



Raleigh  
Planning

# Reflecting Raleigh

THE NEXT COMPREHENSIVE PLAN

*Branching Out: Trees and Urban Ecosystems*





# *Why Are Trees Important?*



# Environmental Benefits of Trees



- **Heat Reduction:** Trees offer shade and transpiration, lowering temperatures
- **Air Quality Improvement:** Trees absorb pollutants and filter particulates
- **Carbon Sequestration:** Trees capture CO<sub>2</sub>, reducing climate impact
- **Stormwater Management:** Trees reduce runoff and prevent flooding
- **Biodiversity Conservation:** Trees provide habitat for wildlife in urban areas

# Social and Health Benefits of Trees



- Green spaces increase **Physical Activity**
- Contact with nature improves **Mental Wellness**
- Parks help build a sense of community and strengthen **Social Connections**



# Equity: Why Distribution Matters



- **Unequal Access** – Neighborhoods of color have **44%** less green space than white neighborhoods
- **Health Disparities** – Lack of green spaces contributes to **higher** stress, obesity, and chronic illness
- **Climate Inequity** – Poorer areas without trees face hotter temperatures and more flooding
- **Economic Impact** – Green spaces increase property values and job opportunities

Parks and an  
equitable recovery





# *State of Raleigh's Trees*





# State of Raleigh's Trees

Tree canopy accounts for **50.5%** of land cover (58,676 ac.) of Raleigh

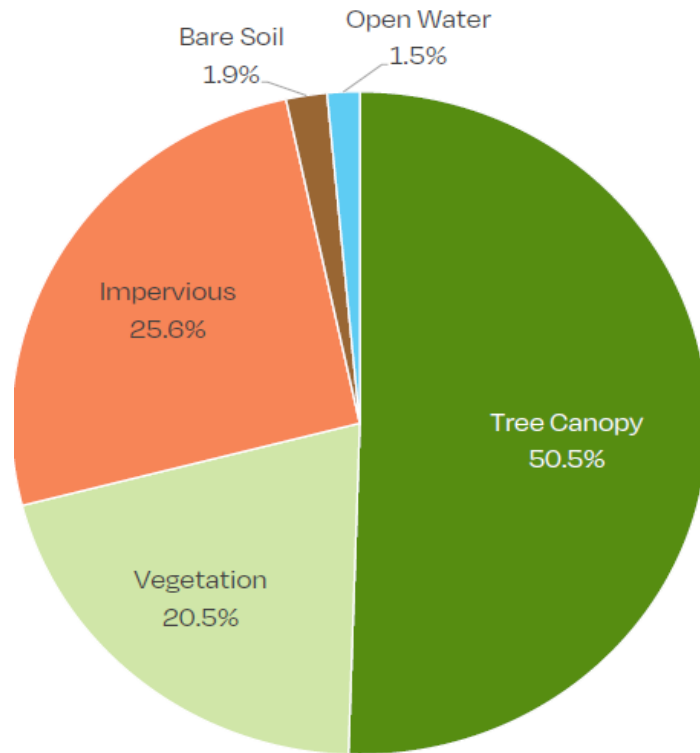
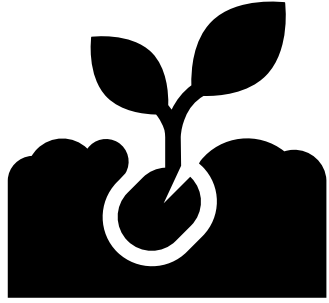


