

# Charlottesville's Climate Adaptation and Resilience Plan

*Roadmap to a Strong, Safe, and  
Healthy Future*

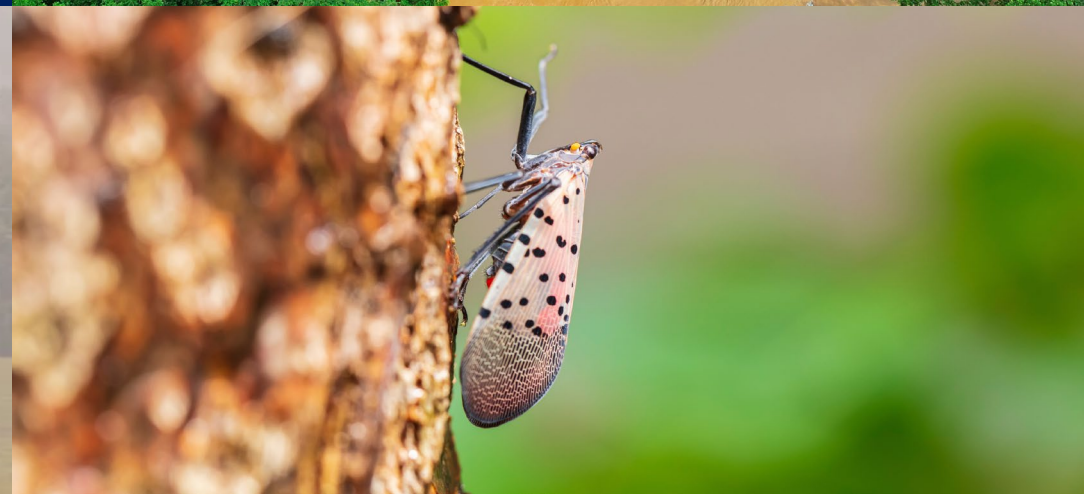
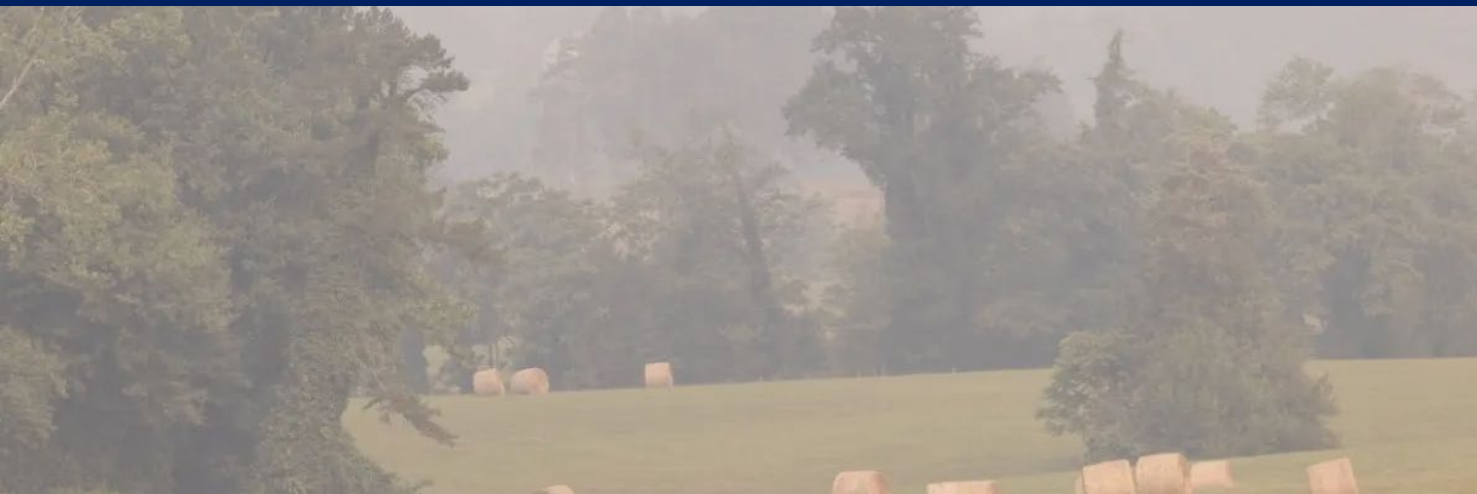


