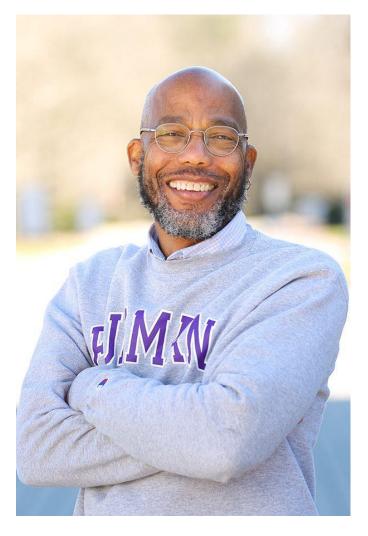
Incorporating the RESILIENCE ELEMENT in Comprehensive Plans







Spring Conference Orangeburg, S.C. May 3, 2024











Ryan Bland, AICP
Senior Planner

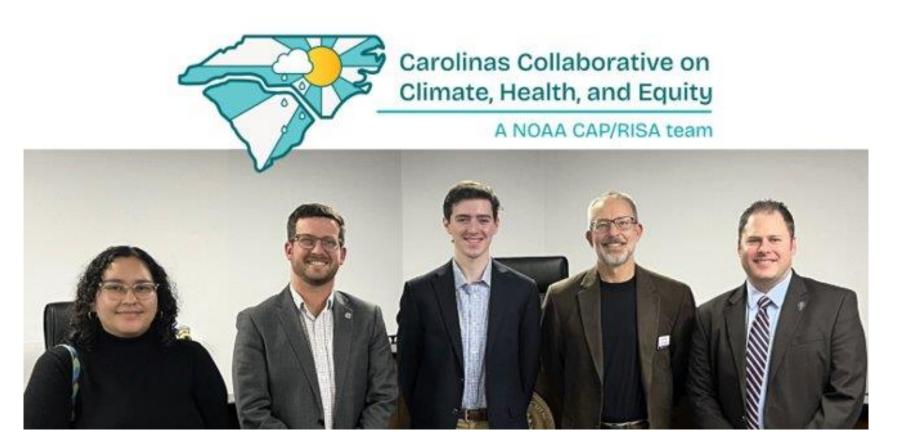






BOUDREAUX
inspired design





Mike Winiski, Furman University, Carolinas Collaborative on Climate Health and Equity Jack Buehner, Furman University, Carolinas Collaborative on Climate Health and Equity Zury Marroquin, Furman University, Carolinas Collaborative on Climate Health and Equity Jake Petroskey, AICP, Stewart Rachel John, BOUDREAUX

SUSTAINABILITY AND RESILIENCE CM

Established in fall 2019 by the AICP Commission - 1 CM during reporting period

"Planning for sustainability means balancing social, economic, and environmental resources, incorporating resilience, and linking local actions to regional and global concerns. Planning for resilience means supporting the capacity of individuals, communities, and systems to survive, adapt, and thrive in the face of chronic stresses and acute shocks and even transform when conditions require it."

- Recognizing increased leadership role of planners
- The subject matter is diverse and intentionally broad
- Tailor needs to local communities
- Should intentionally address implications of equity, diversity, and inclusion in disadvantaged communities.

SUSTAINABILITY AND RESILIENCE CM

Best Practices in Resilience

Data & Predictive Models

Resilience Standards Equity as an Essential Element of Resilience

Protection of Vulnerable People, Places, and Systems

Natural & Nature-Based Solutions for Resilience

Adaption of the Built Environment

COMPREHENSIVE PLANNING REQUIREMENTS

South Carolina Local Government Comprehensive Planning Enabling Act of 1994

Amended Article 3 in 2020: Local Planning -The Comprehensive Planning Process Resilience Element (10): This element includes an inventory of existing resiliency conditions, promotes resilience planning, design and development, and is coordinated with adjacent jurisdictions and agencies.

"...considers impacts of flooding, high water, and natural hazards on individuals, communities, institutions, businesses, economic development, public infrastructure and facilities, and public health, safety and welfare"



REQUIRED PLAN ELEMENTS



Population

Evaluates population and demographic trends, and projected growth



Housing

Evaluates housing types, location, age, affordability, and occupancy of the community



Economic Development

Describes the local workforce, and key aspects of the local economy



Natural Resources

Discusses natural resources such as wildlife and their habitats, floodplains, wetlands, and beaches



Priority Investment

Identifies available funds for facilities and infrastructure, while also making recommendations for need based projects



Cultural Resources

Describes cultural elements that are unique to the community such as historic properties, and educational, religions, and entertainment institutions



Community Facilities

Evaluates community assets regarding public safety, recreation, government medical, educational, and available public services



Resiliency

Identifies and analyzes impacts of flooding and other natural hazards the community faces



Land Use

Looks at current and future desired land use patterns



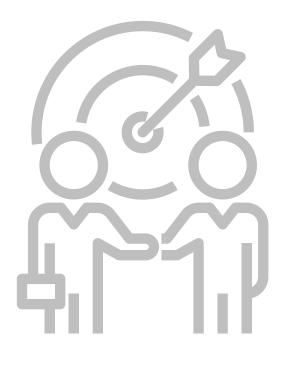
Transportation

Analyzes all modes of transportation, including roads, trails and pedestrian facilities.

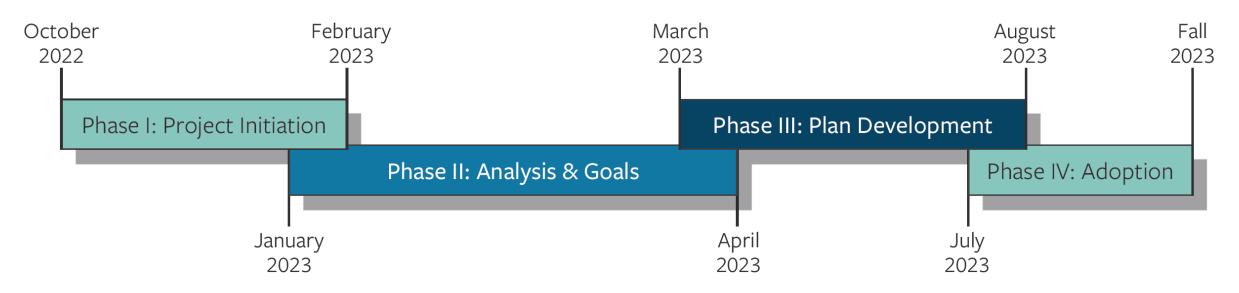
WHAT IS RESILIENCE?

As defined by the South Carolina Office of Resilience (SCOR) in the *Strategic Statewide Resilience and Risk Reduction Plan*:

The ability of communities, economies, and ecosystems within South Carolina to anticipate, absorb, recover, and thrive when presented with environmental change and natural hazards.

