTION	FUNDING NEEDED	FEASIBILITY	REVENUE POTENTIAL	CLIMATE EQUITY POTENTIAL	GHG EMISSIONS REDUCTION POTENTIAL (2 FOR EMS)	RESILIENCE IMPACT POTENTIAL (2 FOR NBS)	CITY CONTROL	COMMUNITY SUPPORT	RELATIVE PRIORITY SCORE
W.A-6	Increase the number of food waste drop-off locations.	Yes	4	0	1	1	1	5	3	16
W.A-7	Develop and implement a subscription based residential curb-side food waste collection program.	Yes	4	1	1	1	1	3	4	16
W.A-8	Develop a permanent hazardous household waste and consumer electronics drop-off facility.	Yes	3	0	1	1	1	3	4	14
W.A-9	Incorporate construction and demolition (C&D) recycling requirements on City-led projects once a regional C&D facility comes online.	No	3	0	3	3	1	1	4	18
W.A-10	Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.	No	3	0	1	1	1	5	3	15
W.A-11	Work with regional partners and cities to plan for the eventual closing of the regional EcoVista landfill.	No	5	0	1	1	1	1	3	13



WATER

ACTION ID	CAP ACTION	FUNDING NEEDED	FEASIBILITY	REVENUE POTENTIAL	CLIMATE EQUITY POTENTIAL	GHG EMISSIONS REDUCTION POTENTIAL (2 FOR EMS)	RESILIENCE IMPACT POTENTIAL (2 FOR NBS)		COMMUNITY SUPPORT	RELATIVE PRIORITY SCORE
							CITY CONTROL			
Wtr.A-1	Develop a Climate Resiliency Plan that focuses on emergency preparedness, communications, and outreach for water conservation during extreme weather events.	Yes	4	0	1	1	2	5	3	17
Wtr.A-2	Create a water education position to do community outreach on water conservation.	Yes	4	0	1	1	1	5	5	18
Wtr.A-3	Work with community partners and residents to reduce summer irrigation demand. (water education position)	Yes	4	0	3	1	2	3	3	17
Wtr.A-4	Continue to work on efforts to reduce stormwater infiltration into the wastewater treatment system. (educator position)	Yes	5	0	1	1	1	5	3	17

1 - LOW
3 - MEDIUM
5 - HIGH

0 - NO
1 - YES

1 - N/C
3 - LOW
5 - HIGH

1 - NO/LOW REDUCTION
(less than 1%)
3 - MEDIUM REDUCTION
(1% to 10%)
5 - HIGH REDUCTION
(10%+)

1 - LOW
3 - MEDIUM
5 - HIGH

1 - LOW
3 - MEDIUM
5 - HIGH

1 - CONTROVERSIAL
3 - NEUTRAL/DIVIDED
5 - SUPPORTIVE

SUM OF ALL
SCORES, WITH GHG
WEIGHTED BY 2



WATER

ACTION ID	CAP ACTION	FUNDING NEEDED	FEASIBILITY	REVENUE POTENTIAL	CLIMATE EQUITY POTENTIAL	GHG EMISSIONS REDUCTION POTENTIAL (2 FOR EMS)	RESILIENCE IMPACT POTENTIAL (2 FOR NBS)	CITY CONTROL	COMMUNITY SUPPORT	RELATIVE PRIORITY SCORE
Wtr.A-5	Adopt water utility rate adjustments that encourage water conservation.	No	4	1	3	1	3	5	3	21
Wtr.A-6	Support the creation of a stormwater utility.	Yes	4	0	5	1	4	5	5	25
Wtr.A-7	Explore the adoption of water conservation plumbing regulations for new development.	No	2	0	1	1	1	4	5	15
Wtr.A-8	Incrementally retrofit water infrastructure with smart technologies.	Yes	5	0	1	1	3	5	5	21

1 - LOW
3 - MEDIUM
5 - HIGH

0 - NO
1 - YES

1 - N/C
3 - LOW
5 - HIGH

1 - NO/LOW REDUCTION
(less than 1%)
3 - MEDIUM REDUCTION
(1% to 10%)
5 - HIGH REDUCTION
(10%+)

1 - LOW
3 - MEDIUM
5 - HIGH

1 - LOW
3 - MEDIUM
5 - HIGH

1 - CONTROVERSIAL
3 - NEUTRAL/DIVIDED
5 - SUPPORTIVE

SUM OF ALL SCORES, WITH GHG WEIGHTED BY 2



ECOSYSTEM SERVICES

ACTION ID	CAP ACTION	FUNDING NEEDED	FEASIBILITY	REVENUE POTENTIAL	CLIMATE EQUITY POTENTIAL	GHG EMISSIONS REDUCTION POTENTIAL (2 FOR EMS)	RESILIENCE IMPACT POTENTIAL (2 FOR NBS)	CITY CONTROL	COMMUNITY SUPPORT	RELATIVE PRIORITY SCORE
EcoSrv.A-1	Update and refine the Enduring Green Network spatial layers and explore additional regulatory protections to ensure the development of a complete and connected network of useful public open space.	No	5	0	3	1	3	5	4	24
EcoSrv.A-2	Create a city-wide tool to track environmental assets and ecosystem services.	Yes	3	0	3	2	3	4	3	21
EcoSrv.A-3	Support Parks efforts to develop a conservation plan to identify and preserve unique ecosystems and habitats. (Resilient Natural Systems)	Yes	3	0	1	1	4	5	4	22
EcoSrv.A-4	Review development code regulations related to open space and amend as necessary to spur acquisition and preservation of natural lands. (Parks Master Plan) (Conservation Plan)	No	4	1	3	1	3	5	4	24
EcoSrv.A-5	Develop an environmental or conservation zoning district for inclusion in the City's Enduring Green Network.	No	4	0	3	1	3	5	4	23
EcoSrv.A-6	Conduct a development impact fee study for parkland dedication.	Yes	3	1	2	1	3	4	3	20



ECOSYSTEM SERVICES

ACTION ID	CAP ACTION	FUNDING NEEDED	FEASIBILITY	REVENUE POTENTIAL	CLIMATE EQUITY POTENTIAL	GHG EMISSIONS REDUCTION POTENTIAL (2 FOR EMS)	RESILIENCE IMPACT POTENTIAL (2 FOR NBS)	CITY CONTROL	COMMUNITY SUPPORT	RELATIVE PRIORITY SCORE
EcoSrv.A-7	Create a dedicated natural resources team within parks maintenance to focus on natural areas.	Yes	2	0	2	2	3	4	4	20
EcoSrv.A-8	Plant drought resistant native vegetation on City owned and managed properties.	Yes	5	0	1	1	1	5	5	19
EcoSrv.A-9	Identify new open space maintenance programs and technologies to address climate issues and resiliency needs.	Yes	2	0	2	3	3	4	3	20
EcoSrv.A-10	Restore urban streambanks to reduce erosion and improve water quality.	Yes	4	0	4	1	5	5	4	28
EcoSrv.A-11	Promote stormwater infiltration of soil on the landscape by reducing impervious surfaces.	Yes	4	0	4	2	5	4	3	27
EcoSrv.A-12	Secure the necessary funding to meet the annual tree planting targets and implement a tree establishment program.	Yes	3	0	3	4	3	4	4	24
EcoSrv.A-13	Develop a multi-year program with support from additional conservation organizations to allocate funding for land acquisition.	Yes	3	0	3	3	4	3	3	23



ECOSYSTEM SERVICES

ACTION ID	CAP ACTION	FUNDING NEEDED	FEASIBILITY	REVENUE POTENTIAL	CLIMATE EQUITY POTENTIAL	GHG EMISSIONS REDUCTION POTENTIAL (2 FOR EMS)	RESILIENCE IMPACT POTENTIAL (2 FOR NBS)	CITY CONTROL	COMMUNITY SUPPORT	RELATIVE PRIORITY SCORE
EcoSrv.A-14	Explore bond potential for land acquisition and conservation.	Yes	3	0	3	3	4	4	2	23
EcoSrv.A-15	Update response measures in Fayetteville emergency management plan to account for more frequent and extreme weather events (Heat, drought, flood, winter storms).	No	2	0	5	1	4	4	3	23
EcoSrv.A-16	Partner with conservation agencies and non-profits to support watershed resource conservation.	Yes	3	0	2	1	4	3	3	20

1 - LOW
3 - MEDIUM
5 - HIGH

0 - NO
1 - YES

1 - N/C
3 - LOW
5 - HIGH

1 - NO/LOW REDUCTION
(less than 1%)
3 - MEDIUM REDUCTION
(1% to 10%)
5 - HIGH REDUCTION
(10%+)