# Agenda

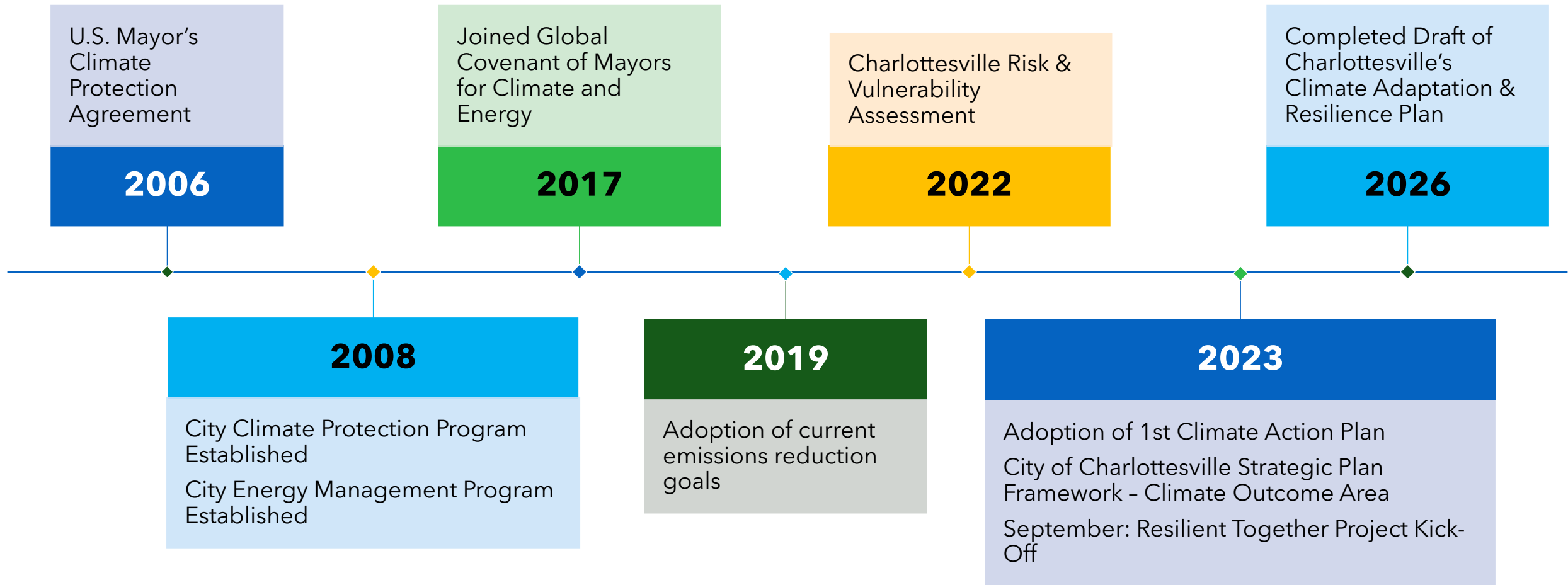
- Project History & Background
- Plan Development
- About the Plan
- Questions & Next Steps

# History & Background

*The why and how of resilience planning*



# How We Got Here



# CAP and CARP: Sibling Climate Plans



## Mitigation

- Reducing Greenhouse Gases
- Addressing the underlying cause
- Climate Action Plan (CAP)



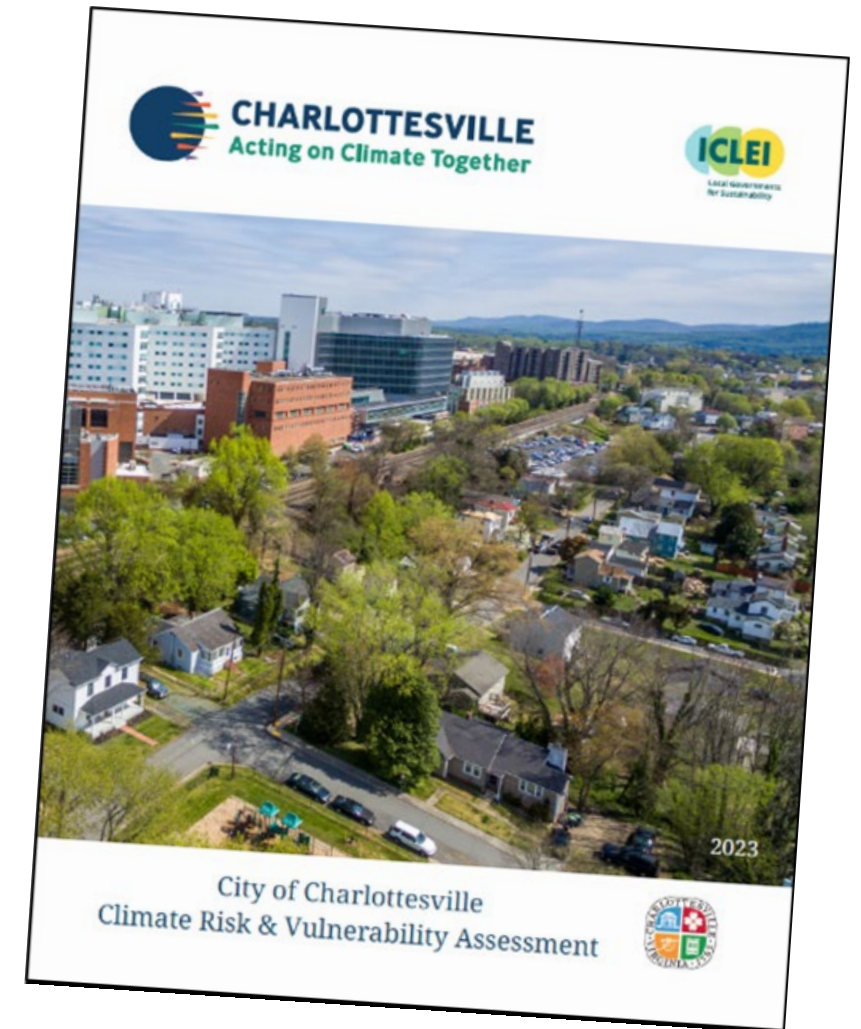
## Adaptation

- Strengthening systems against the impacts of climate change
- Reacting to the symptoms
- Climate Adaptation and Resilience Plan (CARP)