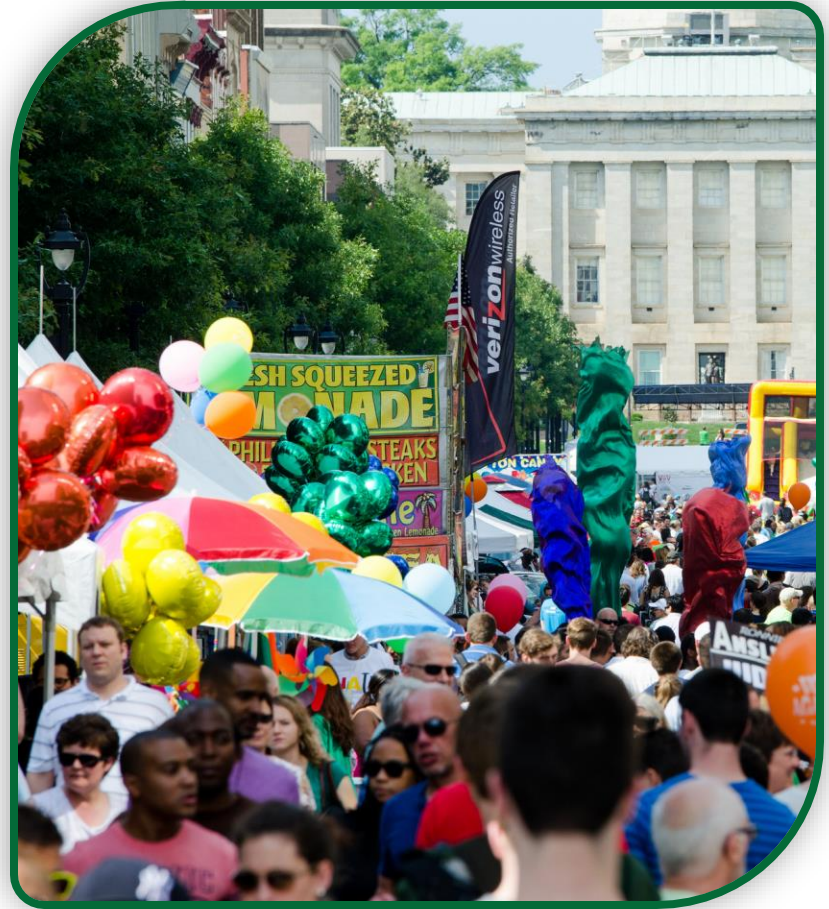
FIGURE E.1 PLANNING JURISDICTION LAND COVER (2020)

# State of Raleigh's Trees



Between 2010–2020  
Raleigh experienced

a **16%** increase in population...  
[from 403,892 to 467,665 individuals]