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5 - HIGH

1 - LOW
3 - MEDIUM
5 - HIGH

1 - CONTROVERSIAL
3 - NEUTRAL/DIVIDED
5 - SUPPORTIVE

SUM OF ALL SCORES, WITH GHG WEIGHTED BY 2



ECOSYSTEM RESILIENCE

ACTION ID	CAP ACTION	FUNDING NEEDED	FEASIBILITY	REVENUE POTENTIAL	CLIMATE EQUITY POTENTIAL	GHG EMISSIONS REDUCTION POTENTIAL (2 FOR EMS)	RESILIENCE IMPACT POTENTIAL (2 FOR NBS)	CITY CONTROL	COMMUNITY SUPPORT	RELATIVE PRIORITY SCORE
EcoRes.A-1	Utilize the spatial data provided in the Nature-Based solutions parcel score and map layers to update the Enduring Green Network map.	No	5	0	1	1	1	5	4	18
EcoRes.A-2	Develop a Conservation Development Overlay District map that identifies appropriate locations for conservation subdivision development.	No	3	0	1	1	1	5	3	15
EcoRes.A-3	Create environmental or conservation zoning district regulations that can be utilized by property owners to set aside land for open space or conservation.	No	2	0	1	1	2	5	3	16
EcoRes.A-4	Identify opportunities to "rewild" parks that contribute to ecosystem resilience.	Yes	3	0	2	2	2	3	3	17
EcoRes.A-5	Plant species that provide optimal ecological benefit in City owned parks, trails, and rights-of-way.	Yes	5	0	3	1	2	5	3	21
EcoRes.A-6	Provide native plant species that offer optimal ecological benefit for the annual tree and plant giveaway events hosted by the Urban Forestry Division.	Yes	5	0	2	1	1	5	5	20

1 - LOW
3 - MEDIUM
5 - HIGH

0 - NO
1 - YES

1 - N/C
3 - LOW
5 - HIGH

1 - NO/LOW REDUCTION
(less than 1%)
3 - MEDIUM REDUCTION
(1% to 10%)
5 - HIGH REDUCTION
(10%+)

1 - LOW
3 - MEDIUM
5 - HIGH

1 - LOW
3 - MEDIUM
5 - HIGH

1 - CONTROVERSIAL
3 - NEUTRAL/DIVIDED
5 - SUPPORTIVE

SUM OF ALL SCORES, WITH GHG WEIGHTED BY 2



ECOSYSTEM RESILIENCE

ACTION ID	CAP ACTION	FUNDING NEEDED	FEASIBILITY	REVENUE POTENTIAL	CLIMATE EQUITY POTENTIAL	GHG EMISSIONS REDUCTION POTENTIAL (2 FOR EMS)	RESILIENCE IMPACT POTENTIAL (2 FOR NBS)	CITY CONTROL	COMMUNITY SUPPORT	RELATIVE PRIORITY SCORE
EcoRes.A-4	Identify opportunities to "rewild" parks that contribute to ecosystem resilience.	Yes	3	0	2	2	2	3	3	17
EcoRes.A-5	Plant species that provide optimal ecological benefit in City owned parks, trails, and rights-of-way.	Yes	5	0	3	1	2	5	3	21
EcoRes.A-6	Provide native plant species that offer optimal ecological benefit for the annual tree and plant giveaway events hosted by the Urban Forestry Division.	Yes	5	0	2	1	1	5	5	20
EcoRes.A-7	Update tree lists that prioritize native and climate-resilient tree species.	No	4	0	3	3	5	5	4	29

1 - LOW
3 - MEDIUM
5 - HIGH

0 - NO
1 - YES

1 - N/C
3 - LOW
5 - HIGH

1 - NO/LOW REDUCTION
(less than 1%)
3 - MEDIUM REDUCTION
(1% to 10%)
5 - HIGH REDUCTION
(10%+)

1 - LOW
3 - MEDIUM
5 - HIGH

1 - LOW
3 - MEDIUM
5 - HIGH

1 - CONTROVERSIAL
3 - NEUTRAL/DIVIDED
5 - SUPPORTIVE

SUM OF ALL SCORES, WITH GHG WEIGHTED BY 2



ECOSYSTEM RESILIENCE

ACTION ID	CAP ACTION	FUNDING NEEDED	FEASIBILITY	REVENUE POTENTIAL	CLIMATE EQUITY POTENTIAL	GHG EMISSIONS REDUCTION POTENTIAL (2 FOR EMS)	RESILIENCE IMPACT POTENTIAL (2 FOR NBS)	CITY CONTROL	COMMUNITY SUPPORT	RELATIVE PRIORITY SCORE
EcoRes.A-8	Participate in the National Wildlife Federation's Mayor's Monarch Pledge and continue to support the creation of monarch waystations and habitats on City-owned lands.	Yes	5	0	1	1	3	5	5	23
EcoRes.A-9	Host native milkweed and pollinator plant giveaway events to promote pollinator friendly habitat.	Yes	5	0	1	1	3	5	5	23
EcoRes.A-10	Implement a plan for Lake Fayetteville to improve water quality.	Yes	3	0	3	1	2	4	3	18
EcoRes.A-11	Acquire land with high ecosystem resilience to the impacts of climate change.	Yes	3	0	4	1	5	5	5	28

1 - LOW
3 - MEDIUM
5 - HIGH

0 - NO
1 - YES

1 - N/C
3 - LOW
5 - HIGH

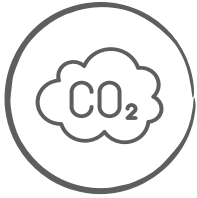
1 - NO/LOW REDUCTION
(less than 1%)
3 - MEDIUM REDUCTION
(1% to 10%)
5 - HIGH REDUCTION
(10%+)

1 - LOW
3 - MEDIUM
5 - HIGH

1 - LOW
3 - MEDIUM
5 - HIGH

1 - CONTROVERSIAL
3 - NEUTRAL/DIVIDED
5 - SUPPORTIVE

SUM OF ALL SCORES, WITH GHG WEIGHTED BY 2



CARBON SEQUESTRATION

ACTION ID	CAP ACTION	FUNDING NEEDED	FEASIBILITY	REVENUE POTENTIAL	CLIMATE EQUITY POTENTIAL	GHG EMISSIONS REDUCTION POTENTIAL (2 FOR EMS)	RESILIENCE IMPACT POTENTIAL (2 FOR NBS)	CITY CONTROL	COMMUNITY SUPPORT	RELATIVE PRIORITY SCORE
CrbSq.A-1	Calculate the carbon sequestration, storage, and avoided carbon generated from the citywide urban tree canopy cover.	No	5	0	1	1	1	5	3	17
CrbSq.A-2	Implement strategies and actions identified in the 2023 Urban Tree Plan and Assessment.	No	4	0	1	1	3	5	3	20
CrbSq.A-3	Plant native tree and plant species that provide optimal carbon sequestration benefit in City owned parks, trails, and rights-of-way.	Yes	3	0	1	1	1	5	3	15
CrbSq.A-4	Distribute native tree and plant species that provide optimal carbon sequestration benefit for the annual tree and plant giveaway events hosted by the Urban Forestry Division.	Yes	3	0	1	1	1	5	3	15
CrbSq.A-5	Grow the City's food waste collection and drop-off program to increase the amount of City generated compost.	Yes	5	1	1	1	1	5	4	19
CrbSq.A-6	Acquire lands with high carbon sequestration value.	Yes	3	0	1	1	3	5	3	19



CLIMATE EQUITY

ACTION ID	CAP ACTION	FUNDING NEEDED	FEASIBILITY	REVENUE POTENTIAL	CLIMATE EQUITY POTENTIAL	GHG EMISSIONS REDUCTION POTENTIAL (2 FOR EMS)	RESILIENCE IMPACT POTENTIAL (2 FOR NBS)	CITY CONTROL	COMMUNITY SUPPORT	RELATIVE PRIORITY SCORE
Eqty.A-1	Record, track and map areas of reoccurring flooding and extreme heat.	No	3	0	3	1	3	5	3	21
Eqty.A-2	Develop a public-facing Nature-Based solutions parcel score and map that identifies and spatially represents proximity and accessibility to public open space.	No	5	0	3	1	3	5	5	25
Eqty.A-3	Coordinate with Urban Forestry to continue implementing tree planting initiatives in low-income/disadvantaged neighborhoods to mitigate the impacts of extreme heat.	Yes	5	0	5	1	3	5	5	27
Eqty.A-4	Incrementally acquire land and construct stormwater infrastructure improvements to reduce flooding especially in low-income neighborhoods.	Yes	3	0	5	1	5	5	5	29

1 - LOW
3 - MEDIUM
5 - HIGH

0 - NO
1 - YES

1 - N/C
3 - LOW
5 - HIGH

1 - NO/LOW REDUCTION
(less than 1%)
3 - MEDIUM REDUCTION
(1% to 10%)
5 - HIGH REDUCTION
(10%+)

1 - LOW
3 - MEDIUM
5 - HIGH

1 - LOW
3 - MEDIUM
5 - HIGH

1 - CONTROVERSIAL
3 - NEUTRAL/DIVIDED
5 - SUPPORTIVE

SUM OF ALL
SCORES, WITH GHG
WEIGHTED BY 2



CLIMATE EQUITY

ACTION ID	CAP ACTION	FUNDING NEEDED	FEASIBILITY	REVENUE POTENTIAL	CLIMATE EQUITY POTENTIAL	GHG EMISSIONS REDUCTION POTENTIAL (2 FOR EMS)	RESILIENCE IMPACT POTENTIAL (2 FOR NBS)	CITY CONTROL	COMMUNITY SUPPORT	RELATIVE PRIORITY SCORE
Eqty.A-5	Coordinate with the Parks Master Plan to continue to incrementally acquire parkland and trail corridors in areas with low accessibility or proximity to public open space.	Yes	5	0	5	1	3	5	5	27
Eqty.A-6	Construct or retrofit transportation infrastructure to meet the access standards in the Americans with Disabilities Act (ADA).	Yes	3	0	5	1	3	5	5	25
Eqty.A-7	Develop mitigation, acquisition, or relocation measures to minimize flooding loss and displacement of low-income or disadvantaged groups or individuals.	Yes	4	0	5	1	5	5	5	30
Eqty.A-8	Identify and designate resilience hubs/cooling centers in Climate Resiliency Plan	Yes	3	0	4	1	4	3	3	22