# The Why: Local Impacts

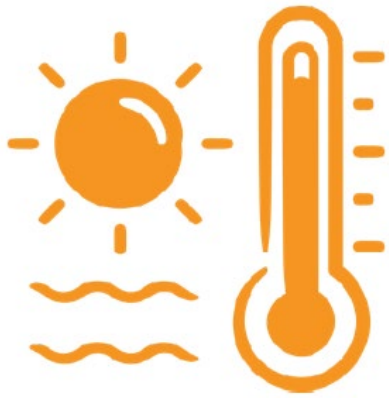
## Regional Hazards & Risks

- Extreme Heat
- Intense Rain and Flooding
- Drought
- Severe Storms
- Shifting Seasons
  - Pests & Disease
- Wildfire & Smoke



# What is Climate Resilience?

**Climate Resilience** means strengthening our community systems to better withstand exposure to increasing climatic shocks and stressors.



Extreme Heat



Intense Rain & Flooding



Drought



Severe Storms

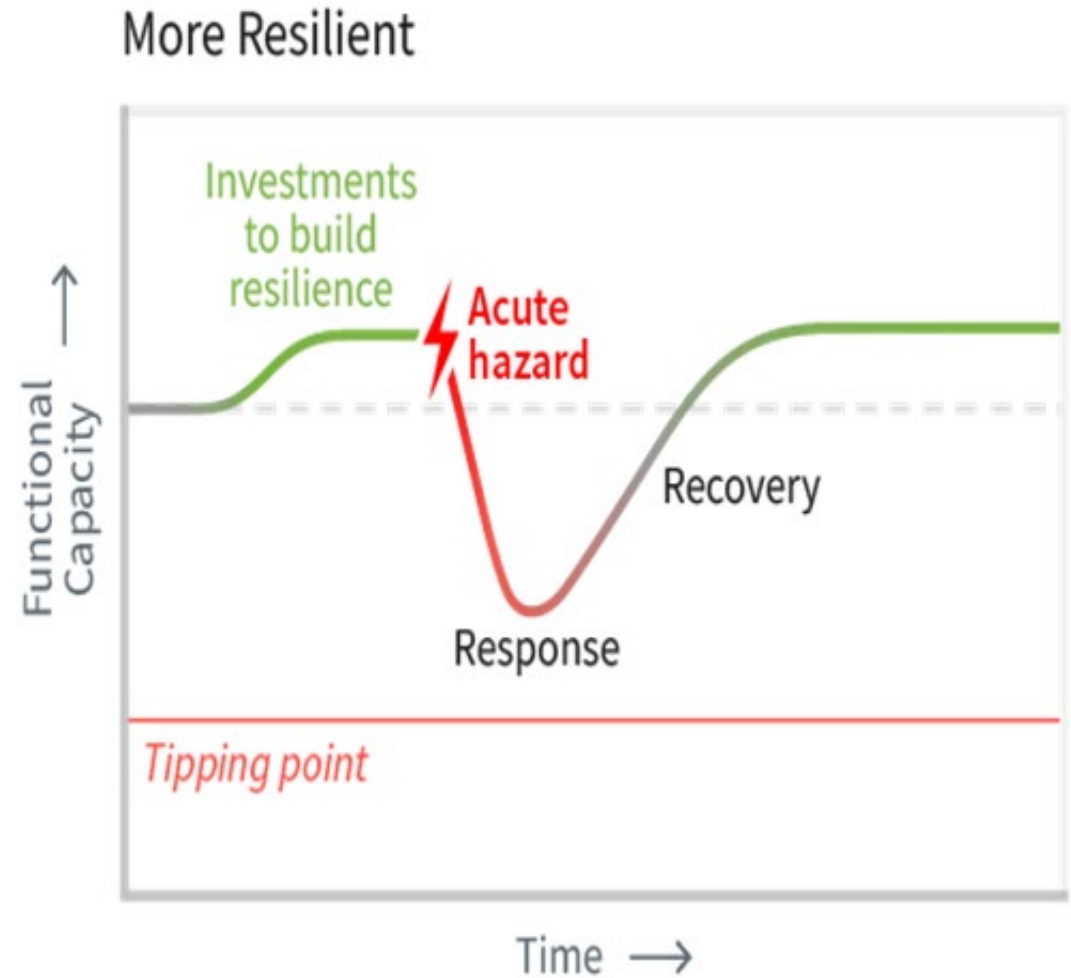
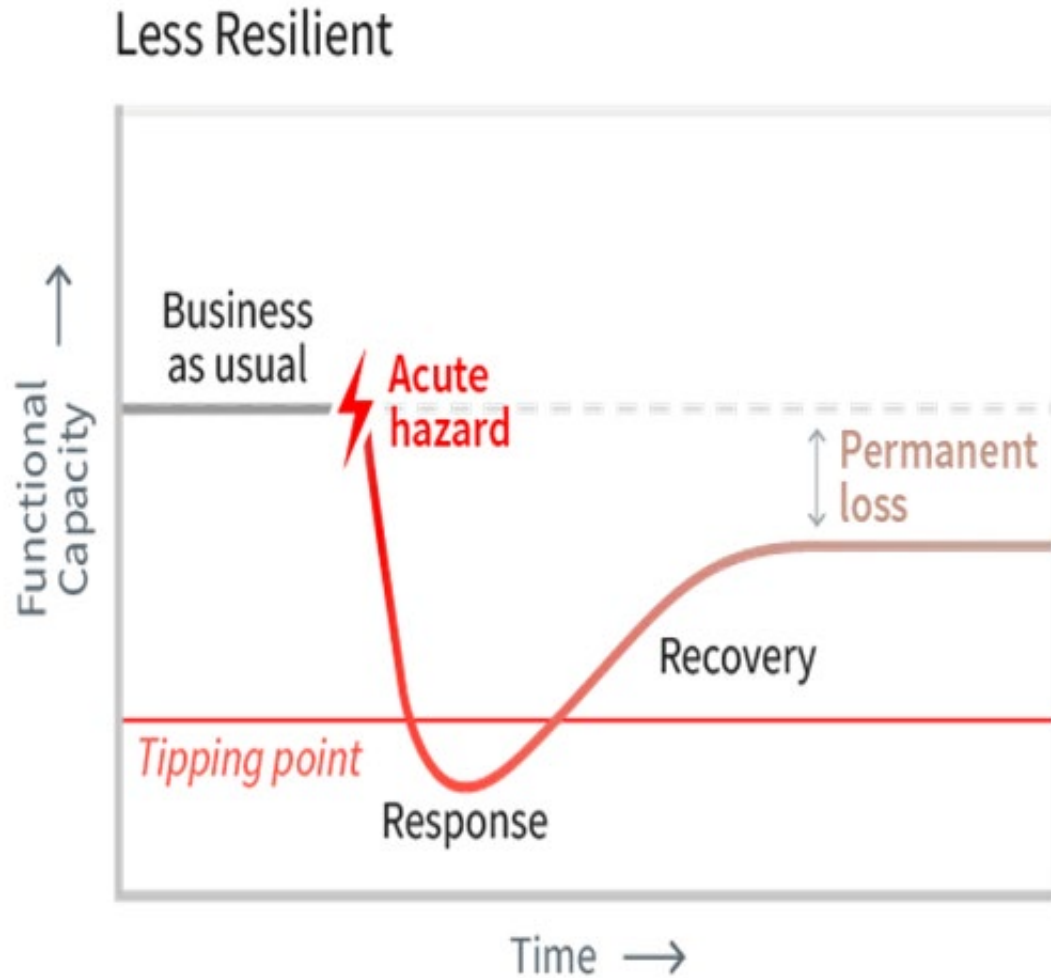