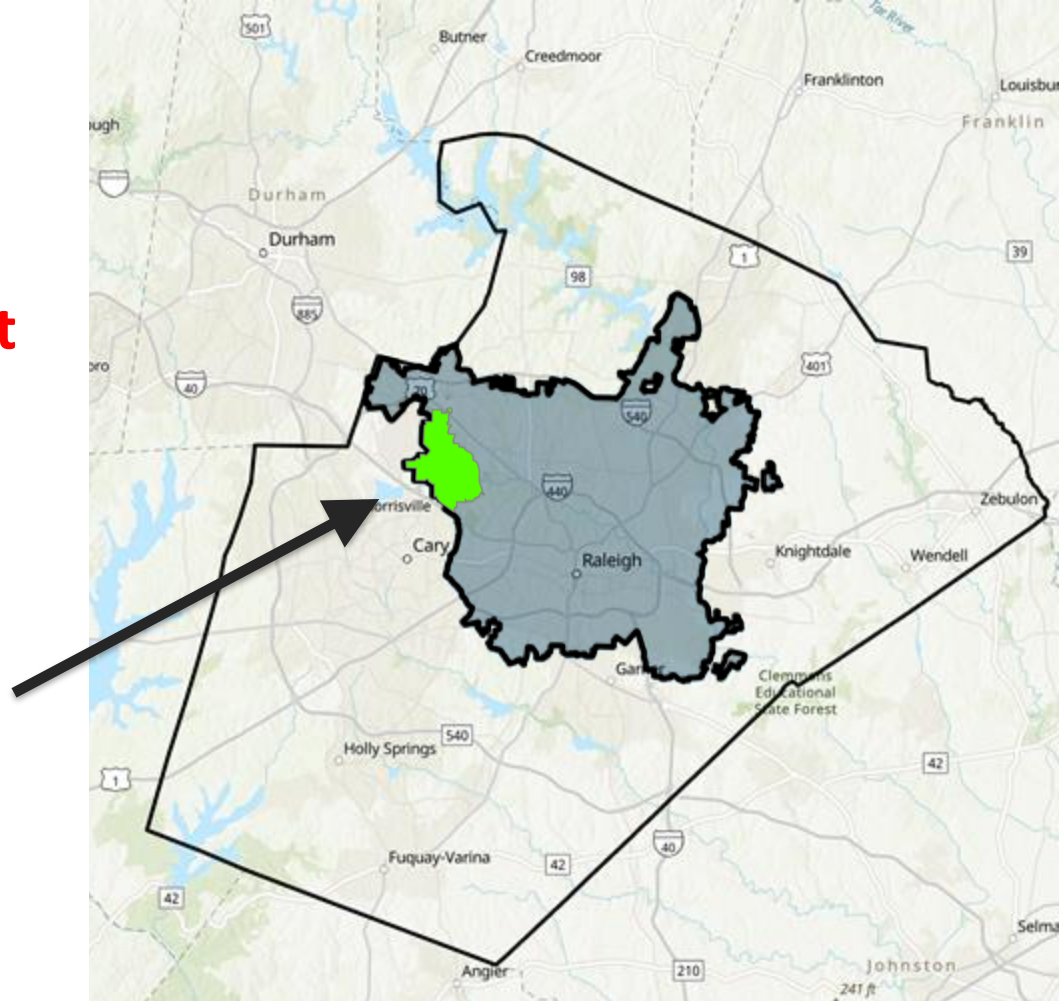




# State of Raleigh's Trees

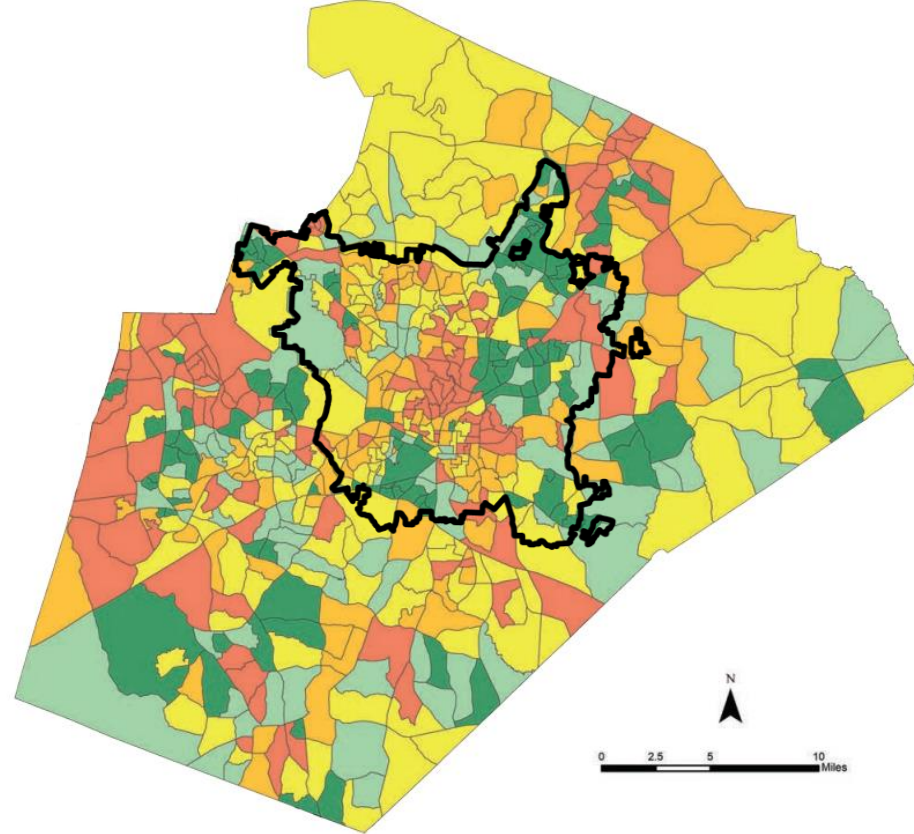
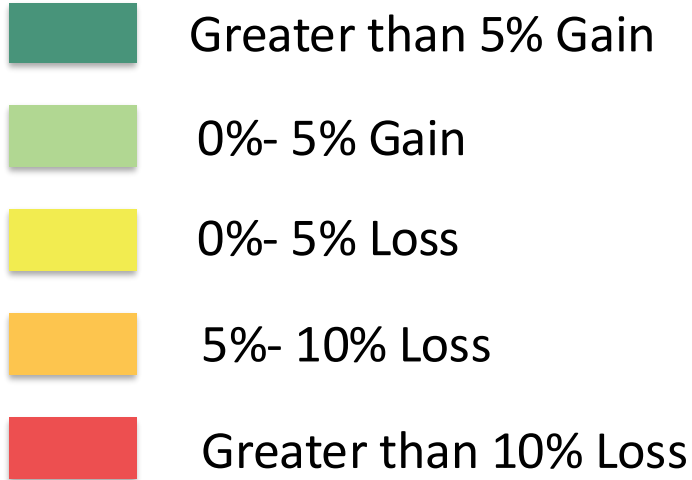
From 2010-2020, Wake Cty. **lost**  
11,122 acres of tree canopy

...that's more than double  
the size of William B.  
Umstead State Park!