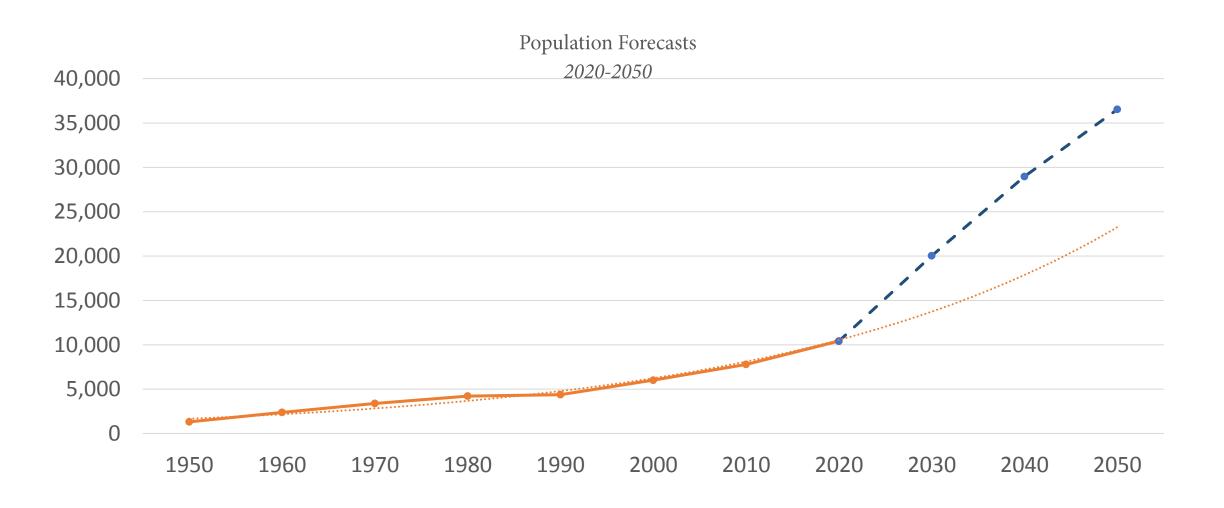


General Project Schedule



LOCATION

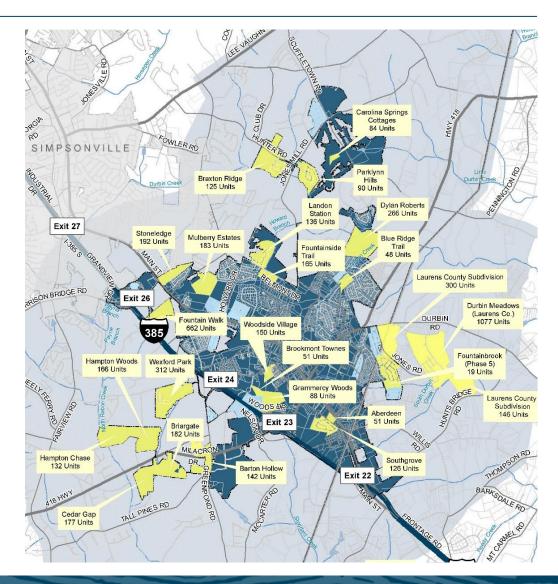




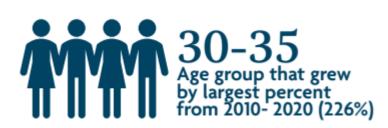
APPROVED SUBDIVISION



5,000+ new residential units in the study area





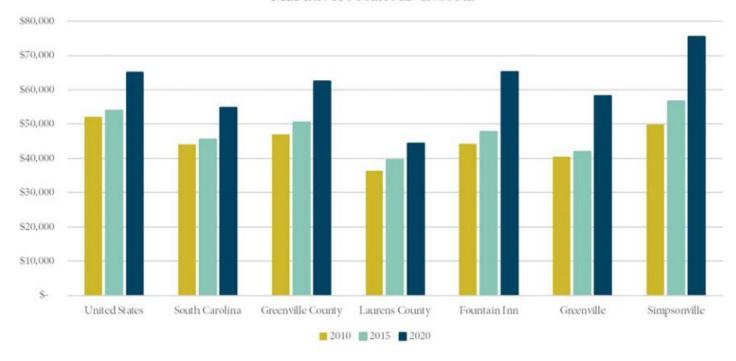


\$65,221
Median Household

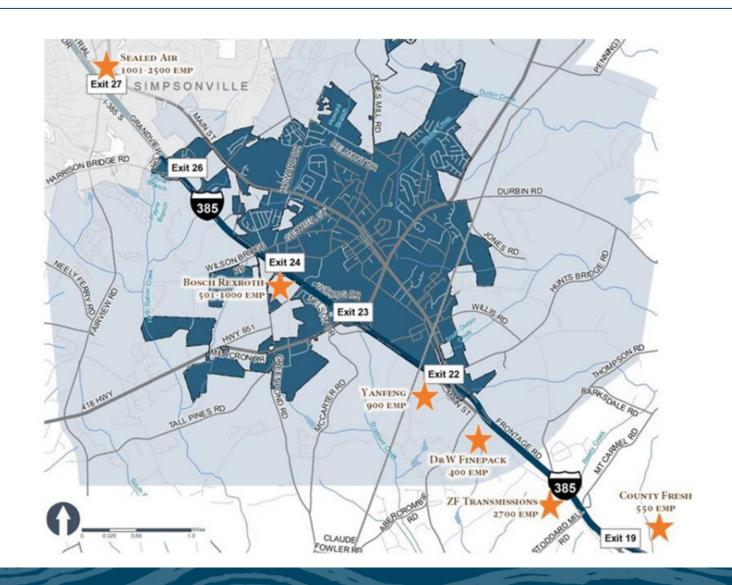
2.8 people
Average Household
Size

27%
Adults over 25 with Bachelor's Degrees+

MEDIAN HOUSEHOLD INCOME



EMPLOYMENT





Manufacturing, 25.68% of Fountain Inn jobs in 2020

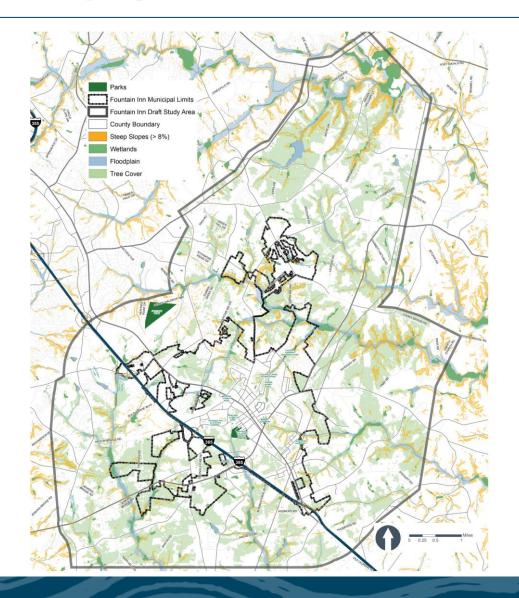


Health care, social assistance, education, 18.96% of Fountain Inn jobs in 2020



Retail trade, 14.6% of Fountain Inn jobs in 2020

NATURAL RESOURCES







ENGAGEMENT RECAP



- Stakeholder Groups
- Public Open House 1
- Survey

- Element Focus Groups
- Pop-up Events
- Public Open House 2





Major Takeaways

- Small-town preservation, a vibrant downtown, growth management, and safety are the top priorities of residents
- Residents want to see **small-scale retail** in and around Fountain Inn, and some larger retail like **grocery stores**.
- Support for local job opportunities
- Residents are interested in single-family housing options, in neighborhoods with sidewalks/crosswalks, in neighborhoods that have improved landscaping and access community facilities such as walking trails, greenways, and parks.



The City of Fountain Inn is celebrated as the best historic, small-town downtown in the Upstate and as a model of planned and balanced growth and development. The City of Fountain Inn flourishes by reinforcing its unique character and cultivating a connected community through shared experiences.

COLLABORATION PROCESS











SOUTH CAROLINA OFFICE OF RESILIENCE



- Established by State Code in September 2020
- SCOR exists to increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship, by lessening the impact of future disasters.
- Establishes and maintains a statewide definition of resilience

RESILIENCE REQUIREMENTS



1

Consider the impacts of natural hazards on communities, individuals, institutions, safety, public health, etc.

2.

Promote resilient planning, design, and development

3.