Shifting Seasonal Patterns



Wildfire & Smoke

# What is Climate Resilience? (Continued)



# The How: Resilient Together

**Resilient Together** is a joint planning and community engagement process to help our community prepare for the more intense and frequent severe weather events that we face.

**Albemarle County**, the **City of Charlottesville**, and the **University of Virginia** have partnered in this work. The project has engaged staff, partner institutions, community-based organizations, and the public.

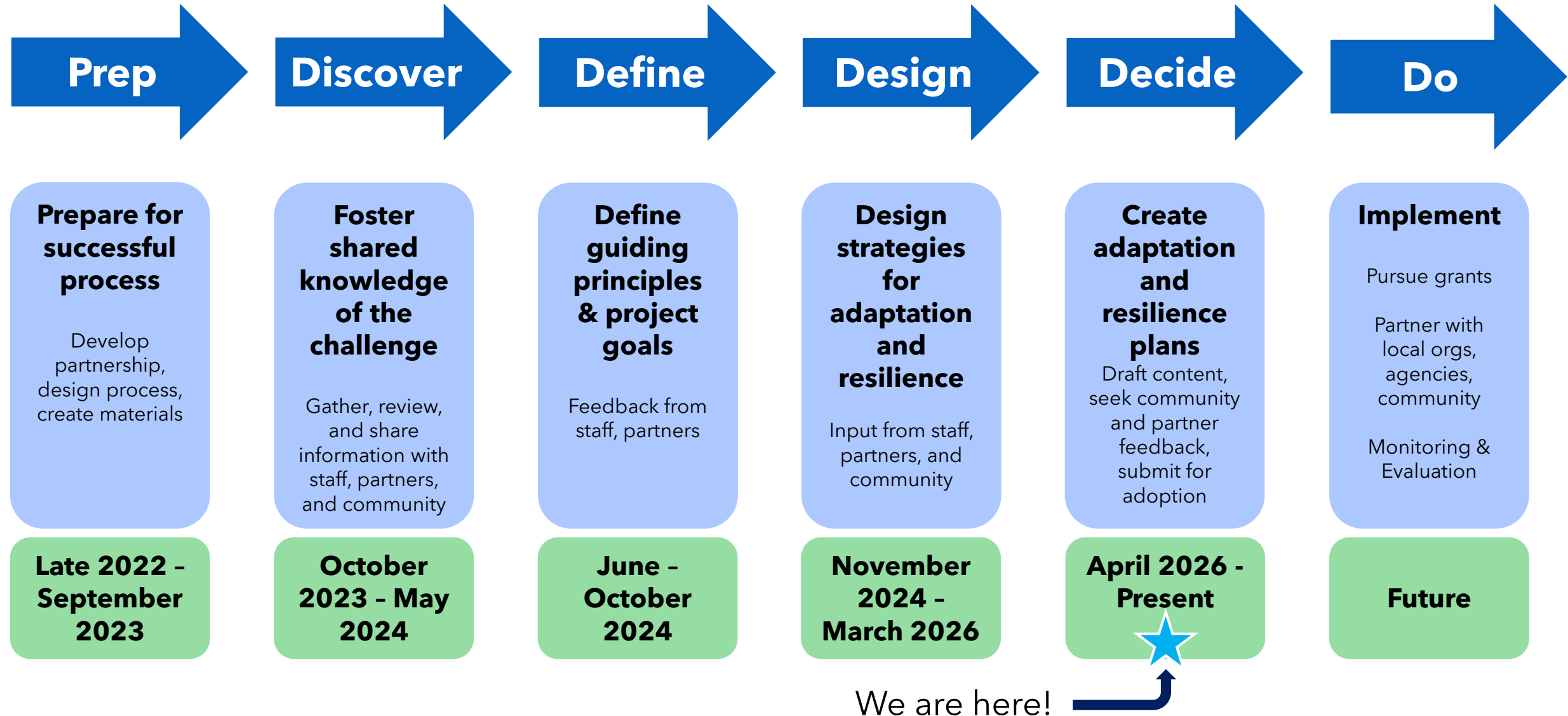


**RESILIENT  
TOGETHER**

**One Climate, One Community**

**Project Vision: a strong, safe, and healthy future for all**

# Resilient Together: Project Outline



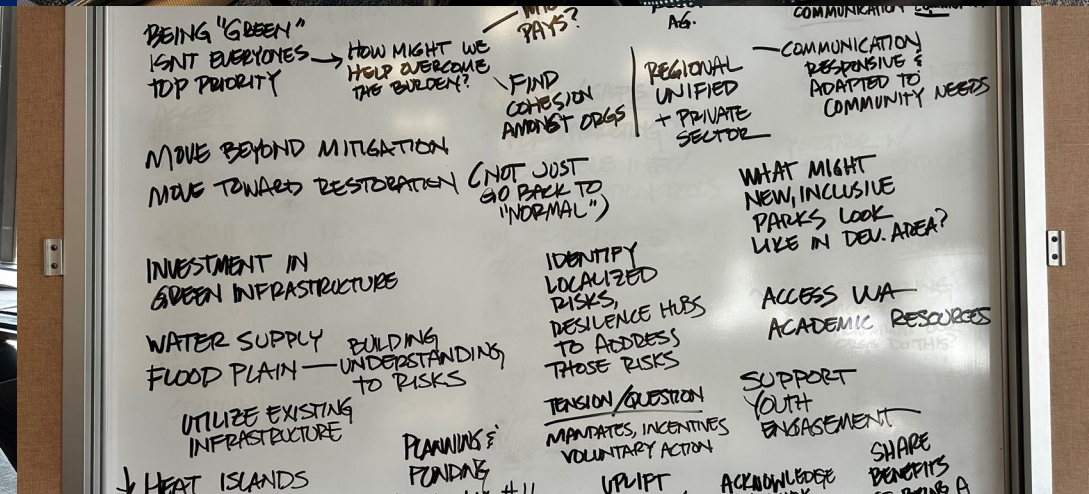


## **EPA EJG2G Grant & the Climate Resilience Cohort**

- Climate Resilience Cohort – partnership with nine local CBOs to support engagement and develop community-led resilience projects
- \$460k Environmental Justice Government-to-Government Grant
  - April 2023: Application
  - October 2023: Notification of Award
  - June 2024: Finalized Grant Agreement
  - March 2025: Cancellation of Federal Grant
- City & County dedicated \$50k each to continue with the planning phase work

# Plan Development

*Getting from there to here*



# Engagement Tracks

## RT Project Team

- Led work to refine draft strategies and develop implementation projects and roadmaps
- Supported all other engagement tracks

## Staff & SMEs

- Participated in sector- and hazard-specific technical working groups to develop implementation projects and roadmaps

## CBO Cohort Members

- Planned and conducted engagement events around community resilience building
- Reviewed draft plan and offered input/feedback

## Community

- Participated in engagement events to provide place-specific knowledge and input

# Staff & SME Engagement

## UVA

Office for Sustainability  
Office of the Architect  
Facilities Management  
Emergency Management  
Environmental Health and Safety  
UVA Health  
UVA Transportation  
UVA Foundation

## Charlottesville

Office of Sustainability  
Emergency Management  
Neighborhood Development  
Parks & Recreation  
Utilities  
Public Works  
Human Services  
Strategic Planning  
Communications  
Economic Development  
Office of Human Rights  
Charlottesville Area Transit

## Albemarle

Facilities & Environmental  
Services  
Communications & Public  
Engagement  
Office of Equity & Inclusion  
AC Fire Rescue  
Community Development  
Human Services  
Economic Development  
Parks & Recreation

## Partners

Emergency Communications  
Center  
Rivanna Water & Sewer Authority  
Blue Ridge Health District  
TJPDC  
TJWSCD  
Cultivate Charlottesville  
Community Climate  
Collaborative  
IRC New Roots  
Market Central

**Over 125 cross-organizational & community meetings to develop, refine, and finalize strategies and implementation projects.  
(Not inclusive of project team meetings.)**

# What We Heard: Themes

Community  
Strengths

Engagement &  
Communications

Equity &  
Inclusion

Emergency  
Preparedness &  
Safety

Reliable Systems

Healthy  
Ecosystems

Public Health &  
Wellbeing

Economic Vitality

Rural & Urban  
Interdependence

# Guiding Principles

- Adaptation strategies will lead to tangible and measurable results for which government and community leaders can hold themselves accountable.