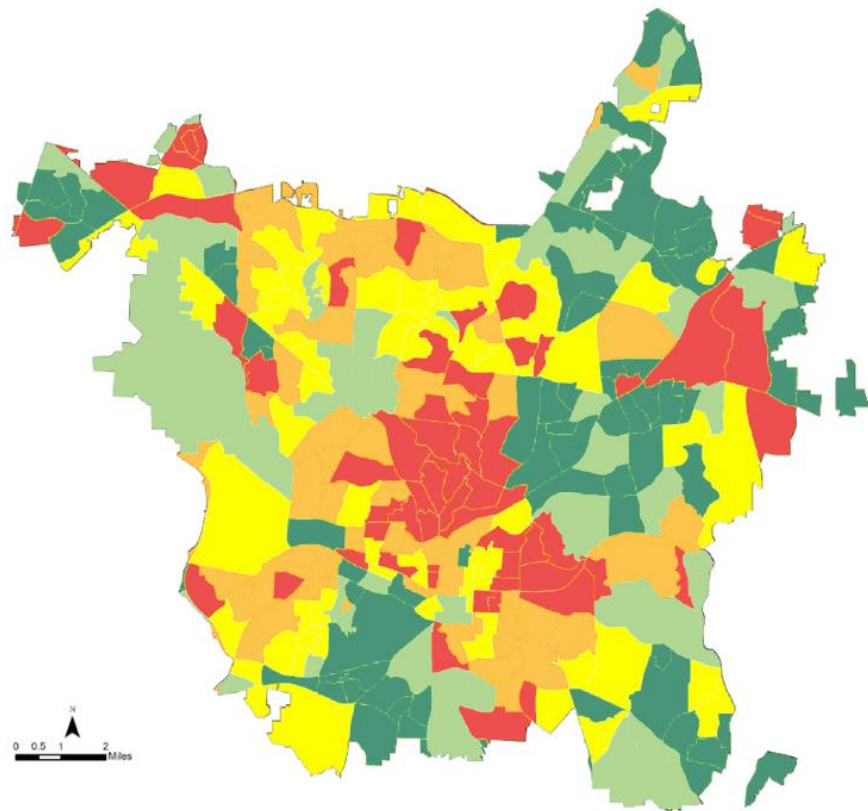
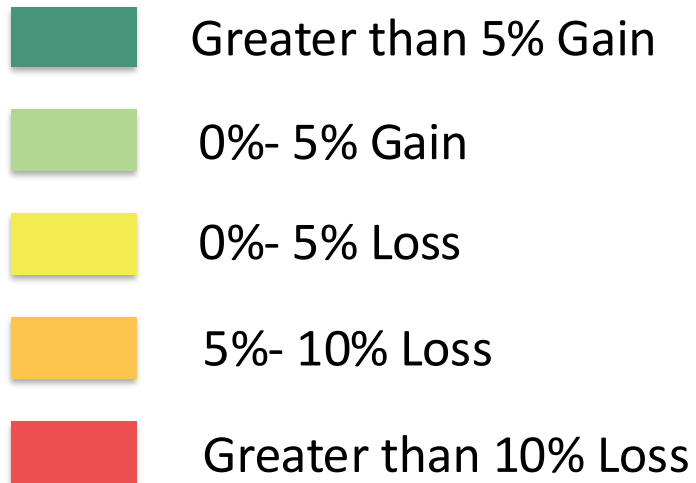
# Tree Canopy Changes