1 - LOW
3 - MEDIUM
5 - HIGH

0 - NO
1 - YES

1 - N/C
3 - LOW
5 - HIGH

1 - NO/LOW REDUCTION
(less than 1%)
3 - MEDIUM REDUCTION
(1% to 10%)
5 - HIGH REDUCTION
(10%+)

1 - LOW
3 - MEDIUM
5 - HIGH

1 - LOW
3 - MEDIUM
5 - HIGH

1 - CONTRVERSIAL
3 - NEUTRAL/DIVIDED
5 - SUPPORTIVE

SUM OF ALL
SCORES, WITH GHG
WEIGHTED BY 2



Appendix D

Sector Goals, Strategies, & Actions

ENERGY



STRATEGY IDENTIFIER

STRATEGIES

ACTION IDENTIFIER

ACTIONS

GOAL #1: Achieve 100% clean energy usage for City of Fayetteville government operations by 2030.

E.S-2	Partner with utilities to achieve 100% renewable energy for the community's energy supply.	E.A-3	Install ground and structure mounted solar to offset electricity usage for City government operations.
		E.A-6	Develop community-scale solar and alternative energy systems.
		E.A-10	Explore the efficacy of purchasing carbon offsets to advance net-zero emissions.
E.S-4	Reduce natural gas usage and transition to electric furnaces and appliances to improve efficiency and reduce GHG emissions.	E.A-1	Retrofit existing City government facilities to make them more energy efficient.
		E.A-4	Advocate for the expansion of energy efficiency programs at the State and utility scale.
		E.A-9	Transition City government facilities from gas furnaces to heat pumps.

GOAL #2: Achieve community-wide 100% clean energy usage by 2050.

E.S-1	Pursue grants and other funding opportunities to develop energy efficiency programs and projects for low-income households and neighborhoods. Pursue grants and other funding opportunities to develop energy efficiency programs and projects for low-income households and neighborhoods.	E.A-5	Develop clean and renewable energy sources targeted at low-income households and neighborhoods through partnerships, grants, and utility rebate programs.
		E.A-4	Advocate for the expansion of energy efficiency programs at the State and utility scale.
E.S-2	Partner with utilities to achieve 100% renewable energy for the community's energy supply.	E.A-6	Develop community-scale solar and alternative energy systems.
		E.A-7	Explore the development of local renewable gas capture through waste processing technologies.
E.S-3	Improve residential and commercial energy efficiency throughout the community.	E.A-4	Advocate for the expansion of energy efficiency programs at the State and utility scale.

GOAL #3: Reduce community per capita greenhouse gas (GHG) emissions year over year.

E.S-1	Pursue grants and other funding opportunities to develop energy efficiency programs and projects for low-income households and neighborhoods.	E.A-4	Advocate for the expansion of energy efficiency programs at the State and utility scale.
		E.A-5	Develop clean and renewable energy sources targeted at low-income households and neighborhoods through partnerships, grants, and utility rebate programs.
E.S-2	Partner with utilities to achieve 100% renewable energy for the community's energy supply.	E.A-6	Develop community-scale solar and alternative energy systems.
		E.A-7	Explore the development of local renewable gas capture through waste processing technologies.
E.S-3	Improve residential and commercial energy efficiency throughout the community.	E.A-2	Design and construct new City Government facilities that are energy efficient.
		E.A-4	Advocate for the expansion of energy efficiency programs at the State and utility scale.

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TRANSPORTATION



STRATEGY IDENTIFIER

STRATEGIES

ACTION IDENTIFIER

ACTIONS

GOAL #1: Reduce community per capita transportation emissions year over year.

T.S-1	Deploy publicly available alternative fuel infrastructure (EV charging stations).	T.A-5	Install publicly accessible Electric Vehicle (EV) charging stations.
T.S-3	Support development of an on-going and sustainable funding source to support regional transit operations.	T.A-4	Support local and regional transit through City funding of transit.
T.S-4	Support and encourage the expansion of alternative and active transportation options.	T.A-2	Evaluate and prioritize sidewalks, trails and bike lanes to ensure active transportation infrastructure is distributed equitably across the City.
		T.A-3	Install safe and accessible bus stops and shelters to make transit comfortable, safe and attractive for users.
		T.A-4	Support local and regional transit through City funding of transit.
		T.A-5	Install publicly accessible Electric Vehicle (EV) charging stations.
		T.A-8	Gather, track, and evaluate active transportation and micro-mobility user numbers and trends and measure success.
T.S-5	Support the creation and implementation of robust and efficient public transportation systems.	T.A-9	Expand opportunities to advance micro-mobility (e.g., electric bikes, scooters, etc.).
		T.A-10	Develop an e-bike incentive program to offset costs for low-income e-bike purchases.
		T.A-1	Initiate a City led rezoning of the 71B-College Ave. corridor to set the stage for thoughtful urban redevelopment.
T.S-9	Utilize funding support opportunities to develop and expand the community's electric vehicle charging stations.	T.A-4	Support local and regional transit through City funding of transit.
		T.A-9	Expand opportunities to advance micro-mobility (e.g., electric bikes, scooters, etc.).
T.S-9	Utilize funding support opportunities to develop and expand the community's electric vehicle charging stations.	T.A-5	Install publicly accessible Electric Vehicle (EV) charging stations.

GOAL #2: Create an equitable and sustainable multimodal transportation system for all ages and abilities.

T.S-3	Support development of an on-going and sustainable funding source to support regional transit operations.	T.A-4	Support local and regional transit through City funding of transit.
T.S-4	Support and encourage the expansion of alternative and active transportation options.	T.A-2	Evaluate and prioritize sidewalks, trails and bike lanes to ensure active transportation infrastructure is distributed equitably across the City.
		T.A-3	Install safe and accessible bus stops and shelters to make transit comfortable, safe and attractive for users
		T.A-4	Support local and regional transit through City funding of transit.
		T.A-5	Install publicly accessible Electric Vehicle (EV) charging stations.
		T.A-8	Gather, track, and evaluate active transportation and micro-mobility user numbers and trends and measure success.
		T.A-9	Expand opportunities to advance micro-mobility (e.g., electric bikes, scooters, etc.).
T.S-5	Support the creation and implementation of robust and efficient public transportation systems.	T.A-10	Develop an e-bike incentive program to offset costs for low-income e-bike purchases.
		T.A-1	Initiate a City led rezoning of the 71B-College Ave. corridor to set the stage for thoughtful urban redevelopment.
		T.A-4	Support local and regional transit through City funding of transit.
		T.A-9	Expand opportunities to advance micro-mobility (e.g., electric bikes, scooters, etc.).

GOAL #3: Transition City's fleet to 10% alternative fuel vehicles by the year 2030 and reduce fleet emissions year over year.

T.S-2	Increase the percentage of fuel efficient and alternative fuel vehicles in City fleet to reduce GHG emissions.	T.A-6	Develop a comprehensive City fleet transition plan and timeline.
		T.A-7	Transition City fleet vehicles to fuel efficient hybrid, electric vehicles, and other alternative fuel vehicles.
		E.A-8	Transition maintenance equipment to low emissions technology

WASTE



STRATEGY IDENTIFIER

STRATEGIES

ACTION IDENTIFIER

ACTIONS

GOAL #1: Achieve a 40% waste diversion rate.

W.S-1	Engage residents through recycling education and outreach to increase recycling participation and waste diversion rates.	W.A-7	Develop and implement a subscription based residential curb-side food waste collection program.
W.S-2	Utilize capture rate data to design and target effective recycling programs and practices.	W.A-4	Review and amend the current trash and recycling rate structures to incentivize recycling and ensure equitable trash and recycling services are provided.
		W.A-5	Continue to develop, test, and implement new recycling collection methods and containers to serve the community
		W.A-7	Develop and implement a subscription based residential curb-side food waste collection program.
W.S-3	Increase community participation rates through the development of new or expanded programs.	W.A-5	Continue to develop, test, and implement new recycling collection methods and containers to serve the community
		W.A-6	Continue to incrementally increase the number of food waste drop-off locations.
		W.A-7	Develop and implement a subscription based residential curb-side food waste collection program.
		W.A-8	Develop a permanent hazardous household waste and consumer electronics drop-off facility.
W.S-4	Develop public-private partnerships to increase materials collected or reach new customers.	W.A-10	Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.
		W.A-7	Develop and implement a subscription based residential curb-side food waste collection program.
		W.A-8	Develop a permanent hazardous household waste and consumer electronics drop-off facility.
		W.A-10	Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.