## Accountability



- Resilience strategies will be implemented equitably, advancing community-wide goals while undertaking projects that account for variation across neighborhoods.

## Equity



- Resilience strategies and projects will seek to restore wellbeing and relationships between people, communities, and the environment.

## Heal People & Planet



- We will prioritize work that also reduces greenhouse gas emissions so there is less overall need for climate adaptation.

## Reduce CO2



- We will pursue resilience strategies in ways that improve communication, collaboration, and partnerships.

## Collaboration



- We will ensure that resilience work positively impacts local ecosystems, public health, and economic vitality.

## Local Co-Benefits



# Long-Term Goals



# Relationship to Other City Plans & Projects

- Like the Climate Action Plan, Charlottesville's Adaptation and Resilience Plan will be proposed for adoption as an amendment to the City's Comprehensive Plan.
- Final strategies support many of the goals and strategies of the Comprehensive Plan, beyond those in Chapter 7 (Environment, Climate, and Food Equity).
- Charlottesville's CARP includes a section that details its relationship to other City planning documents, including:
  - Comprehensive Plan
  - Climate Action Plan
  - Regional Hazard Mitigation Plan
  - Flood Resilience Plan
  - Forthcoming Urban Forest Management Plan
  - Forthcoming Mobility Plan
  - Ongoing Environmental Regulatory Review Projects