MAP E.1 CANOPY CHANGE (2010-2020) BY BLOCK GROUP





# Tree Canopy Changes



# Natural Resource Conservation

## Zoning Authority





# How Zoning Powers Work

**NC General Assembly →**

Grants regulatory powers  
but sets limitations

**City of Raleigh →**

Implements zoning but within  
the state's legal framework



# *What We're Doing: Regulatory Standards*



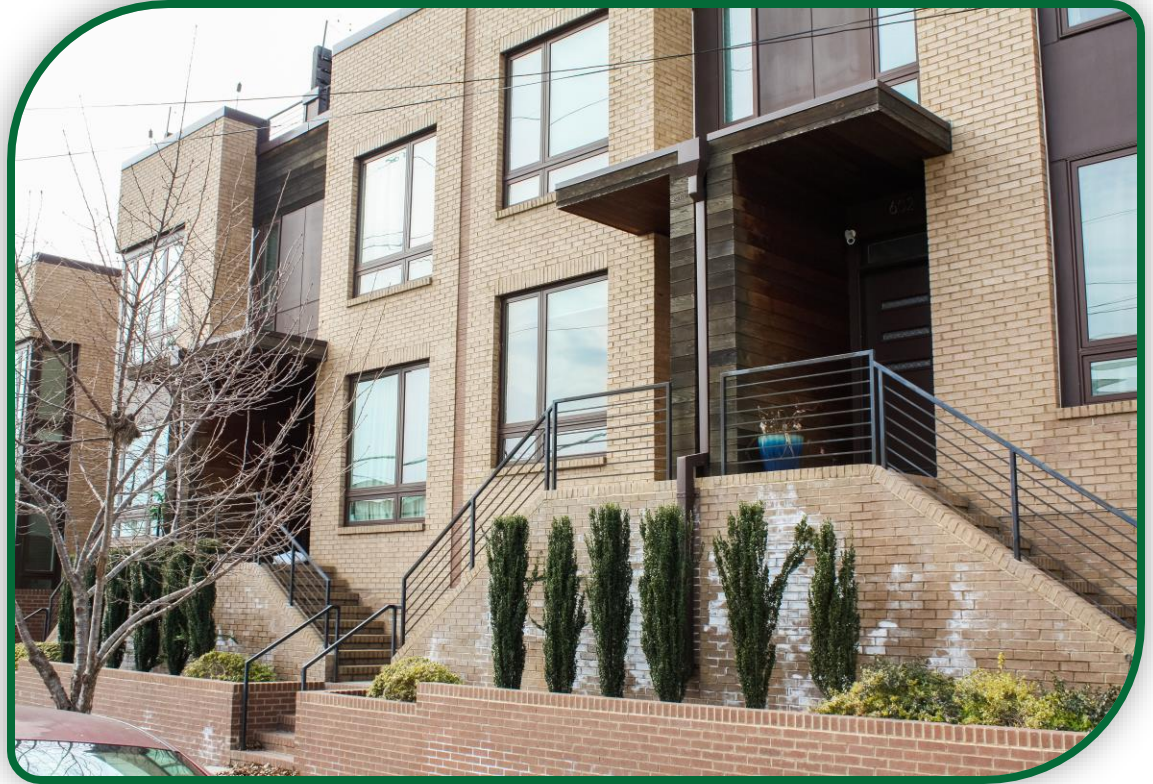
# Steps We Are Taking...

Unified Development Ordinance Standards



# Steps We Are Taking...

Incentivizing infill and density in higher intensity zoning districts





# UDO Regulations

- **Natural resource conservation practices**
  - Tree conservation area (TCA)
  - Forestation
- **Landscaping and screening requirements**
  - Protective yards, vehicular parking lot landscaping, etc.
- **Stormwater (GSI practices)**
- **Greenway Easements**
- **Residential development options**
  - Trade-off between density and open space and other natural areas