W.S-5	Expand recycling collection and processing capacity to meet growing demand and increased volume of collected materials.	W.A-2	Implement the Recycling Processing Facility improvements project to increase materials collection, processing, and storage capacity.
		W.A-3	Mitigate the environmental degradation of adjacent City-owned lands to develop an expanded compost facility to increase collection and processing capacity.
		W.A-5	Continue to develop, test, and implement new recycling collection methods and containers to serve the community
		W.A-7	Develop and implement a subscription based residential curb-side food waste collection program.
		W.A-8	Develop a permanent hazardous household waste and consumer electronics drop-off facility.
		W.A-10	Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.
W.S-6	Work with partners and processors to develop a regional construction and demolition (C&D) processing facility.	W.A-1	Establish options for alternative waste disposal and measurable criteria for evaluating emissions impact.
		W.A-9	Incorporate construction and demolition (C&D) recycling requirements on City-led projects once a regional C&D facility comes online.
		W.A-10	Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.
W.S-7	Advocate for, and participate in, regional solutions to reduce waste, and increase recycling, and grow demand for regional circular economies.	W.A-9	Incorporate construction and demolition (C&D) recycling requirements on City-led projects once a regional C&D facility comes online.
		W.A-10	Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.
		W.A-11	Work with regional partners and cities to plan for the eventual closing of the regional EcoVista landfill.

WASTE [CONTINUED]



STRATEGY IDENTIFIER

STRATEGIES

ACTION IDENTIFIER

ACTIONS

GOAL #2: Increase commercial and residential recycling program participation rates year over year.

W.S-1	Engage residents through recycling education and outreach to increase recycling participation and waste diversion rates.	W.A-7	Develop and implement a subscription based residential curb-side food waste collection program.
W.S-2	Utilize capture rate data to design and target effective recycling programs and practices.	W.A-4	Review and amend the current trash and recycling rate structures to incentivize recycling and ensure equitable trash and recycling services are provided.
W.S-3	Increase community participation rates through the development of new or expanded programs.	W.A-7	Develop and implement a subscription based residential curb-side food waste collection program.
		W.A-5	Continue to develop, test, and implement new recycling collection methods and containers to serve the community
		W.A-6	Continue to incrementally increase the number of food waste drop-off locations.
		W.A-7	Develop and implement a subscription based residential curb-side food waste collection program.
		W.A-8	Develop a permanent hazardous household waste and consumer electronics drop-off facility.
W.S-4	Develop public-private partnerships to increase materials collected or reach new customers. (Food Waste P-U)	W.A-10	Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.
		W.A-7	Develop and implement a subscription based residential curb-side food waste collection program.
		W.A-8	Develop a permanent hazardous household waste and consumer electronics drop-off facility.
		W.A-10	Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.

W.S-5	Expand recycling collection and processing capacity to meet growing demand and increased volume of collected materials	W.A-2	Implement the Recycling Processing Facility improvements project to increase materials collection, processing, and storage capacity.
		W.A-3	Mitigate the environmental degradation of adjacent City-owned lands to develop an expanded compost facility to increase collection and processing capacity.
		W.A-7	Develop and implement a subscription based residential curb-side food waste collection program.
		W.A-8	Develop a permanent hazardous household waste and consumer electronics drop-off facility.
		W.A-10	Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.
W.S-6	Work with partners and processors to develop a regional construction and demolition (C&D) processing facility.	W.A-1	Establish options for alternative waste disposal and measurable criteria for evaluating emissions impact.
		W.A-9	Incorporate construction and demolition (C&D) recycling requirements on City-led projects once a regional C&D facility comes online.
		W.A-10	Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.
W.S-7	Advocate for, and participate in, regional solutions to reduce waste, and increase recycling, and grow demand for regional circular economies.	W.A-5	Continue to develop, test, and implement new recycling collection methods and containers to serve the community
		W.A-9	Incorporate construction and demolition (C&D) recycling requirements on City-led projects once a regional C&D facility comes online.
		W.A-10	Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.
		W.A-11	Work with regional partners and cities to plan for the eventual closing of the regional EcoVista landfill.

WASTE [CONTINUED]



STRATEGY IDENTIFIER

STRATEGIES

ACTION IDENTIFIER

ACTIONS

GOAL #3: Reduce per capita waste to the landfill year over year.

W.S-1	Engage residents through recycling education and outreach to increase recycling participation and waste diversion rates.	W.A-7	Develop and implement a subscription based residential curb-side food waste collection program.
W.S-2	Utilize capture rate data to design and target effective recycling programs and practices.	W.A-7	Develop and implement a subscription based residential curb-side food waste collection program.
W.S-3	Increase community participation rates through the development of new or expanded programs.	W.A-5	Continue to develop, test, and implement new recycling collection methods and containers to serve the community
		W.A-6	Continue to incrementally increase the number of food waste drop-off locations.
		W.A-7	Develop and implement a subscription based residential curb-side food waste collection program.
W.S-4	Develop public-private partnerships to increase materials collected or reach new customers. (Food Waste P-U)	W.A-7	Develop and implement a subscription based residential curb-side food waste collection program.
		W.A-10	Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.

W.S-5	Expand recycling collection and processing capacity to meet growing demand and increased volume of collected materials	W.A-2	Implement the Recycling Processing Facility improvements project to increase materials collection, processing, and storage capacity.
		W.A-3	Mitigate the environmental degradation of adjacent City-owned lands to develop an expanded compost facility to increase collection and processing capacity.
		W.A-7	Develop and implement a subscription based residential curb-side food waste collection program.
		W.A-10	Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.
W.S-6	Work with partners and processors to develop a regional construction and demolition (C&D) processing facility.	W.A-1	Establish options for alternative waste disposal and measurable criteria for evaluating emissions impact.
		W.A-9	Incorporate construction and demolition (C&D) recycling requirements on City-led projects once a regional C&D facility comes online.
		W.A-10	Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.
W.S-7	Advocate for, and participate in, regional solutions to reduce waste, and increase recycling, and grow demand for regional circular economies.	W.A-5	Continue to develop, test, and implement new recycling collection methods and containers to serve the community
		W.A-9	Incorporate construction and demolition (C&D) recycling requirements on City-led projects once a regional C&D facility comes online.
		W.A-10	Develop and implement C&D recycling regulations for all construction and demolition projects city-wide after a regional C&D facility is established.
		W.A-11	Work with regional partners and cities to plan for the eventual closing of the regional EcoVista landfill.

WATER



STRATEGY IDENTIFIER

STRATEGIES

ACTION IDENTIFIER

ACTIONS

GOAL #1: Prepare, plan, and develop community response strategies and contingencies for extreme weather events such as heatwaves, droughts, and floods.

Wtr.S-1	Work with regional partners and the Beaver Water District on water conservation and watershed protection policies, programs, and projects.	Wtr.A-1	Develop a Climate Resiliency Plan that focuses on emergency preparedness, communications, and outreach for water conservation during extreme weather events.
Wtr.S-2	Work with community partners and residents to reduce summer irrigation demand. (water education position)	Wtr.A-2	Create a water education position to do community outreach on water conservation.
		Wtr.A-5	Adopt water utility rate adjustments that encourage water conservation.
		Wtr.A-7	Explore the adoption of water conservation plumbing regulations for new development.

GOAL #2: Achieve per capita water consumption reductions year over year.

Wtr.S-1	Work with regional partners and the Beaver Water District on water conservation and watershed protection policies, programs, and projects.	Wtr.A-1	Develop a Climate Resiliency Plan that focuses on emergency preparedness, communications, and outreach for water conservation during extreme weather events.
Wtr.S-2	Work with community partners and residents to reduce summer irrigation demand. (water education position)	Wtr.A-2	Create a water education position to do community outreach on water conservation.
		Wtr.A-3	Work with community partners and residents to reduce summer irrigation demand. (water education position)
		Wtr.A-4	Continue to work on efforts to reduce stormwater infiltration into the wastewater treatment system. (educator position)
		Wtr.A-7	Explore the adoption of water conservation plumbing regulations for new development.

		Wtr.A-4	Continue to work on efforts to reduce stormwater infiltration into the wastewater treatment system. (educator position)
Wtr.S-3	Improve resource and energy efficiency of water/wastewater pumping and treatment.	Wtr.A-5	Adopt water utility rate adjustments that encourage water conservation.
		Wtr.A-6	Support the creation of a stormwater utility.
		Wtr.A-8	Incrementally retrofit water infrastructure with smart technologies.

GOAL #3: Identify and prioritize the repair and installation of water system infrastructure to alleviate water leakage and accommodate growing system demands.

Wtr.S-3	Improve resource and energy efficiency of water/wastewater pumping and treatment.	Wtr.A-4	Continue to work on efforts to reduce stormwater infiltration into the wastewater treatment system. (educator position)
		Wtr.A-8	Incrementally retrofit water infrastructure with smart technologies.

DRAFT

ECOSYSTEM SERVICES



STRATEGY IDENTIFIER

STRATEGIES

ACTION IDENTIFIER

ACTIONS

GOAL #1: Prepare, plan, and develop strategies and contingencies for extreme weather events.