Develop in coordination with SC Code Section 6-29-510 and integrated into goals and strategies

4

Local comprehensive planning entity must undertake an inventory of existing resilience conditions

5

Planning which is coordinated with adjacent and relevant jurisdictions and agencies

SCOR FUNDING OPTIONS



At the state level, once a city's resilience plan is put into place, SCOR offers a Reserve or Revolving Fund



RESERVE FUND

This fund provides financial assistance to local government entities to provide federal share of disaster assistant programs.

They help homeowners make infrastructure repairs that may not be eligible for an entire infrastructure project mentioned in the previous slide. The reserve fund provides loans and grants to areas that need immediate assistance, and helps repair equipment and damaged agriculture.

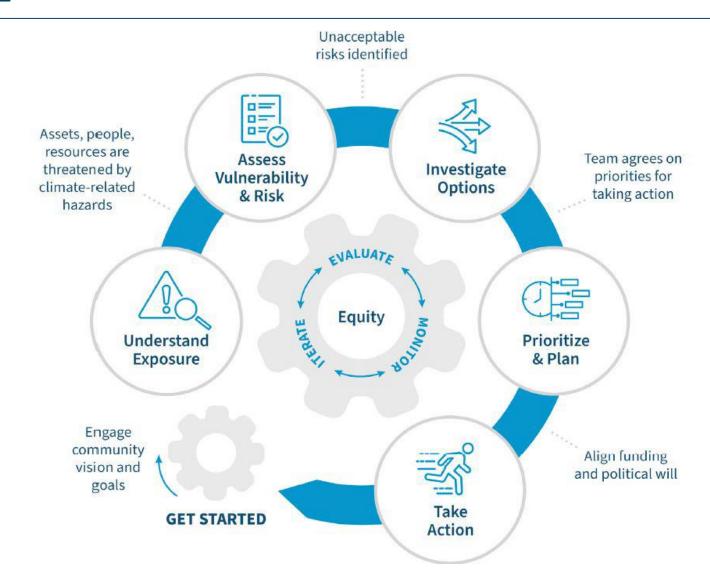


REVOLVING FUND

This fund is used for loans and grants to eligible recipients to purchase flooded properties for floodplain restorations.

STEPS TO RESILIENCE





U.S. Climate Resilience Toolkit

A guiding framework to identify vulnerabilities and develop targeted solutions Utilize the Steps to Resilience

U.S. Climate Resilience Toolkit - Case Studies

Identify applicable case studies to research applicable solutions

Potential for collaboration with other communities to utilize previously implemented and tested strategies

Climate and Economic Justice Screening Tool

US Climate Resilience Map

Collect and utilize relevant data to understand the environmental and social vulnerabilities in Fountain Inn, SC

Climate Risk and Resilience Portal

An additional site to identify region-specific environmental characteristics and relevant data



Climate Risk and Resilience Portal (ClimRR)

https://climrr.anl.gov/

About ClimRR

New to ClimRR? Click here to view the User Guide!

ClimRR provides future climate data to help us plan for and adapt to our changing world. Using one of the world's largest supercomputers, ClimRR models over 60 climate variables to provide the most sophisticated, free dynamically downscaled projections for the United States.



View Your Community

Use the Local Climate Projections tab to examine multiple future climate datapoints for one location and to download a Local Climate Projections Report.

Local Climate Projections



View Climate Data Maps

Use the National Map Explorers to examine in depth data for each hazard at any geographic scale, from county to state, regional to national.

National Map Explorers

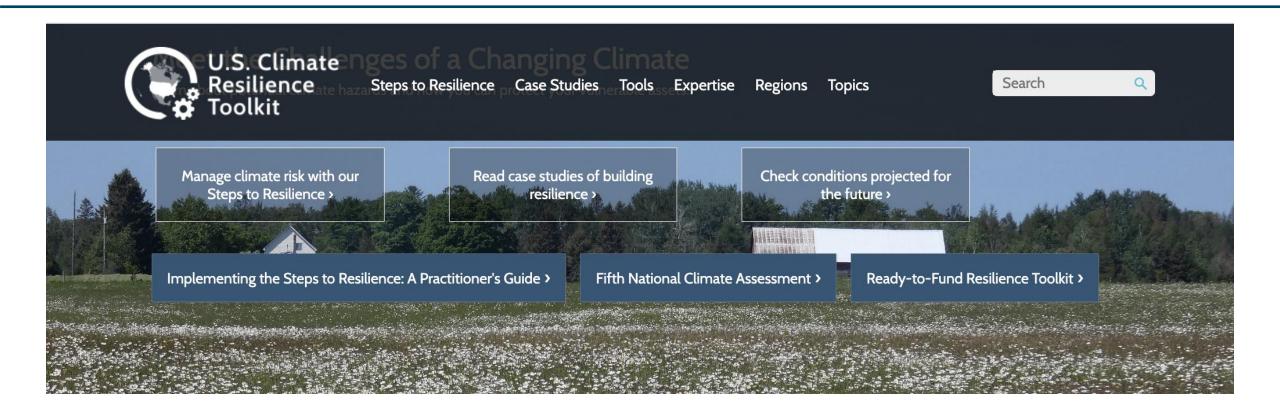


Download Data

ClimRR data is free. Download all or some of our data in the format you need from the ClimRR Data Catalog.

Data Catalog





https://toolkit.climate.gov/



EXPLORE POTENTIAL ACTIONS IN THE OPTIONS DATABASE >

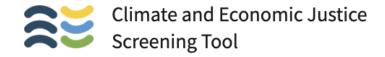
FUNDING OPPORTUNITIES >

CLIMATE READY WORKFORCE >

CLIMATE-SMART COMMUNITIES INITIATIVE >

THE RESILIENCE ECOSYSTEM >

STATE CLIMATE SUMMARIES >



Explore the map

Methodology & data v

About ~

Contact

Explore the map

Share data sources with CEQ☑

Census tracts that are overburdened and underserved are highlighted as being disadvantaged on the map. Federally Recognized Tribes, including Alaska Native Villages, are also considered disadvantaged communities.

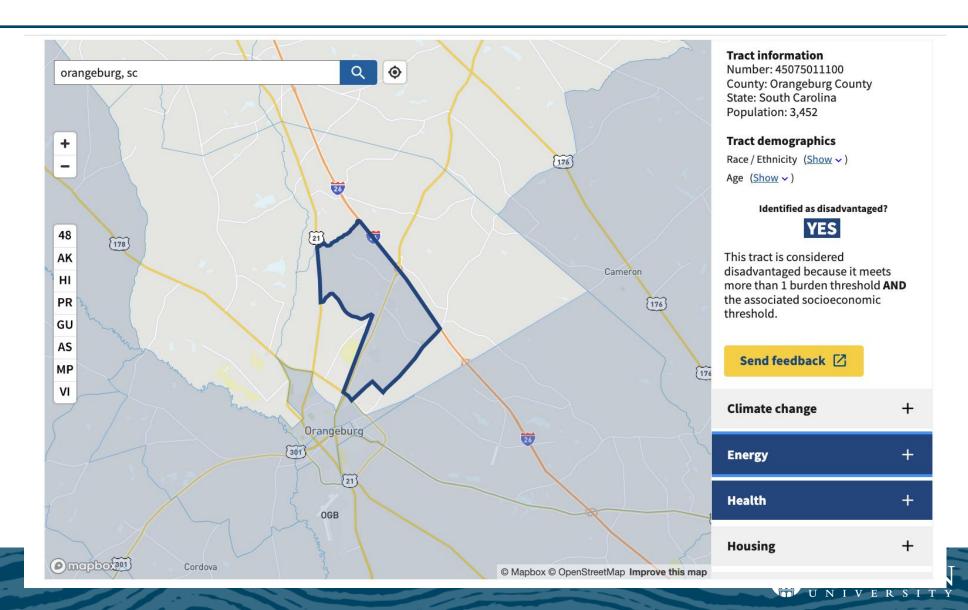
Zooming in and selecting shows information about each census tract.