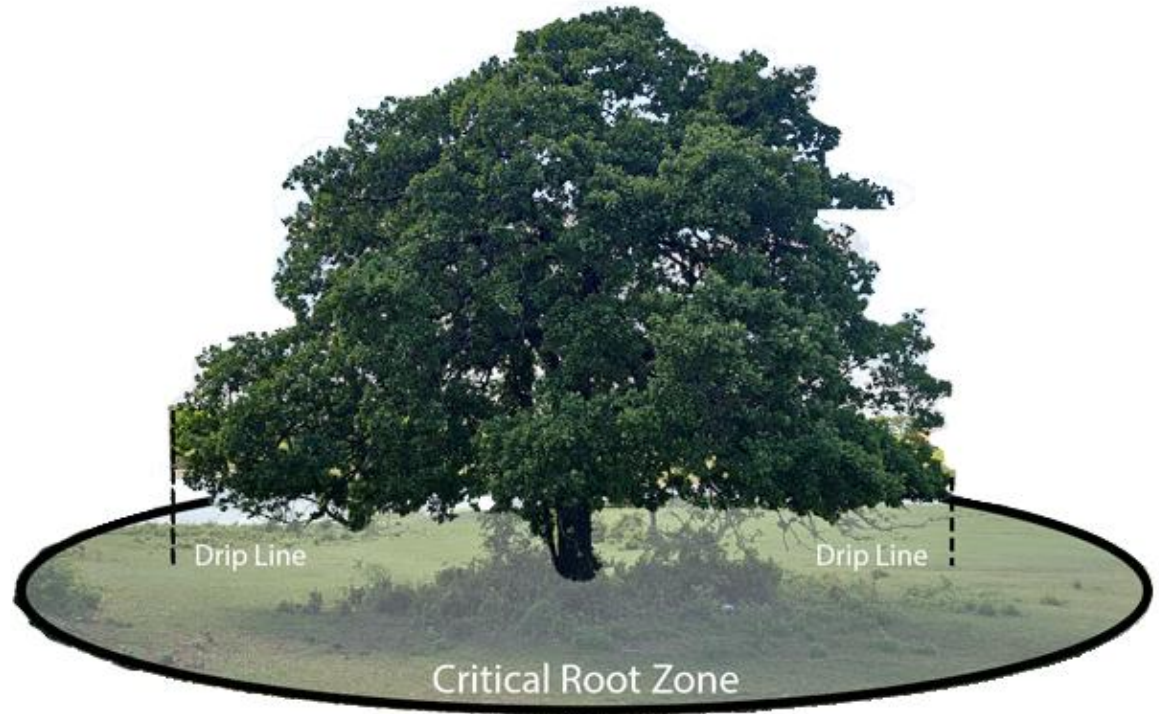


# *Tree Conservation (TCA)*



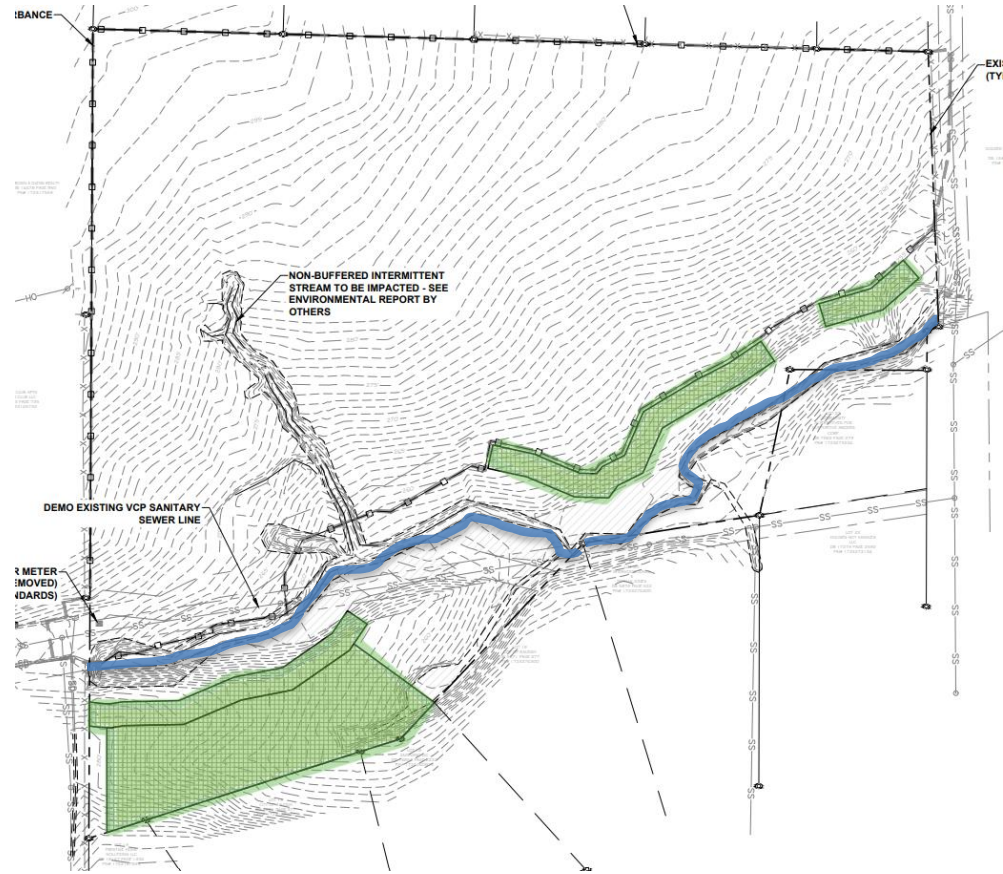
# Tree Conservation (TCA)

- Regulations are crafted to **retain** trees (not plant trees)
- Retained trees must meet standards (healthy, non-impacted critical root zone)