EcoSrv.S-4	Develop a Climate Resiliency Plan that focuses on emergency preparedness, communication and outreach during extreme weather events.	EcoSrv.A-15	Update response measures in Fayetteville emergency management plan to account for more frequent and extreme weather events (Heat, drought, flood, winter storms).
EcoSrv.S-10	Reduce the impacts of drought on the regional water system through water conservation efforts.	Wtr.A-2	Create a water education position to do community outreach on water conservation.
		Wtr.A-3	Work with community partners and residents to reduce summer irrigation demand. (water education position)

GOAL #2: Identify lands within the City's planning area that provide highest ecosystem services for resilience to extreme weather events.

EcoSrv.S-1	Develop additional parks planning and development tools to help preserve open space and repurpose existing city properties that provide access to nature and deliver environmental services.	EcoSrv.A-2	Create a city-wide tool to track environmental assets and ecosystem services.
		EcoSrv.A-3	Support Parks efforts to develop a conservation plan to identify and preserve unique ecosystems and habitats.

GOAL #3: Preserve lands within the City's planning area that provide high ecosystem services for resilience to extreme weather events.

EcoRes.S-2	Update the Enduring Green Network Map to more closely align with probable acquisition and preservation pathways and concentrate priorities on achievable conservation goals.	EcoSrv.A-1	Update and refine the Enduring Green Network spatial layers and explore additional regulatory protections to ensure the development of a complete and connected network of useful public open space.
EcoSrv.S-2	Develop a strategy to increase the permanent preservation of lands.	EcoSrv.A-6	Conduct a development impact fee study for parkland dedication.
		EcoSrv.A-13	Develop a multi-year program with support from additional conservation organizations to allocate funding for land acquisition.
		EcoSrv.A-14	Explore bond potential for land acquisition and conservation.
EcoRes.S-6	Develop zoning and development regulations to help conserve open space.	EcoSrv.A-4	Review development code regulations related to open space and amend as necessary to spur acquisition and preservation of natural lands.
		EcoSrv.A-5	Develop an environmental or conservation zoning district for inclusion in the City's Enduring Green Network.
EcoSrv.S-9	Protect and enhance of the water quality of Fayetteville's streams, lakes, and wetlands.	EcoSrv.A-10	Restore urban streambanks to reduce erosion and improve water quality.
		EcoSrv.A-11	Promote stormwater infiltration of soil on the landscape by reducing impervious surfaces.
EcoSrv.S-13	Adopt a Stormwater utility to fund infrastructure and land acquisition investments.	EcoSrv.A-4	Review development code regulations related to open space and amend as necessary to spur acquisition and preservation of natural lands.
		EcoRes.S-8	Repurpose areas susceptible to repetitive flooding to park/conservation areas with ecosystem benefits.
EcoSrv.S-14	Balance open space land preservation efforts by supporting increased density and development within the core of the City with consideration to linked growth concepts.	EcoSrv.A-5	Develop an environmental or conservation zoning district for inclusion in the City's Enduring Green Network.

ECOSYSTEM SERVICES [CONTINUED]



STRATEGY IDENTIFIER

STRATEGIES

ACTION IDENTIFIER

ACTIONS

GOAL #4: Restore and improve ecosystem services provided by existing preserved natural areas.

EcoSrv.S-7	Develop targets and implement a tree planting program aligned with the canopy goal.	EcoSrv.A-12	Secure the necessary funding to meet the annual tree planting targets and implement a tree establishment program.
		EcoSrv.A-7	Create a dedicated natural resources team within parks maintenance to focus on natural areas.
EcoSrv.S-9	Protect and enhance of the water quality of Fayetteville's streams, lakes, and wetlands.	EcoSrv.A-9	Identify new open space maintenance programs and technologies to address climate issues and resiliency needs.
		EcoSrv.A-10	Restore urban streambanks to reduce erosion and improve water quality.
		EcoSrv.A-16	Partner with conservation agencies and non-profits to support watershed resource conservation.
EcoSrv.S-11	Identify, map, and prioritize streambank erosion locations for restoration.	EcoSrv.A-10	Restore urban streambanks to reduce erosion and improve water quality.
EcoSrv.S-12	Measure, track, and improve water quality in Fayetteville watersheds.	EcoSrv.A-2	Create a city-wide tool to track environmental assets and ecosystem services.
EcoSrv.S-13	Adopt a Stormwater utility to fund infrastructure and land acquisition investments.	EcoRes.A-11	Promote stormwater infiltration of soil on the landscape by reducing impervious surfaces.

GOAL #5: Reduce climate change threats to public infrastructure and private property.

EcoSrv.S-4	Develop a Climate Resiliency Plan that focuses on emergency preparedness, communication, and outreach during extreme weather events.	Wtr.A-1	Develop a Climate Resiliency Plan that focuses on emergency preparedness, communications, and outreach for water conservation during extreme weather events.
		Wtr.A-2	Create a water education position to do community outreach on water conservation.
		Eqty.A-1	Record, track and map areas of reoccurring flooding and extreme heat.
EcoSrv.S-5	Mitigate the impacts of extreme heat to the residents and ecosystems of Fayetteville.	CrbSq.A-2	Implement strategies and actions identified in the 2023 Urban Tree Plan and Assessment.
		T.S-7	Explore the use of new technology to reduce urban heat island impacts produced by paved surfaces.
		Eqty.A-9	Identify and designate resilience hubs/cooling centers in the Emergency Management/Climate Resiliency Plan.
		EcoRes.A-11	Promote stormwater infiltration of soil on the landscape by reducing impervious surfaces.
		EcoSrv.A-15	Update response measures in the Fayetteville Emergency management Plan to account for more frequent and extreme weather events (Heat, drought, flood, winter storms).
EcoSrv.S-8	Review and implement recommended changes to tree ordinances.	CrbSq.A-2	Implement strategies and actions identified in the 2023 Urban Tree Plan and Assessment.
		EcoRes.A-5	Plant species that provide optimal ecological benefit in City owned parks, trails, and rights-of-way.
		EcoRes.A-7	Update tree lists that prioritize native and climate-resilient tree species.
EcoSrv.S-13	Adopt a Stormwater utility to fund infrastructure and land acquisition investments.	Wtr.A-6	Support the creation of a stormwater utility.
EcoRes.S-8	Repurpose areas susceptible to repetitive flooding to park/conservation areas with ecosystem benefits.	EcoRes.A-4	Identify opportunities to "rewild" parks that contribute to ecosystem resilience.
		EcoRes.A-11	Promote stormwater infiltration of soil on the landscape by reducing impervious surfaces.
		EcoSrv.A-14	Explore bond potential for land acquisition and conservation.

ECOSYSTEM RESILIENCE



STRATEGY IDENTIFIER

STRATEGIES

ACTION IDENTIFIER

ACTIONS

GOAL #1: Identify lands with high levels of biodiversity and ecosystem resilience.

EcoRes.S-1	Quantify the ecosystem services of the city's urban forest.	EcoSrv.A-2	Create a city-wide tool to track environmental assets and ecosystem services.
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		EcoRes.A-4	Identify opportunities to "rewild" parks that contribute to ecosystem resilience.
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EcoRes.S-2	Update the Enduring Green Network Map to more closely align with probable acquisition and preservation pathways and concentrate priorities on achievable conservation goals.	EcoRes.A-1	Utilize the spatial data provided in the Nature-Based solutions parcel score and map layers to update the Enduring Green Network map.
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EcoSrv.S-12	Measure, track, and improve water quality in Fayetteville watersheds.	EcoSrv.A-2	Create a city-wide tool to track environmental assets and ecosystem services.
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GOAL #2: Preserve lands with high levels of biodiversity and ecosystem resilience.

		EcoSrv.A-3	Support Parks efforts to develop a conservation plan to identify and preserve unique ecosystems and habitats.
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EcoSrv.S-1	Develop additional planning and development tools to help preserve open space and repurpose existing city properties that provide access to nature and deliver environmental services.	EcoSrv.A-7	Create a dedicated natural resources team within parks maintenance to focus on natural areas.
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		EcoSrv.A-9	Identify new open space maintenance programs and technologies to address climate issues and resiliency needs.
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		EcoRes.A-1	Utilize the spatial data provided in the Nature-Based solutions parcel score and map layers to update the Enduring Green Network map.
		EcoRes.A-2	Develop a Conservation Development Overlay District map that identifies appropriate locations for conservation subdivision development.
		EcoRes.A-3	Create environmental or conservation zoning district regulations that can be utilized by property owners to set aside land for open space or conservation.
EcoSrv.S-2	Develop a strategy to increase the permanent preservation of lands.	EcoSrv.A-4	Review development code regulations related to open space and amend as necessary to spur acquisition and preservation of natural lands.
		EcoSrv.A-5	Develop an environmental or conservation zoning district for inclusion in the City's Enduring Green Network.
		EcoSrv.A-6	Conduct a development impact fee study for parkland dedication.
		EcoRes.A-11	Acquire land with high ecosystem resilience to the impacts of climate change.
EcoSrv.S-3	Strengthen partnerships with existing natural resource groups to supplement the City's limited capacity for natural resource projects and encourage local stewardship.	EcoSrv.A-16	Partner with conservation agencies and non-profits to support watershed resource conservation.
EcoRes.S-5	Support land trusts, watershed alliances and other non-profit organizations in their endeavors to protect, enhance, and acquire ecologically valuable open spaces and riparian corridors.	EcoSrv.A-13	Develop a multi-year program with support from additional conservation organizations to allocate funding for land acquisition.
EcoRes.S-6	Develop zoning and development regulations to help conserve open space.	EcoRes.A-2	Develop a Conservation Development Overlay District map that identifies appropriate locations for conservation subdivision development.
		EcoRes.A-3	Create environmental or conservation zoning district regulations that can be utilized by property owners to set aside land for open space or conservation.
		EcoSrv.A-4	Review development code regulations related to open space and amend as necessary to spur acquisition and preservation of natural lands.
EcoSrv.S-9	Protect and enhance the water quality of Fayetteville's streams, lakes, and wetlands.	EcoRes.A-10	Implement priority actions identified in the Lake Fayetteville Water Quality Study.
		EcoSrv.A-10	Restore urban streambanks to reduce erosion and improve water quality.