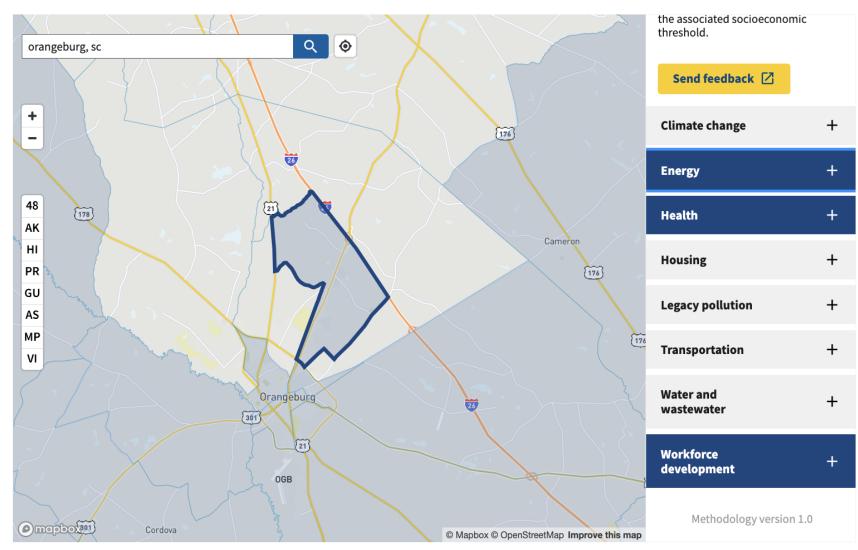
Get the data **±**

Download the data with documentation and shapefile from the downloads page.

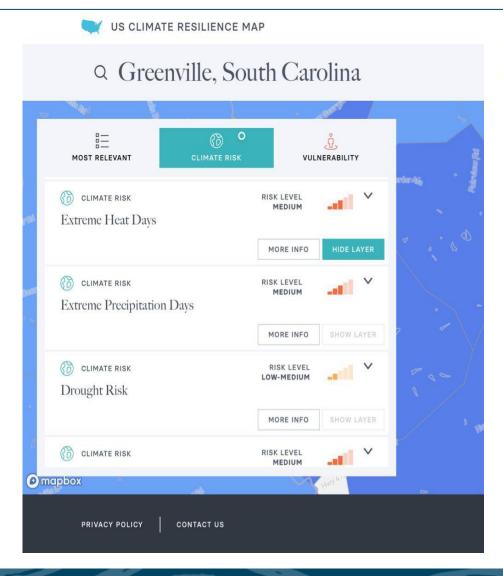
https://screeningtool.geoplatform.gov/en/#10.85/33.542/-80.8343



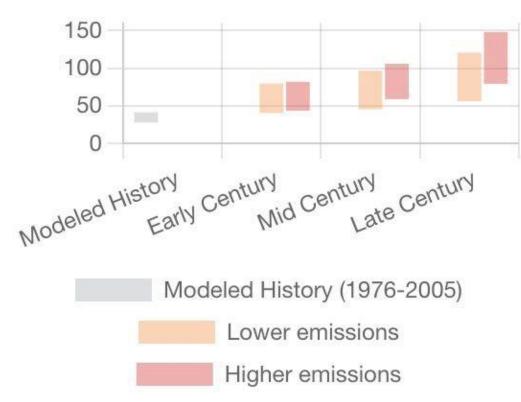




STEP 1: UNDERSTAND EXPOSURE



Annual days with maximum temperature > 90°F



STEP 1: UNDERSTAND EXPOSURE

- Future Scenario Models
 - Historical/Modeled History (1976-2005)
 - Early Century (2015-2044),
 - Mid Century (2035-2064),
 - Late Century (2070-2099)
- Extreme heat [temperature > 90 degrees °F
- Rising from 35 days (Modeled History) \rightarrow 61 days (Early Century) \rightarrow 74 days (Mid Century) \rightarrow 86 days (Late Century)
- Regardless of emission rate
- Climate Mapping For Resilience and Adaptation



STEP 2: ASSESS VULNERABILITY & RISK

- <u>Housing type and transportation</u>: "Inadequate living conditions may limit an individual's ability to prepare for, or respond to, an extreme weather event. Lack of access to reliable transportation may impede safe evacuation.
- <u>Household composition and disability</u>: "'Older people, children, and people with disabilities often require assis tance from others and, therefore, may face greater barriers to prepare or respond to an extreme weather event. Similarly, they are more susceptible to illness, and may face greater health challenges."
- <u>Socioeconomic status</u>: "Low income communities tend to have limited or unreliable access to resources needed to adequately prepare or respond to an extreme weather event. Increased demand for resources and rising prices can put individuals without an income, or living on a fixed income, at a disadvantage."
- Extreme precipitation: can cause flooding, infrastructure damage, and health impacts
- Extreme heat: can also cause health impacts
- <u>Minority and language status</u>: "Communities of color face inequitable access to resources and power structures, which can hinder their ability to fully prepare for, or respond to, extreme weather events. Language barriers m ay also delay or reduce awareness of impending risk."

STEP 2: ASSESS VULNERABILITY & RISK

SOURCE: US CLIMATE RESILIENCE MAP

Vulnerability Risk Levels	Laurens County	Greenville County		
Socioeconomic Status	Low Medium	Low Medium		
Household Composition Disability	Low	Low		
Minority Status and Language	High	High		
Housing Type And Transportation	Medium High	Medium High		

https://mappingresilience.onebillionresilient.org/explore?id=226938&indicator=31

VULNERABILITY

SOURCE: CLIMATE & ECONOMIC JUSTICE SCREENING TOOL

- Disadvantaged: Yes, Fountain Inn meets one burden threshold AND the associated socioeconomic threshold
- Proximity to Superfund sites is in t he 98th percentile!
- Unemployment is in the 90th percentile
- Percent of citizens whose education is less than a high school diploma is 13% of people

Demographics	White	Black or African American	American Indian	Hispanic or Latino		Other
Percentage	61	28	2	6		5
Category	Proximir sites	ty to Superfund	Unemployment		Percent of people ages 25 years or older whos e high school educatio n is less than a high sc hool diploma	
Percentile 98th		90th		13% of people		

STEP 3: INVESTIGATE OPTIONS

Implementation Options

- Tree planting + green spaces
- Design more parks
- Invest in resilient infrastructure projects

Public Engagement Options

• Provide the community with a robust engagement process and meaningful framework for implementation (this will ensure action and representation)



STEP 4: PRIORITIZE & PLAN

Continued conversations with stakeholders & community engagement

- Allow the 10 elements to be iterative
- Continue conversations with the community and hold more public input sessions
- Establish a "people-centered" approach to understand the established community
- Build social capital between different community stakeholders