# Tree Conservation (TCA)

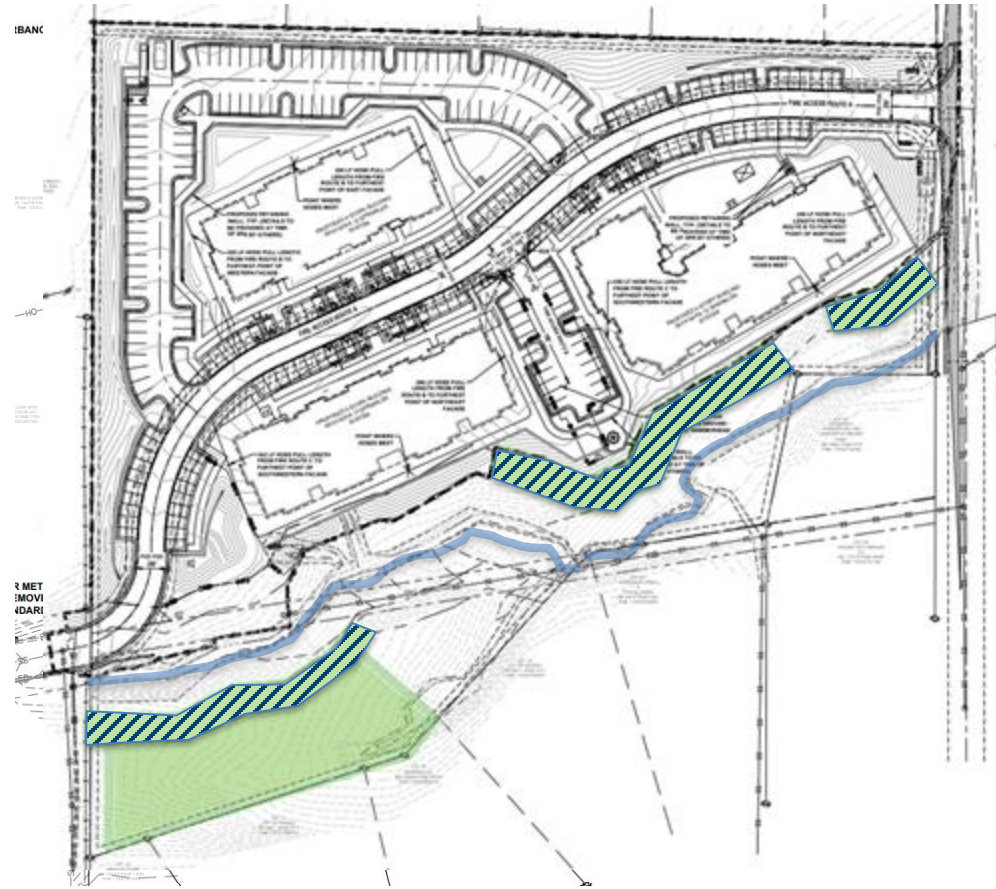
- Trees are retained based on certain locational requirements :
- Primary TCA areas:
  - Certain Protective Yards
  - Healthy Champion Trees & their critical root zones
  - Riparian buffer areas
  - Undisturbed areas next to thoroughfares





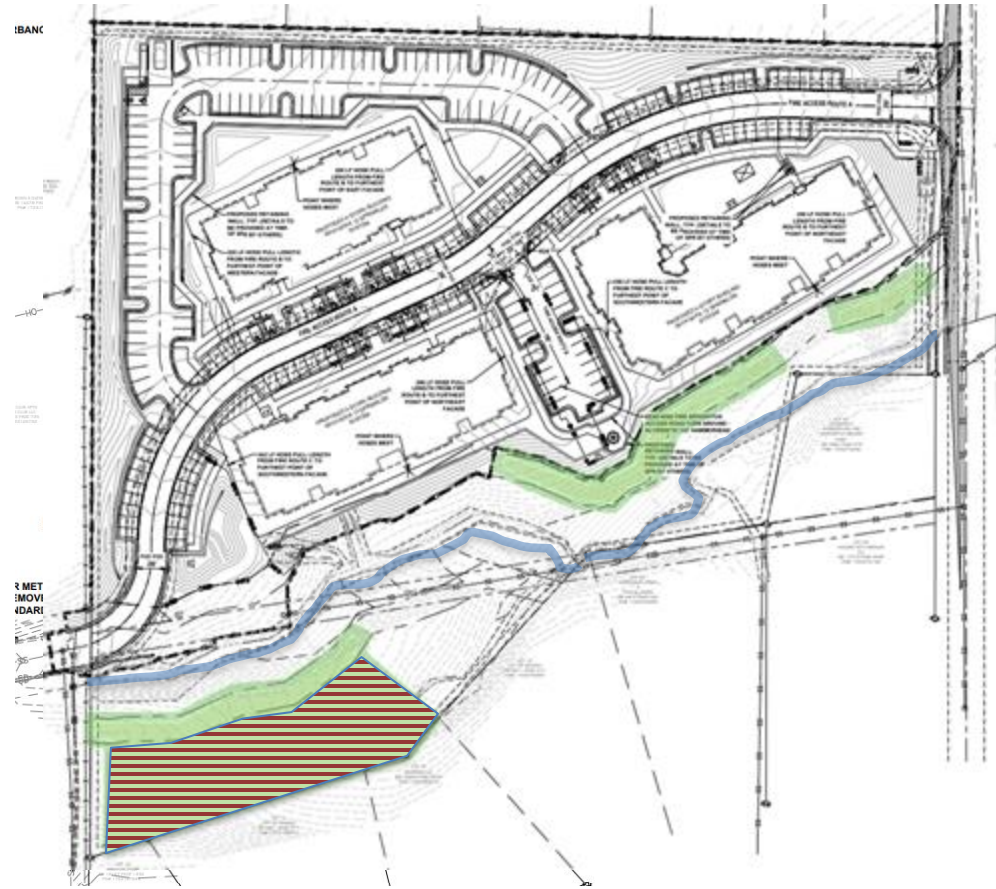
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# Tree Conservation (TCA)