ECOSYSTEM RESILIENCE (CONTINUED)



STRATEGY IDENTIFIER

STRATEGIES

ACTION IDENTIFIER

ACTIONS

GOAL #3: Restore and enhance City-owned or managed lands with high levels of biodiversity and ecosystem resilience.

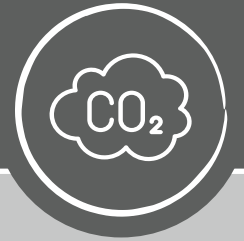
EcoRes.S-3	Continue to seek grant funding and the use of volunteers to remove invasive plants and replace with native plants in public open spaces.	EcoRes.A-5	Plant species that provide optimal ecological benefit in City owned parks, trails, and rights-of-way.
EcoRes.S-4	Partner with conservation agencies and non-profits to develop strategies to preserve known species of conservation concern identified on City owned and/or managed property.	EcoRes.A-4	Identify opportunities to "rewild" parks that contribute to ecosystem resilience.
		EcoSrv.A-7	Create a dedicated natural resources team within parks maintenance to focus on natural areas.
		EcoRes.A-8	Participate in the National Wildlife Federation's Mayor's Monarch Pledge and continue to support the creation of monarch waystations and habitats on City-owned lands.
EcoRes.S-5	Support land trusts, watershed alliances and other non-profit organizations in their endeavors to protect, enhance, and acquire ecologically valuable open spaces and riparian corridors.	EcoRes.A-10	Implement priority actions identified in the Lake Fayetteville Water Quality Study
		EcoSrv.A-10	Restore urban streambanks to reduce erosion and improve water quality.
		EcoSrv.A-16	Partner with conservation agencies and non-profits to support watershed resource conservation.

EcoRes.S-7	Utilize plant species with characteristics that provide optimal ecological benefit on City owned and/or managed properties.	EcoRes.A-5	Plant species that provide optimal ecological benefit in City owned parks, trails, and rights-of-way.
		EcoRes.A-6	Provide native plant species that offer optimal ecological benefit for the annual tree and plant giveaway events hosted by the Urban Forestry Division.
		EcoRes.A-7	Update tree lists that prioritize native and climate-resilient tree species.
		EcoRes.A-8	Participate in the National Wildlife Federation's Mayor's Monarch Pledge and continue to support the creation of monarch waystations and habitats on City-owned lands.
		EcoRes.A-9	Host native milkweed and pollinator plant giveaway events to promote pollinator friendly habitat.

GOAL #4: Support on-going ecological education and outreach efforts by local expert organizations.

EcoRes.S-4	Partner with conservation agencies and non-profits to develop strategies to preserve known species of conservation concern identified on City owned and/or managed property.	EcoSrv.A-7	Create a dedicated natural resources team within parks maintenance to focus on natural areas.
		EcoRes.A-8	Participate in the National Wildlife Federation's Mayor's Monarch Pledge and continue to support the creation of monarch waystations and habitats on City-owned lands.
EcoRes.S-5	Support land trusts, watershed alliances and other non-profit organizations in their endeavors to protect, enhance, and acquire ecologically valuable open spaces and riparian corridors.	EcoSrv.A-10	Restore urban streambanks to reduce erosion and improve water quality.
		EcoSrv.A-16	Partner with conservation agencies and non-profits to support watershed resource conservation.
EcoRes.S-7	Utilize plant species with characteristics that provide optimal ecological benefit on City owned and/or managed properties.	EcoRes.A-5	Plant species that provide optimal ecological benefit in City owned parks, trails, and rights-of-way.
		EcoRes.A-6	Provide native plant species that offer optimal ecological benefit for the annual tree and plant giveaway events hosted by the Urban Forestry Division.
		EcoRes.A-8	Participate in the National Wildlife Federation's Mayor's Monarch Pledge and continue to support the creation of monarch waystations and habitats on City-owned lands.
		EcoRes.A-9	Host native milkweed and pollinator plant giveaway events to promote pollinator friendly habitat.

CARBON SEQUESTRATION



STRATEGY IDENTIFIER

STRATEGIES

ACTION IDENTIFIER

ACTIONS

GOAL #1: Measure and track carbon sequestration in the City's tree canopy and natural environment.

EcoRes.S-1

Quantify the ecosystem services of the city's urban forest.

CrbSq.A-1

Calculate the carbon sequestration, storage, and avoided carbon generated from the citywide urban tree canopy cover.

GOAL #2: Increase carbon sequestration into the City's soils, plants, and tree's biomass.

CrbSq.S-1

Identify best management practices to increase carbon sequestration on city-owned lands.

CrbSq.A-2

Implement strategies and actions identified in the 2023 Urban Tree Plan and Assessment.

CrbSq.A-3

Plant native tree and plant species that provide optimal carbon sequestration benefit in City owned parks, trails, and rights-of-way.

CrbSq.S-2

Identify, promote, and utilize native tree and plant species with characteristics that enable them to provide optimal carbon sequestration into their biomass.

CrbSq.A-3

Plant native tree and plant species that provide optimal carbon sequestration benefit in City owned parks, trails, and rights-of-way.

CrbSq.A-4

Distribute native tree and plant species that provide optimal carbon sequestration benefit for the annual tree and plant giveaway events hosted by the Urban Forestry Division.

CrbSq.S-3

Encourage the continued growth and expansion of organics capture and composting programs to build and support local soil health and carbon sequestration.

CrbSq.A-5

Grow the City's food waste collection and drop-off program to increase the amount of City generated compost.

GOAL #3: Preserve and enhance existing carbon sinks such as wetlands, prairies, and forests.

CrbSq.S-4 Include carbon sequestration as a consideration for land conservation and acquisition.

CrbSq.A-2 Implement strategies and actions identified in the 2023 Urban Tree Plan and Assessment.

CrbSq.A-3 Plant native tree and plant species that provide optimal carbon sequestration benefit in City owned parks, trails, and rights-of-way.

CrbSq.A-4 Distribute native tree and plant species that provide optimal carbon sequestration benefit for the annual tree and plant giveaway events hosted by the Urban Forestry Division.

CrbSq.A-6 Acquire lands with high carbon sequestration value.

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CLIMATE EQUITY



STRATEGY IDENTIFIER

STRATEGIES

ACTION IDENTIFIER

ACTIONS

GOAL #1: Identify, prioritize, and mitigate climate change impacts on underserved or vulnerable neighborhoods and populations.

Eqty.S-1	Develop mapping tools to better understand the spatial proximity of low-income/disadvantaged neighborhoods to public open space and trail corridors.	Eqty.A-2	Develop a public-facing Nature-Based solutions parcel score and map that identifies and spatially represents proximity and accessibility to public open space.
		Eqty.A-6	Construct or retrofit transportation infrastructure to meet the access standards in the Americans with Disabilities Act (ADA).
Eqty.S-2	Formalize and integrate climate justice and equity considerations into planning processes.	Eqty.A-1	Record, track and map areas of reoccurring flooding and extreme heat.
		Eqty.A-2	Develop a public-facing Nature-Based solutions parcel score and map that identifies and spatially represents proximity and accessibility to public open space.
Eqty.S-3	Include climate action initiatives and infrastructure improvements in low-income/disadvantaged neighborhoods to mitigate the impact of extreme weather events such as heat, drought and floods brought on by climate change.	Eqty.A-3	Coordinate with Urban Forestry to continue implementing tree planting initiatives in low-income/disadvantaged neighborhoods to mitigate the impacts of extreme heat.
		Eqty.A-4	Incrementally acquire land and construct stormwater infrastructure improvements to reduce flooding especially in low-income neighborhoods.
		Wtr.A-6	Support the creation of a stormwater utility.
Eqty.S-4	Support community housing policies, programs and initiatives that provide housing assistance and support services for low-income and disadvantaged families and individuals displaced by extreme weather events.	Eqty.A-1	Record, track and map areas of reoccurring flooding and extreme heat.
		Eqty.A-7	Develop mitigation, acquisition, or relocation measures to minimize flooding loss and displacement of low-income or disadvantaged groups or individuals.
E.S-1	Pursue grants and other funding opportunities to develop energy efficiency programs and projects for low-income households and neighborhoods.	E.A-4	Advocate for the expansion of energy efficiency programs at the State and utility scale.
		E.A-5	Develop clean and renewable energy sources targeted at low-income households and neighborhoods through partnerships, grants, and utility rebate programs.

GOAL #2: Provide access to useful public open space in proximity to low-income or disadvantaged populations.