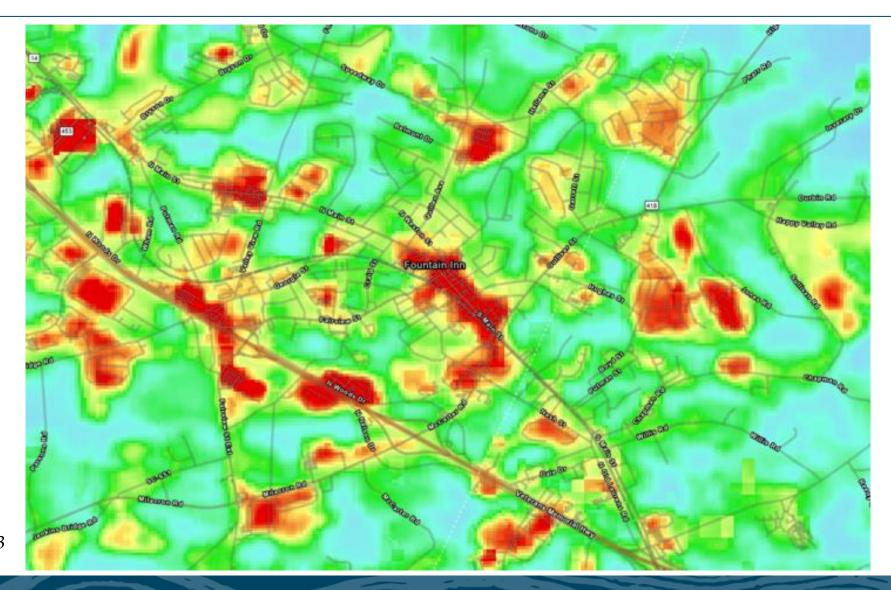
STEP 5: TAKE ACTION

Apply for SCOR funding

Update Zoning Code

Pass Ordinances

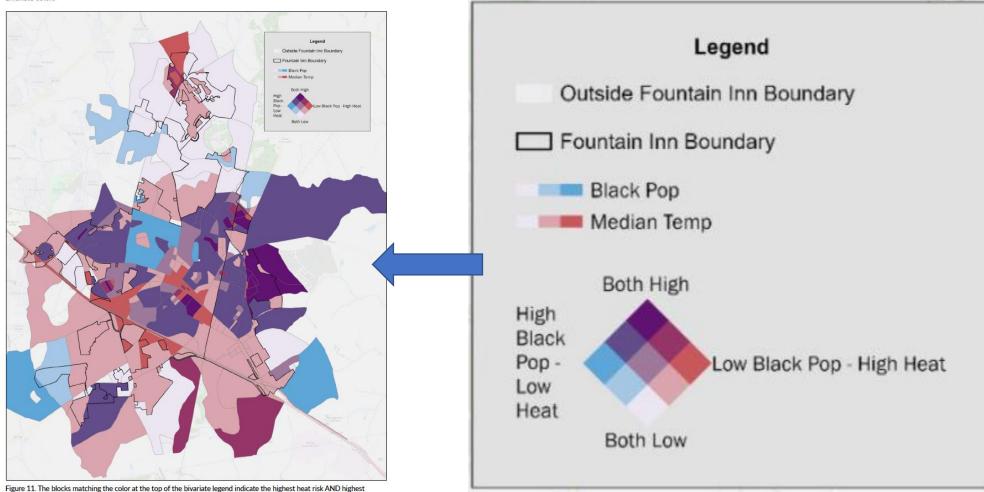
FOUNTAIN INN HEAT MAP



Landsat July 28, 2023

BLACK POPULATION & HEAT MAP





number of Black residents. These blocks have a threshold risk score of 2.

BLACK POPULATION & HEAT MAP

Black population and heat Highlighted risk areas

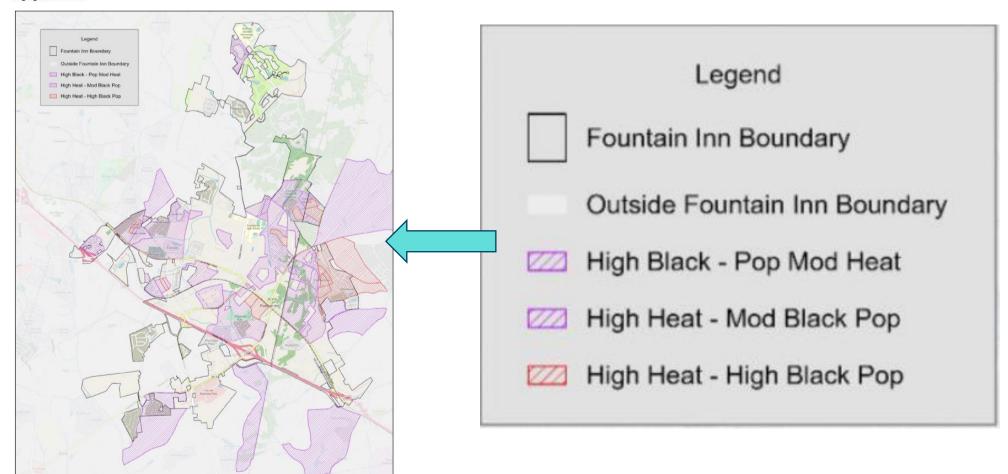


Figure 12. The map above highlights areas with the highest risk. Red indicates the highest number of Black residents AND highest heat (threshold risk score of 2). Purple areas indicate a combination of high and moderate levels of heat and Black population (threshold risk score of 1.5).

BUILDING RESILIENCE FOR EXTREME HEAT

Building resilience for extreme heat

Focus Areas

Communities carry different risks and capacities for dealing with extreme heat. For example, certain residents are at higher risk of adverse health outcomes, including young children, expectant mothers, the elderly, and those with pre-existing health conditions. People living alone are also at higher risk. Under-resourced communities often have less access to resilient infrastructure, tree canopies, and social capital to mitigate extreme heat.

Therefore, it is important to identify areas of extreme heat using current data, as well as the intersection of these areas with social vulnerabilities, when developing strategies for building resilience and plans for future events. To identify priority areas, indices were

developed for six measures of social vulnerabilities (living alone, Black, homes with young children, Hispanic, age 65+ and living alone, renters) and their intersection with heat risk. Detailed maps and methods are included in Appendix 1.

The six indices were combined into a composite risk score, and the census blocks with the highest aggregate risk (0-12) are indicated on the map to the left (Figure 1). A map of composite for all census blocks are also included (Figure 2). It is important to consider the components of the overall risk when developing resilience strategies. In other words, a one-size-fits-all response is inappropriate. For example, strategies that focus on responses and policies centered on young children are particularly important in areas in which the children/heat index is 2.0. Proactive measures centered on elderly residents, particularly those living alone, are high priority in blocks where this particular index is 2.0.

These 8 tracts show high risks across social vulnerabilities, so a combination of tailored strategies is likely to be the most effective. Index-specific risk areas are identified in Appendix 1.

Table 1 (below) and Figure 1 (left). Eight highest-ranking blocks for the composite risk index.

Block 3053 155 5.0 5.0 5.0 5.0 5.0 1.0 Residents Residents Black Alone (65+) (65+) (65+) (65+)	
	Composite Risk
BIOCK 3025 122 2.0 2.0 2.0 2.0 2.0 1.0	11
Block 1005 192 2.0 1.5 2.0 1.5 2.0 2.0	11
Block 2019 191 2.0 2.0 2.0 2.0 1.5 1.5	11
Block 1004 220 1.5 2.0 2.0 2.0 1.5 1.0	10
Block 1006 99 1.5 2.0 2.0 2.0 1.0 1.5	10
Block 1007 68 2.0 2.0 1.0 2.0 1.5 1.5	10
Block 1041 133 2.0 2.0 2.0 2.0 1.0 1.0	10
Block 2018 88 2.0 2.0 1.0 2.0 1.5 1.5	10

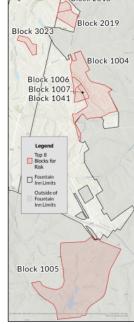


Figure 1 Subset of Census Blocks with highest composite risk

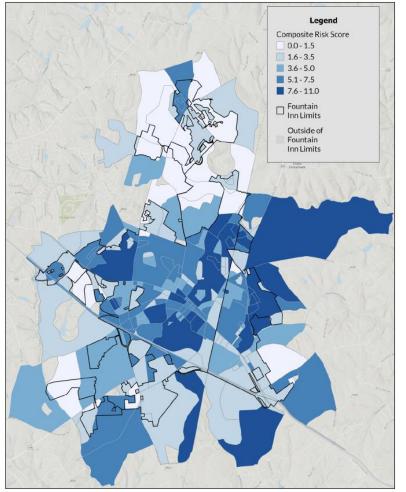


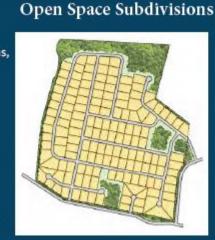
Figure 13. The map above highlights areas with the highest combined risk. The composite risk is calculated by adding up the risks associated with heat / the variable of interest (e.g., seniors living alone, renter population, etc.). The darkest blue areas indicate the highest composite risk. Categories were established by natural breaks classification.