# About the Plan

*What's in Charlottesville's CARP?*



# Strategy Topic Areas

Biodiversity

Buildings

Communication  
& Information

Community  
Training &  
Partnerships

Economic  
Resilience

Electric Energy  
Infrastructure

Emergency  
Response  
Capacity

Food Systems

Resilience Hubs

State Support  
for Local  
Resilience

Stream  
Corridors &  
Floodplains

Transportation

Urban Heat

Urban  
Stormwater

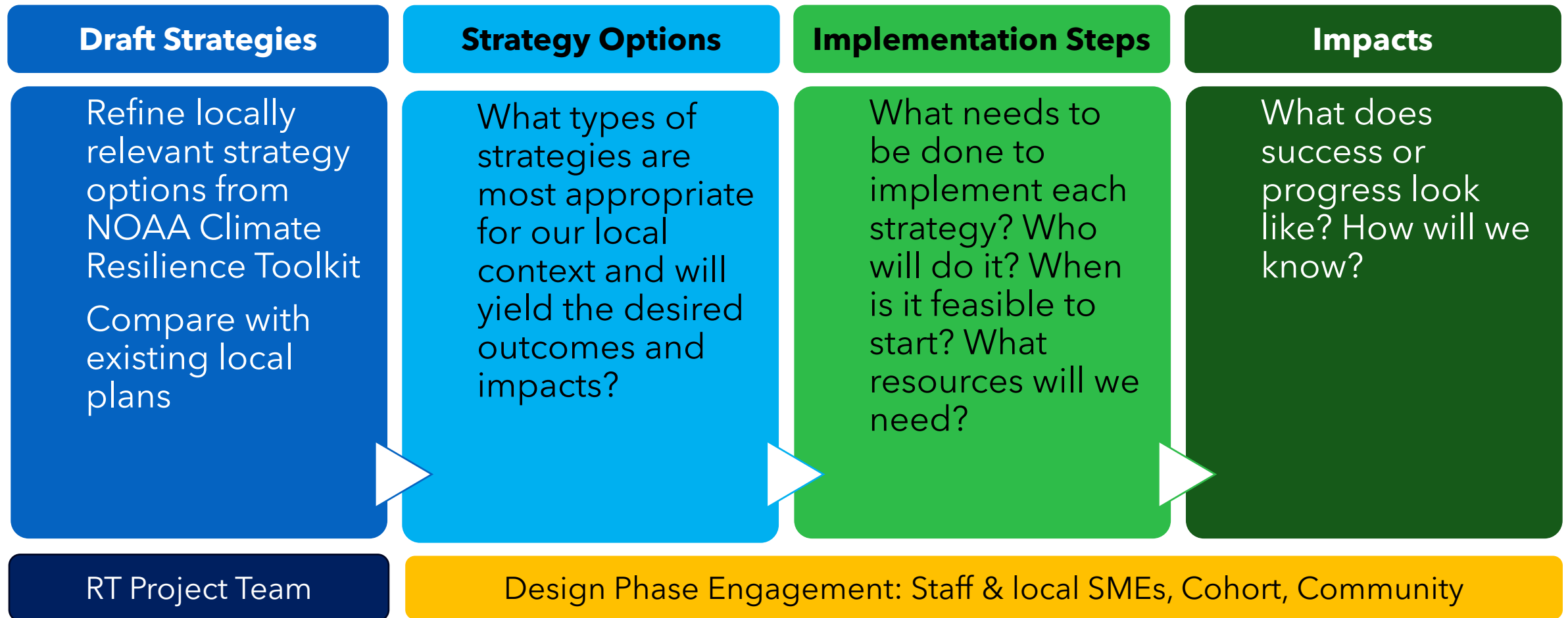
Water Supply &  
Conservation

Wildfire &  
Smoke  
Preparedness

# Strategies Topics - Hazard Alignment

| Strategy Topic Area                |  |  |  |  |  |  |
|------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Biodiversity                       | X                                                                                   | X                                                                                   | X                                                                                   |                                                                                     |                                                                                     | X                                                                                   |
| Buildings                          | X                                                                                   | X                                                                                   |                                                                                     | X                                                                                   |                                                                                     | X                                                                                   |
| Communications & Information       | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   |
| Community Training & Partnerships  | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   |
| Economic Resilience                | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   |
| Electric Energy Infrastructure     | X                                                                                   | X                                                                                   |                                                                                     | X                                                                                   |                                                                                     | X                                                                                   |
| Emergency Response Capacity        | X                                                                                   | X                                                                                   |                                                                                     | X                                                                                   |                                                                                     | X                                                                                   |
| Food Systems                       | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   |
| Resilience Hubs                    | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   |                                                                                     | X                                                                                   |
| State Support for Local Resilience | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   | X                                                                                   |