Eqty.S-1	Develop mapping tools to better understand the spatial proximity of low-income/disadvantaged neighborhoods to public open space and trail corridors.	Eqty.A-2	Develop a public-facing Nature-Based solutions parcel score and map that identifies and spatially represents proximity and accessibility to public open space.
Eqty.S-3	Include climate action initiatives and infrastructure improvements in low-income/disadvantaged neighborhoods to mitigate the impact of extreme weather events such as heat, drought and floods brought on by climate change.	Eqty.A-5	Coordinate with the Parks Master Plan to continue to incrementally acquire parkland and trail corridors in areas with low accessibility or proximity to public open space.
		Eqty.A-6	Construct or retrofit transportation infrastructure to meet the access standards in the Americans with Disabilities Act (ADA).

GOAL #3: Build a complete and connected active transportation network withing a 10-minute walk of every resident by 2030.

T.S-8	Support compact, complete and connected land use development patterns that encourage multi-modal transportation options and reduce automobile dependency.	T.A-2	Evaluate and prioritize sidewalks, trails and bike lanes to ensure active transportation infrastructure is distributed equitably across the City.
		T.A-8	Gather, track, and evaluate active transportation and micro-mobility user numbers and trends and measure success.
		Eqty.A-6	Construct or retrofit transportation infrastructure to meet the access standards in the Americans with Disabilities Act (ADA).
T.S-4	Support and encourage the expansion of alternative and active transportation options	T.A-2	Evaluate and prioritize sidewalks, trails and bike lanes to ensure active transportation infrastructure is distributed equitably across the City.
		T.A-3	Install safe and accessible bus stops and shelters to make transit comfortable, safe and attractive for users
		T.A-4	Support local and regional transit through City funding of transit.
		T.A-8	Gather, track, and evaluate active transportation and micro-mobility user numbers and trends and measure success.
		T.A-9	Expand opportunities to advance micro-mobility (e.g., electric bikes, scooters, etc.).
		Eqty.A-6	Construct or retrofit transportation infrastructure to meet the access standards in the Americans with Disabilities Act (ADA).

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Appendix E

Native Plant Species for Climate Resilience



Woody Species Native to Northwest Arkansas for Riparian Buffers:

- *Acer rubrum* (red maple)
- *Acer negundo* (box elder)
- *Alnus serrulata* (smooth alder)
- *Betula nigra* (river birch)
- *Celtis laevigata* (sugarberry)
- *Cephalanthus occidentalis* (buttonbush)
- *Liquidambar styraciflua* (sweetgum)
- *Platanus occidentalis* (American sycamore)
- *Populus deltoides* (eastern cottonwood)
- *Quercus phellos* (willow oak)
- *Salix nigra* (black willow)
- *Ulmus americana* (American elm)

Herbaceous Species Native to Northwest Arkansas for Riparian Buffers:

- *Bouteloua curtipendula* (side oats grama)
- *Carex vulpinoidea* (fox sedge)
- *Chasmanthium latifolium* (river oats)
- *Dichanthelium clandestinum* (deer tongue grass)
- *Elymus canadensis* (Canada wild rye)
- *Elymus hystrix* (bottlebrush grass)
- *Lobelia siphilitica* (great blue lobelia)
- *Panicum virgatum* (switchgrass)
- *Tripsacum dactyloides* (eastern gamagrass)

Tree Species Native to Northwest Arkansas That Improve Stormwater Quality by Degrading Contaminants:

- *Betula nigra* (river birch)
- *Populus deltoides* (eastern cottonwood)
- *Quercus phellos* (willow oak)
- *Salix nigra* (black willow)

Herbaceous Species Native to Northwest Arkansas That Improve Stormwater Quality by Degrading Contaminants:

- *Andropogon gerardii* (big bluestem)
- *Elymus canadensis* (Canada wild rye)
- *Elymus hystrix* (bottlebrush grass)
- *Juncus effusus* (common rush)
- *Panicum virgatum* (switchgrass)
- *Schizachyrium scoparium* (little bluestem)
- *Sorghastrum nutans* (Indiangrass)
- *Tripsacum dactyloides* (eastern gamagrass)

Woody Species Native to Northwest Arkansas That Improve Biodiversity:

- *Acer negundo* (box elder)
- *Acer rubrum* (red maple)
- *Acer saccharinum* (silver maple)
- *Acer saccharum* (sugar maple)
- *Alnus serrulata* (smooth alder)
- *Asimina triloba* (pawpaw)
- *Betula nigra* (river birch)
- *Callicarpa americana* (American beautyberry)
- *Carya cordiformis* (bitternut hickory)
- *Carya illinoensis* (pecan)
- *Carya ovata* (shagbark hickory)
- *Pinus echinata* (short-leaf pine)
- *Populus deltoides* (eastern cottonwood)
- *Prunus mexicana* (Mexican plum)
- *Prunus serotina* (black cherry)
- *Quercus alba* (white oak)
- *Quercus falcata* (southern red oak)
- *Quercus muehlenbergii* (chinquapin oak)
- *Quercus phellos* (willow oak)
- *Quercus rubra* (northern red oak)
- *Quercus velutina* (black oak)
- *Salix nigra* (black willow)
- *Ulmus alata* (winged elm)
- *Ulmus americana* (American elm)
- *Ulmus rubra* (slippery elm)
- *Vaccinium arboretum* (huckleberry)
- *Vaccinium pallidum* (hillside blueberry)
- *Vaccinium stamineum* (deerberry)

Herbaceous Species Native to Northwest Arkansas That Improve Biodiversity:

- *Achillea millefolium* (yarrow)
- *Andropogon gerardii* (big bluestem)
- *Asclepias purpurascens* (purple milkweed)
- *Asclepias quadrifolia* (four-leaved milkweed)
- *Asclepias viridiflora* (green comet milkweed)
- *Asclepias viridis* (green milkweed)
- *Asclepias syriaca* (common milkweed)
- *Asclepias tuberosa* (butterfly milkweed)
- *Echinacea pallida* (pale purple coneflower)
- *Echinacea purpurea* (purple coneflower)
- *Liatris aspera* (rough blazing star)
- *Liatris hirsuta* (hairy gayfeather)
- *Liatris pycnostachya* (prairie blazing star)
- *Monarda bradburiana* (short beebalm)
- *Monarda fistulosa* (wild bergamot)
- *Monarda punctata* (spotted beebalm)
- *Panicum virgatum* (switchgrass)
- *Phlox pilosa* (downy phlox)
- *Rudbeckia hirta* (black-eyed Susan)
- *Rudbeckia triloba* (brown-eyed Susan)
- *Schizachyrium scoparium* (little bluestem)
- *Sorghastrum nutans* (Indiangrass)
- *Vernonia baldwinii* (Baldwin's ironweed)
- *Vernonia gigantea* (giant ironweed)
- *Vernonia missurica* (Missouri ironweed)
- *Viola pedata* (bird's foot violet)

Woody Species Native to Northwest Arkansas That Improve Biodiversity:

- *Acer rubrum* (red maple)
- *Acer saccharinum* (silver maple)
- *Acer saccharum* (sugar maple)
- *Acer negundo* (box elder)
- *Alnus serrulata* (smooth alder)
- *Asimina triloba* (pawpaw)
- *Betula nigra* (river birch)
- *Callicarpa americana* (American beautyberry)
- *Carya cordiformis* (bitternut hickory)
- *Carya illinoensis* (pecan)
- *Carya ovata* (shagbark hickory)
- *Pinus echinata* (short-leaf pine)
- *Populus deltoides* (eastern cottonwood)
- *Prunus mexicana* (Mexican plum)
- *Prunus serotina* (black cherry)
- *Quercus alba* (white oak)
- *Quercus phellos* (willow oak)
- *Quercus rubra* (northern red oak)
- *Quercus falcata* (southern red oak)
- *Quercus velutina* (black oak)
- *Quercus muehlenbergii* (Chinquapin oak)
- *Salix nigra* (black willow)
- *Ulmus alata* (winged elm)
- *Ulmus americana* (American elm)
- *Ulmus rubra* (slippery elm)
- *Vaccinium arboretum* (farkleberry)
- *Vaccinium pallidum* (hillside blueberry)
- *Vaccinium stamineum* (deerberry)

Trees Species Native to Arkansas that Provide Optimal Carbon Sequestration & Storage:

- *Liriodendron tulipifera* (tulip poplar)
- *Nyssa sylvatica* (black gum)
- *Pinus echinata* (shortleaf pine)
- *Quercus rubra* (red oak)
- *Quercus alba* (white oak)
- *Taxodium distichum* (bald cypress)

Herbaceous Species Native to Northwest Arkansas that Provide Optimal Carbon Sequestration & Storage:

- *Andropogon gerardii* (big bluestem)
- *Baptisia alba* (white wild indigo)
- *Bouteloua curtipendula* (sideoats gramma)
- *Liatris pycnostachya* (prairie blazing star)
- *Panicum virgatum* (switchgrass)
- *Schizachyrium scoparium* (little bluestem)
- *Silphium laciniatum* (compass plant)
- *Silphium integrifolium* (rosinweed)
- *Solidago missouriensis* (Missouri goldenrod)
- *Sorghastrum nutans* (Indiangrass)
- *Spartina pectinata* (prairie cordgrass)
- *Symphotrichum ericoides* (white heath aster)