RECOMMENDATIONS

Draft Recommendations

- 1. Planning for natural hazards
- 2. Flooding and stormwater
- 3. Critical facilities and response
- 4. Increasing tree canopy coverage
- 5. Cool roofs and streets
- 6. Support for vulnerable populations
- 7. Financial resiliency

Open space subdivisions, also known as conservation subdivisions, are an alternative to conventional subdivision design. This design technique focuses development in the most suitable areas while conserving large portions of the property (typically 40%+) as common open space. Open space can take the form of improved / active areas such as common greens or playgrounds or natural areas such as preserved forests or stream buffers.







Plan Element:



Resiliency

Overview

RESILIENCY OVERVIEW

According to the 2018 National Climate Assessment, the Earth's climate is changing at a more rapid rate than any point in the history of modern civilization leading to increasing heat-health concerns, more frequent and intense hurricanes, and heavy rainfall. The need to incorporate resiliency into planning and emergency management practices into every level of governance is evident more now than ever before.

What is resilience?

The ability for communities and ecosystems to anticipate, adapt, and recover from natural hazards and climate change

The Resiliency Element of the INNvision Comprehensive Plan

is the result of the City's desire to reduce vulnerabilities and comply with South Carolina's legislature's 2020 amendment to the Comprehensive Planning Enabling Act (SC Code Section 6-29-510). This section of the plan identifies natural hazards that impact Fountain Inn and provides policy recommendations and strategies to prepare for, respond to, and recover from a natural disaster and other disruptions.

Hazards

Flooding, winds and hail from storms, increased precipitation, extreme heat and drought are all natural hazards that Fountain Inn has been exposed two historically and will be threatened by in the coming years. The Multi-



jurisdictional Hazard Mitigation Plan for Greenville County outlines these hazards and prioritizes mitigation measures to reduce exposure and increase the speed of recovery in the future. This plan element delves deeper into resiliency for Fountain Inn and addresses some of the key historical and evolving threats on a local level.

Extreme Heat

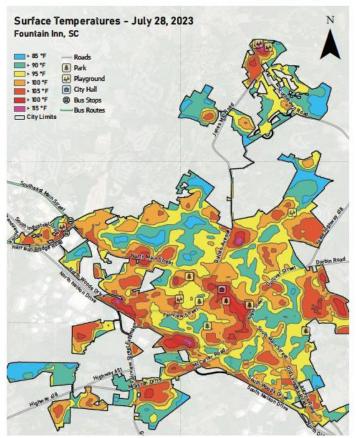
Residents of Fountain Inn may be familiar with the heat that comes with living in the south, and how that high summer time temperatures impacts their lives. Over the years there have been more frequent and longer lasting heat waves and associated heat advisories, which utilize the heat index value to determine threat level. Increased or extreme heat levels can

INNvision

be dangerous to residents of any community as they may cause heat exhaustion, heat stroke, sunburn, and other medical conditions. Education of residents and visitors on heat safety, providing public spaces with shade and air conditioning such as libraries, shops, and or recreation centers and addressing long-term surface temperatures through changes in the built environment can all be ways to address increasing temperatures.

Social Vulnerability

The Census Tract that includes the majority of Fountain Inn's municipal limits identified as having a high level of social vulnerability due to socioeconomic status, household characteristics, racial makeup and housing type and transportation access (Source: CDC/ATSDR Social Vulnerability Index 2020). This is important because under-resourced communities often have less physical infrastructure, social capital and financial means to deal with extreme heat and other hazards.



The map to the left shows surface temperatures in Fountain Inn on July 28, 2023. Note that the higher temperatures correspond dosely with areas with large swaths of pavement and a lack of tree cover.

Many areas that are estimated to have higher surface temperatures are located in Census Tract 45045 which is identified as having a high level of social vulnerability due to rates of poverty, unemployment and minority households.



Plan Element:



Resiliency

What is resilience?

The ability for communities

and ecosystems to anticipate,

adapt, and recover from natural

hazards and climate change

Overview

RESILIENCY OVERVIEW

According to the 2018 National Climate Assessment, the Earth's climate is changing at a more rapid rate than any point in the history of modern civilization leading to increasing heat-health

REQUIREMENT

is evident more now than ever before.

The Resiliency Element of the INNvision Comprehensive Plan

is the result of the City's desire to reduce vulnerabilities and comply with South Carolina's legislature's 2020 amendment to the Comprehensive Planning Enabling Act (SC Code Section 6-29-510). This section of the plan identifies natural hazards that impact Fountain Inn and provides policy recommendations and strategies to prepare for, respond to, and recover from a natural disaster and other disruptions.

nes, and heavy

to planning and

level of governance

Hazards

Flooding, winds and hail from storms, increased precipitation, extreme heat and drought are all natural hazards that Fountain Inn has been exposed two historically and will be threatened by in the coming years. The Multi-



jurisdictional Hazard Mitigation Plan for Greenville County outlines these hazards and prioritizes mitigation measures to reduce exposure and increase the speed of recovery in the future. This plan element delves deeper into resiliency for Fountain Inn and addresses some of the key historical and evolving threats on a local evel.

Extreme Heat

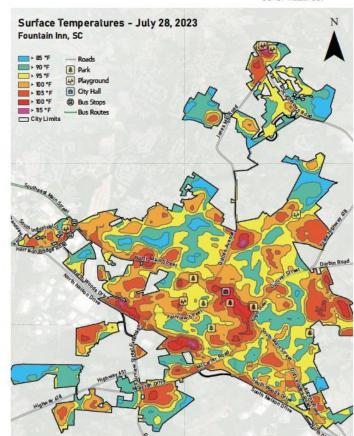
Residents of Fountain Inn hay be familiar with the heat that comes with living in the south, and how that high summer time temperatures impacts their lives. Over the years there have been more frequent and longer lasting heat waves and associated heat advisories, which utilize the heat index value to determine threat level. Increased or extreme heat levels can

INNvision

be dangerous to residents of any commi may cause heat exhaustion, heat stroke, and other medical conditions. Education of residen and visitors on heat safety, providing public spaces with shade and air conditioning such as libraries, shops, and or recreation centers and addressing long-term surface temperatures through changes nt can all be ways to address **DEFINITION**

Social Vulnerability

The Census Tract that includes the majority of Fountain Inn's municipal limits identified as having a high level of social vulnerability due to socioeconomic status, household characteristics, racial makeup and housing type and transportation access (Source: CDC/ATSDR Social Vulnerability Index 2020). This is important because under-resourced communities often have less physical infrastructure, social capital and financial means to deal with extreme heat and other hazards.



DRAFT: January 8, 2024

The map to the left shows surface temperatures in Fountain Inn on July 28, 2023. Note that the higher temperatures correspond dosely with areas with large swaths of pavement and a lack of tree cover.