| Stream Corridors & Floodplains     |                                                                                     | X                                                                                   | X                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Transportation                     | X                                                                                   | X                                                                                   |                                                                                     | X                                                                                   |                                                                                     |                                                                                     |
| Urban Heat                         | X                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Urban Stormwater                   |                                                                                     | X                                                                                   | X                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Water Supply & Conservation        |                                                                                     |                                                                                     | X                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Wildfire & Smoke Preparedness      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | X                                                                                   |

# Strategy & Project Development



# Strategy Implementation Roadmaps

- Strategy
- Hazards Addressed
- Context & Background Information
- Prioritized Implementation Projects
  - Lead Department or Organization
  - Partners
  - Staff Effort Estimation
  - Funding Source
  - Implementation Timeframe
- Corresponding Community Actions
- Success Indicators

## Strategy Title



[Statement of what this strategy calls for doing]

## Hazards Addressed



Severe Rain  
and Flooding



Extreme Heat



Drought



Wildfire and  
Smoke



Severe Winter  
Weather



Disrupted  
Seasons

## Strategy Background

[Context for why this strategy appears in the climate adaptation and resilience plan]

## Implementation Projects

| Project Description         | Project Details       |                                      | Start             |
|-----------------------------|-----------------------|--------------------------------------|-------------------|
| 1. Implementation Project 1 | Lead                  | City Dept. / Office                  | Already Initiated |
|                             | Internal Partner(s)   | City Depts. / Offices                |                   |
|                             | External Partner(s)   | Other Agencies                       |                   |
|                             | Staff Effort Required | Low   Medium   High                  |                   |
|                             | Funding Source        | Operations   Capital   Grant   Other |                   |
| 2. Implementation Project 2 | Lead                  | City Dept. / Office                  | 5-10 Years        |
|                             | Internal Partner(s)   | City Depts. / Offices                |                   |
|                             | External Partner(s)   | Other Agencies                       |                   |
|                             | Staff Effort Required | Low   Medium   High                  |                   |
|                             | Funding Source        | Operations   Capital   Grant   Other |                   |

## Community Actions

[Statement of specific actions that community members and organizations can take to support the strategy.]

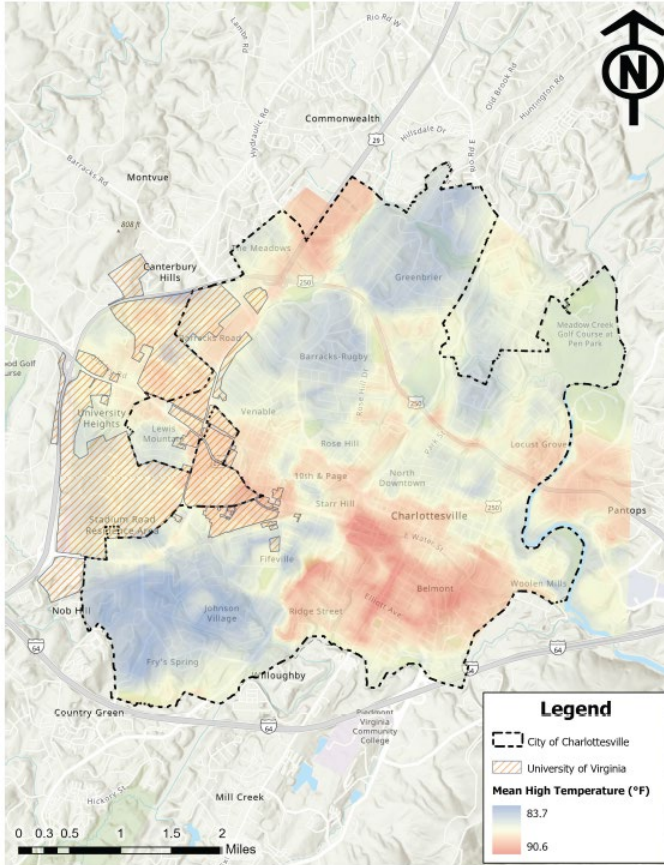
## Strategy Progress Indicators

[Statements of what success looks like and how we'll measure progress for each strategy.]