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Appendix F

Greenhouse Gas Inventory

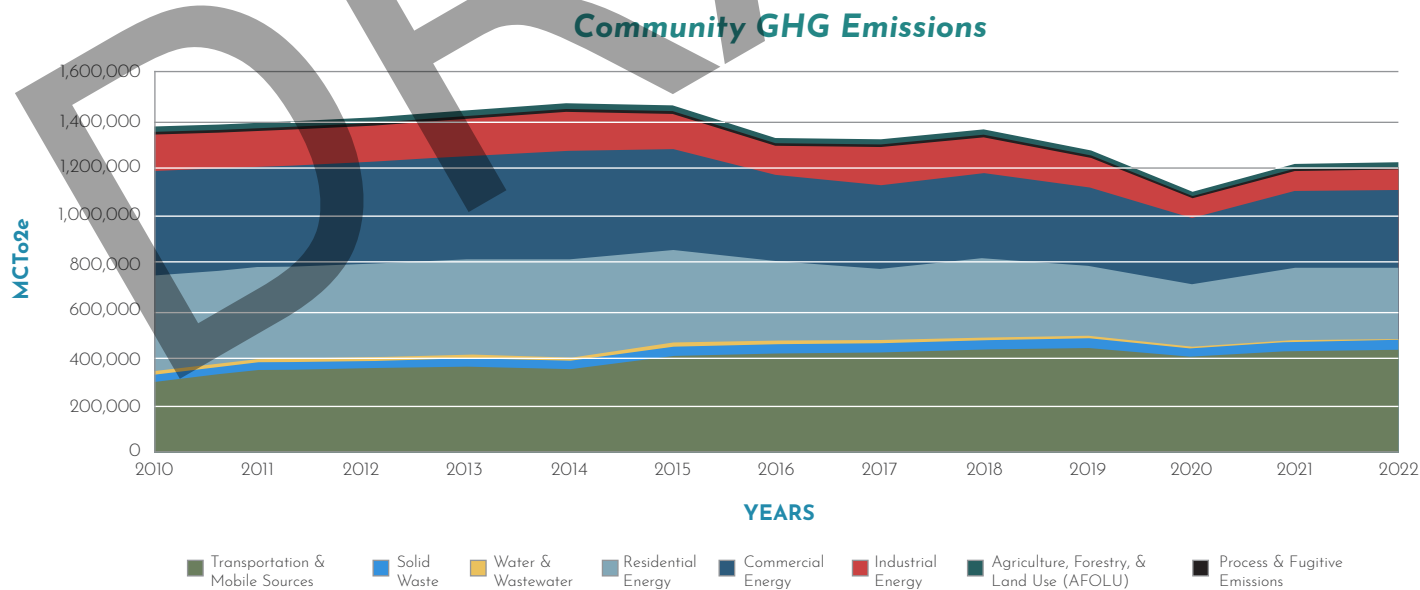
Since 2018 the City of Fayetteville has been completing an annual greenhouse gas inventory based on U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions. This inventory was created using Microsoft Excel and imported emission factors from outside sources like the Environmental Protection Agency. Two inventories were created- City of Fayetteville which covers government operations and a community-wide inventory which covers activities within the City boundaries.

In 2023 the City of Fayetteville began using ClearPath, an online software platform for completing greenhouse gas inventories, forecasts, climate action plans, and monitoring at the community-wide or government-operations scales. This tool auto calculates many emission factors and automatically updates the global warming potential of different gases to reflect the latest science. Reporting categories were rearranged based on sector rather than fuel type and AFOLU and Process & Fugitive Emissions were added.

AFOLU stands for Agriculture, Forestry, and Other Land Use. This is a way of calculating carbon emissions and removals from changes to the tree canopy using ICLEI's LEARN tool.

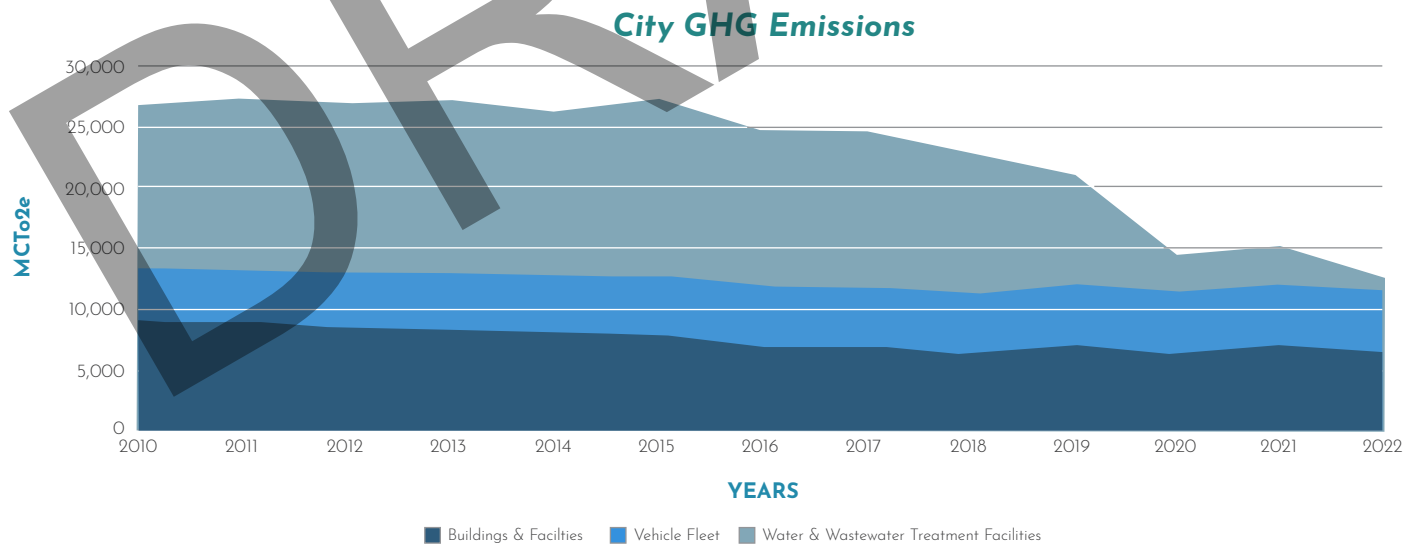
Community GHG Emissions ^{*all in MTCO₂e}

YEAR	TRANSPORTATION & MOBILE SOURCES	SOLID WASTE	WATER & WASTEWATER	RESIDENTIAL ENERGY	COMMERCIAL ENERGY	INDUSTRIAL ENERGY	AGRICULTURE, FORESTRY, & LAND USE (AFOLU)	PROCESS & FUGITIVE EMISSIONS	TOTAL MTCO ₂ E	MTCO ₂ PER CAPITA	POPULATION
2010	300,710	29,627	13,517	404,306	440,023	189,891	-23,794	7,037	1,361,317	18.40	73,970
2011	350,836	30,803	14,071	388,921	423,279	182,665	-23,794	7,037	1,373,818	18.18	75,586
2012	357,936	30,998	13,575	393,298	428,043	184,721	-23,794	7,037	1,391,814	18.07	77,003
2013	367,921	33,914	14,171	401,637	437,118	188,637	-23,794	7,037	1,426,641	18.07	78,929
2014	354,945	32,948	13,681	419,005	456,021	196,795	-23,794	7,037	1,456,638	18.02	80,822
2015	412,371	38,410	14,435	390,387	424,874	183,354	-23,794	7,037	1,447,073	17.47	82,830
2016	422,280	39,714	12,920	333,892	363,389	156,820	-23,794	7,037	1,312,257	15.65	83,826
2017	425,093	38,925	12,768	298,431	355,879	189,612	-23,794	7,037	1,303,951	15.12	86,247
2018	436,427	39,526	11,434	335,081	357,894	180,349	-23,794	7,037	1,343,954	15.33	87,669
2019	444,948	41,352	9,061	294,868	330,527	154,000	-23,794	7,037	1,257,999	13.76	91,400
2020	405,057	38,464	3,048	267,664	278,482	108,940	-23,794	7,037	1,084,898	11.69	92,842
2021	432,185	39,280	3,967	307,207	320,162	115,556	-23,794	7,037	1,201,600	12.79	93,949
2022	438,716	40,206	1,044	302,052	326,725	111,858	-23,794	7,037	1,203,844	12.42	96,904



City GHG Emissions *all in MTCO₂e

YEAR	BUILDINGS & FACILITIES	VEHICLE FLEET	WATER & WASTEWATER TREATMENT FACILITIES	TOTAL MTCO ₂ e
2010	8,754	4,415	13,517	26,686
2011	8,865	4,342	14,071	27,278
2012	8,263	4,698	13,912	26,873
2013	8,284	4,691	14,171	27,146
2014	8,194	4,349	13,681	26,224
2015	7,850	4,900	14,435	27,185
2016	6,913	4,942	12,920	24,775
2017	6,778	4,988	12,768	24,534
2018	6,035	5,122	11,434	22,591
2019	6,865	5,163	9,061	21,089
2020	6,104	5,162	3,048	14,314
2021	6,817	5,252	3,014	15,083
2022	6,132	5,276	1,044	12,452



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