Many areas that are estimated to have higher surface temperatures are located in Census Tract 45045 which is identified as having a high level of social vulnerability due to rates of poverty, unemployment and minority households.

Plan Element:

Resilie

What is resil

The ability for con

and ecosystems to

adapt, and recover f

hazards and clima

Overview

RESILIENCY OVERVIEW

According to the 2018 National Climate Assessment, the Earth's climate is changing at a more rapid rate than any point in the history of modern civilization leading to increasing heat-health

REQUIREMENT

is evident more now than ever before.

The Resiliency Element of the INNvision Comprehensive Plan

is the result of the City's desire to reduce vulnerabilities and comply with South Carolina's legi amendment to the Comprehensive Planning Enabling Act (SC Code Section 6-29-510). This s plan identifies natural hazards that impact Fountain Inn and provides policy recommendations prepare for, respond to, and recover from a natural disaster and other disruptions.

nes, and heavy

to planning and

level of governance

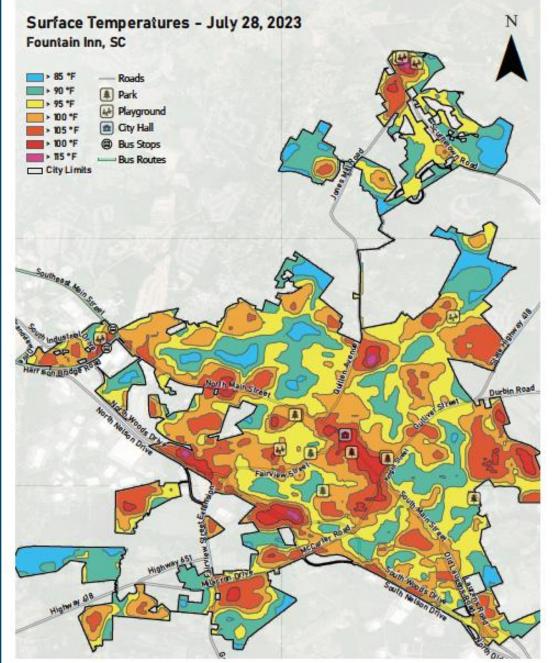
Hazards

Flooding, winds and hail from storms, increased precipitation, extreme heat and drought are that Fountain Inn has been exposed two historically and will be threatened by in the coming y

jurisdictional Hazard Mitigation Plan for Green outlines these hazards and prioritizes mitigatio reduce exposure and increase the speed of rec future. This plan element delves deeper into re Fountain Inn and addresses some of the key his evolving threats on a local evel.

Extreme Heat

Residents of Fountain Inn hay be familiar with comes with living in the south, and how that h time temperatures impacts their lives. Over th have been more frequent and longer lasting he associated heat advisories, which utilize the heat to determine threat level. Increased or extreme



The map to the left shows surface temperatures in Fountain Inn on July 28, 2023. Note that the higher temperatures correspond dosely with areas with large swaths of pavement and a lack of tree cover.

Many areas that are estimated to have higher surface temperatures are located in Census Tract 45045 which is identified as having a high level of social vulnerability due to rates of poverty, unemployment and minority households.

REQUIRED PLAN ELEMENTS



Population

Evaluates population and demographic trends, and projected growth



Housing

Evaluates housing types, location, age, affordability, and occupancy of the community



Economic Development

Describes the local workforce, and key aspects of the local economy



Natural Resources

Discusses natural resources such as wildlife and their habitats, floodplains, wetlands, and beaches



Cultural Resources

Describes cultural elements that are unique to the community such as historic properties, and educational, religions, and entertainment institutions



Community Facilities

Evaluates community assets regarding public safety, recreation, government medical, educational, and available public services



Land Use

Looks at current and future desired land use patterns



Transportation

Analyzes all modes of transportation, including roads, trails and pedestrian facilities.



Priority Investment

Identifies available funds for facilities and infrastructure, while also making recommendations for need based projects



Resiliency



Land Use

Looks at current and future desired land use patterns.

Goal 2: Encourage the development of well-designed neighborhoods that fit in the natural context and protect key natural features.

Goal 3: Support the creation of a vibrant Main Street and downtown that is the "Best Small-Town Downtown in the Upstate.

Goal 4: Attract commercial development that is appropriate for different areas of the City.



Resiliency

- 1. Planning for natural hazards
- 2. Flooding and stormwater
- 3. Critical facilities and response
- 4. Increase tree canopy coverage
- 5. Cool roofs and streets
- 6. Support for vulnerable populations
- 7. Financial resiliency



Land Use

Looks at current and future desired land use patterns.

Goal: Encourage the development of well-designed neighborhoods that fit in the natural context and protect key natural features.

Goal: Support the creation of a vibrant Main Street and downtown that is the "Best Small-Town Downtown in the Upstate.

Goal: Attract commercial development that is appropriate for different areas of the City.



Resiliency

- 1. Planning for natural hazards
- 2. Flooding and stormwater
- 3. Critical facilities and response
- 4. Increase tree canopy coverage
- 5. Cool roofs and streets
- 6. Support for vulnerable populations
- 7. Financial resiliency



Land Use

Looks at current and future desired land use patterns.

Goal 2: Encourage the development of well-designed neighborhoods that fit in the natural context and protect key natural features.

Goal 3: Support the creation of a vibrant Main Street and downtown that is the "Best Small-Town Downtown in the Upstate.

Goal 4: Attract commercial development that is appropriate for different areas of the City.



Resiliency

- 1. Planning for natural hazards
- 2. Flooding and stormwater
- 3. Critical facilities and response
- 4. Increase tree canopy coverage
- 5. Cool roofs and streets
- 6. Support for vulnerable populations
- 7. Financial resiliency



Land Use

Looks at current and future desired land use patterns.

Goal: Encourage the development of well-designed neighborhoods that fit in the natural context and protect key natural features.

Goal: Support the creation of a vibrant Main Street and downtown that is the "Best Small-Town Downtown in the Upstate.

Goal: Attract commercial development that is appropriate for different areas of the City.



Resiliency

- 1. Planning for natural hazards
- 2. Flooding and stormwater
- 3. Critical facilities and response
- 4. Increase tree canopy coverage
- 5. Cool roofs and streets
- 6. Support for vulnerable populations
- 7. Financial resiliency



Natural Resources

Discusses natural resources such as wildlife and their habitats, floodplains, wetlands, and forests.

Goal: Encourage subdivision design that conserves valuable natural resources and provides a transition to more rural areas.

Goal: Protect water quality.

Goal: Expand land conservation and outdoor recreation opportunities.

Goal: Enhance environmental education and support of agricultural operations.



Resiliency

- 1. Planning for natural hazards
- 2. Flooding and stormwater
- 3. Critical facilities and response
- 4. Increase tree canopy coverage
- 5. Cool roofs and streets
- 6. Support for vulnerable populations
- 7. Financial resiliency



Natural Resources

Discusses natural resources such as wildlife and their habitats, floodplains, wetlands, and forests.

Goal: Encourage subdivision design that conserves valuable natural resources and provides a transition to more rural areas.

Goal: Protect water quality.

Goal: Expand land conservation and outdoor recreation opportunities.

Goal: Enhance environmental education and support of agricultural operations.



Resiliency

- 1. Planning for natural hazards
- 2. Flooding and stormwater
- 3. Critical facilities and response
- 4. Increase tree canopy coverage
- 5. Cool roofs and streets
- 6. Support for vulnerable populations
- 7. Financial resiliency



Economic Development

Describes the local workforce, and key aspects of the local economy.

Goal: Diversify employment sectors.

Goal: Minimize leakage and enhance local economy.