# Sample Strategy: Urban Heat



Undertake projects to reduce the urban heat island effect and increase resilience to extreme heat, prioritizing locations with residents most vulnerable to extreme heat and methods that support biodiversity.



## Seven Associated Implementation Projects

- Develop policies and programs that support canopy coverage, tree preservation, and the Urban Forest Management Plan
- Install green infrastructure and shade structures
- Formalize procedure for opening cooling centers
- Drinking fountains & water stations in public areas
- Update City's tree guide to reflect future conditions
- Develop guideline for extreme heat outdoor safety
- Additional resources to support UFMP

# Sample Implementation Project

Description of project. Calls out prioritization of neighborhoods with greater exposure to urban heat. Alignment with other plans/programs.

Staff and partners required for implementation; level of staff effort required

|                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |                 |                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------|-------------------|
| 2. Install green infrastructure and shade structures along main pedestrian corridors, at transit stops, and in urban parks and other public spaces, prioritizing locations most impacted by urban heat. Engage residents in locations of greater urban heat island in the design of neighborhood-level projects. Align with the Mobility Plan, the Comprehensive Plan update, and City capital improvement programs and priorities. | Lead                  | NDS, OS         | Already Initiated |
|                                                                                                                                                                                                                                                                                                                                                                                                                                     | Internal Partner(s)   | PWD, CAT, P&R   |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                     | Staff Effort Required | High            |                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                     | Funding Source        | Capital, Grants |                   |

Potential sources of funding

Project initiation timeline

# Community Actions

## Community Actions

- » Download the OSHA-NIOSH Heat Safety Tool to monitor unsafe heat conditions. This CDC HeatRisk Mapping tool is another tool for assessing local heat exposure with safety recommendations. Educate yourself about Heat Safety and how to recognize the signs of heat stress and heat stroke.
- » A list of Charlottesville-area heat resources has been compiled here.
- » Check out Charlottesville's Heat Mitigation and Adaptation Guidebook for information about what community members and developers can do to decrease Urban Heat Islands and manage extreme heat.
- » The Jefferson Area Board for Aging's Senior Cool Care Program supports community members aged 60 and over with free fans and window or portable air conditioning units for those who are not eligible through the Department of Social Services. Contact the Senior Helpline at (434) 817-5244 to request support.
- » The Charlottesville Utilities Department runs an Energy Saving Trees Program, giving away free native trees to Charlottesville Gas customers twice each year.
- » ReLeaf C'ville is a local nonprofit that distributes trees, hosts tree plantings, and trains youth to combat urban heat and declining tree canopy in vulnerable neighborhoods through their Green Team.

Many of the tree-related actions found in the Biodiversity strategy are applicable here too!

# Working Together to Build Regional Resilience

| Strategy                          | Priority Projects                                                                                                      | Timeframe    |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------|--------------|
| Communications & Information      | <b>Provide user-friendly, locally-relevant information about how to prepare for natural hazards and climate risks.</b> | 1 – 3 years  |
|                                   | <b>Launch a communications campaign using a diverse set of messaging tools to ensure inclusive and broad reach.</b>    | 1 – 3 years  |
|                                   | <b>Align emergency alert protocols across local agencies.</b>                                                          | 1 – 3 years  |
|                                   | <b>Invest in improvements to real-time data reporting.</b>                                                             | 1 – 3 years  |
|                                   | Strengthen relationships with local media outlets.                                                                     | 3 – 5 years  |
| Community Training & Partnerships | <b>Reconstitute a Community Emergency Response Team (CERT)</b>                                                         | 1 – 3 years  |
| Emergency Response Capacity       | Ensure access to satellite communications, citizen band, and ham radio.                                                | 3 – 5 years  |
| Transportation                    | Build systems for communication and coordination across transit agencies.                                              | 1 – 3 years  |
|                                   | Identify and improve vulnerable transportation infrastructure                                                          | 3 – 5 years  |
|                                   | Increase capacity to operate transit fleets and fleet vehicles in extreme weather                                      | 3 – 5 years  |
|                                   | Enable resource sharing between organizations in extreme weather to maintain infrastructure and access.                | 5 – 10 years |
| Urban Heat                        | <b>Create a protocol and procedure for opening cooling (and warming) centers.</b>                                      | 1 – 3 years  |
| Urban Stormwater                  | <b>Assess stormwater infrastructure adequacy to handle higher rainfall projections.</b>                                | 1 – 3 years  |

# PC Specific Questions & Next Steps

## **We are looking for your feedback guided by these questions:**

- Are there any major strategy topic areas missing that belong in this plan?
- Is this plan adequately bringing the lens of climate change preparedness to the City's Comprehensive Plan and other planning efforts?

## **Looking Ahead: Next Steps**

- Public Comment Period – open thru mid-November
- November 16 – City Council Work Session
- January 12 – Planning Commission Public Hearing
- February 15 – City Council Public Hearing

# Thank you!

# Questions?

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