Housing

Evaluates housing types, location, age, affordability, and occupancy of the community.

Goal: Address housing needs by encouraging a mix of types in key locations

Goal: Pursue neighborhood improvements and additional local affordable and workforce housing options.



Resiliency

- 1. Planning for natural hazards
- 2. Flooding and stormwater
- 3. Critical facilities and response
- 4. Increase tree canopy coverage
- 5. Cool roofs and streets
- 6. Support for vulnerable populations
- 7. Financial resiliency



Economic Development

Describes the local workforce, and key aspects of the local economy.

Goal: Diversify employment sectors.

Goal: Minimize leakage and enhance local economy.



Housing

Evaluates housing types, location, age, affordability, and occupancy of the community.

Goal: Address housing needs by encouraging a mix of types in key locations

Goal: Pursue neighborhood improvements and additional local affordable and workforce housing options.



Resiliency

- 1. Planning for natural hazards
- 2. Flooding and stormwater
- 3. Critical facilities and response
- 4. Increase tree canopy coverage
- 5. Cool roofs and streets
- 6. Support for vulnerable populations
- 7. Financial resiliency



Economic Development

Describes the local workforce, and key aspects of the local economy.

Goal: Diversify employment sectors.

Goal: Minimize leakage and enhance local economy.



Housing

Evaluates housing types, location, age, affordability, and occupancy of the community.

Goal: Address housing needs by encouraging a mix of types in key locations

Goal: Pursue neighborhood improvements and additional local affordable and workforce housing options.



Resiliency

- 1. Planning for natural hazards
- 2. Flooding and stormwater
- 3. Critical facilities and response
- 4. Increase tree canopy coverage
- 5. Cool roofs and streets
- 6. Support for vulnerable population
- 7. Financial resiliency



Transportation

Analyzes all modes of transportation, including roads, trails and pedestrian facilities.

Goal: Support the creation of a safe, connected multi-modal transportation system that serves the current and future needs of the community.



Cultural Resources

Describes cultural elements that are unique to the community such as historic properties, educational, religions, and entertainment institutions.

Goal: Preserve and enhance the character of Main Street



Resiliency

- 1. Planning for natural hazards
- 2. Flooding and stormwater
- 3. Critical facilities and response
- 4. Increase tree canopy coverage
- 5. Cool roofs and streets
- 6. Support for vulnerable populations
- 7. Financial resiliency



Transportation

Analyzes all modes of transportation, including roads, trails and pedestrian facilities.

Goal: Support the creation of a safe, connected multi-modal transportation system that serves the current and future needs of the community.



Cultural Resources

Describes cultural elements that are unique to the community such as historic properties, educational, religions, and entertainment institutions.

Goal: Preserve and enhance the character of Main Street



Resiliency

- 1. Planning for natural hazards
- 2. Flooding and stormwater
- 3. Critical facilities and response
- 4. Increase tree canopy coverage
- 5. Cool roofs and streets
- 6. Support for vulnerable population
- 7. Financial resiliency



Transportation

Analyzes all modes of transportation, including roads, trails and pedestrian facilities.

Goal: Support the creation of a safe, connected multi-modal transportation system that serves the current and future needs of the community.



Cultural Resources

Describes cultural elements that are unique to the community such as historic properties, educational, religions, and entertainment institutions.

Goal: Preserve and enhance the character of Main Street



Resiliency

- 1. Planning for natural hazards
- 2. Flooding and stormwater
- 3. Critical facilities and response
- 4. Increase tree canopy coverage
- 5. Cool roofs and streets
- 6. Support for vulnerable populations
- 7. Financial resiliency







- "Greening" of Downtown
- Enhancing tree canopy
- Multi-modal transportation



- "Greening" of Downtown
- Enhancing tree canopy
- Multi-modal transportation



- Improve open space and tree preservation
- Opportunity for cool pavement and solar covered lots
- Opportunity to address energy efficiency and cooling design (roofs, greening, aspect windows)

PRIORITY INVESTMENT / IMPLEMENTATION

Make Headway

On Priority

Transportation

Projects

- "Greening" of Downtown
- Enhancing tree canopy
- Multi-modal transportation

Update street standards



Transportation

Requirements for

New Development

- Improve open space and tree preservation
- Opportunity for cool pavement and solar covered lots
- opportunity to address energy efficiency and cooling design (roofs, greening, aspect windows)

PRIORITY INVESTMENT / IMPLEMENTATION

- "Greening" of Downtown
- Enhancing tree canopy
- Multi-modal transportation

• Update street standards



Transportation

Requirements for

New Development

5 Make Headway
On Priority
Transportation
Projects

- Improve open space and tree preservation
- Opportunity for cool pavement and solar covered lots
- Opportunity to address energy efficiency and cooling design (roofs, greening, aspect windows)
- Identify "cool streets" candidates
- New sidewalks and street trees



- Opportunity to address public transit
- Covered bus stops and shade trees
- Cool walk/bike corridors



- Opportunity to address public transit
- Covered bus stops and shade trees
- Cool walk/bike corridors



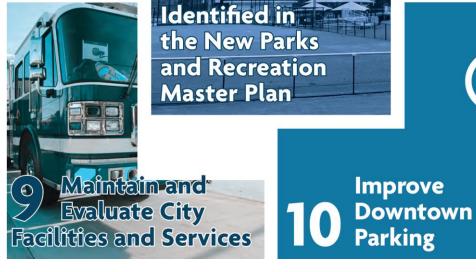
- Opportunity for tree plan
- Resilience hubs
- Solar panels

PRIORITY INVESTMENT / IMPLEMENTATION

- Opportunity to address public transit
- Covered bus stops and shade trees
- Cool walk/bike corridors



- Opportunity for tree plan
- Resilience hubs
- Solar panels



• Transportation alternatives

PRIORITY INVESTMENT / IMPLEMENTATION

- Opportunity to address public transit
- Covered bus stops and shade trees
- Cool walk/bike corridors

- Opportunity for solar panel covered lots and battery storage for backup power
- "Greening" opportunities



- Opportunity for tree plan
- Resilience hubs
- Solar panels



Maintain and

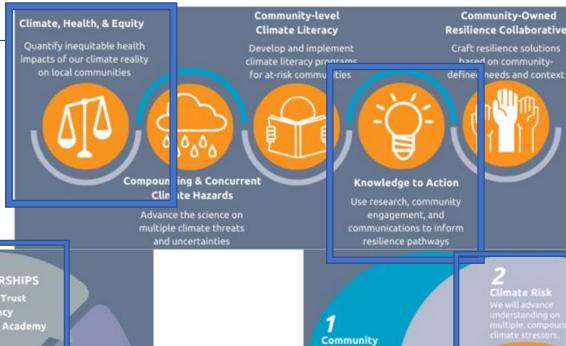
Evaluate City

Facilities and Services

10 Improve Parking Transportation alternatives



RESOURCES



PARTNERSHIPS Mutual Trust ERVENTION CONTEXT **PROCESSES OUTCOMES** Society/Structure Cultural Knowledge Politics/Policy Short-term Integration Capacity/Readiness Intermediate Empowerment Research Done w/Community INTERVENTION OUTPUTS **Culture Centered Results** Partnership Synergy **Shared Power Relations** LONG-TERM OUTCOMES: Community Transformation, Social Justice, & Health Equity

Climate Risk
We will advance
understanding on
multiple, compounding
climate stressors.

O
JEDI Principles
We are committed
to justice, equity,
diversity, & inclusion.

4
Climate Literacy
We will advance
understanding on
intersectional
climate-health
inequities.



Incorporating the RESILIENCE ELEMENT in Comprehensive Plans







Spring Conference Orangeburg, S.C. May 3, 2024