- Trees are retained based on certain locational requirements:
- Secondary TCA areas:
  - Areas adjoining property boundaries & thoroughfares
  - Critical root zones of trees 10" DBH or greater located near thoroughfares & property boundaries
  - Other areas on the site meeting min. size requirements

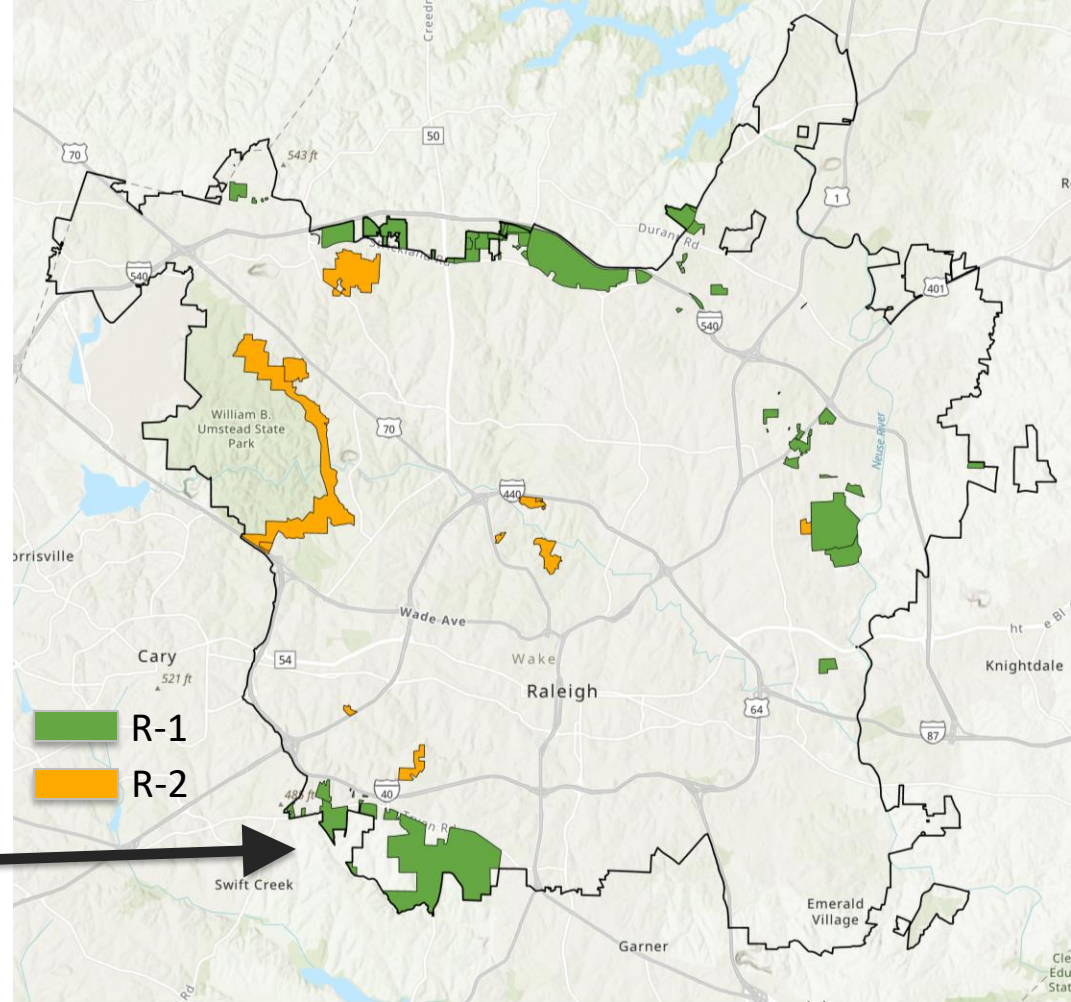




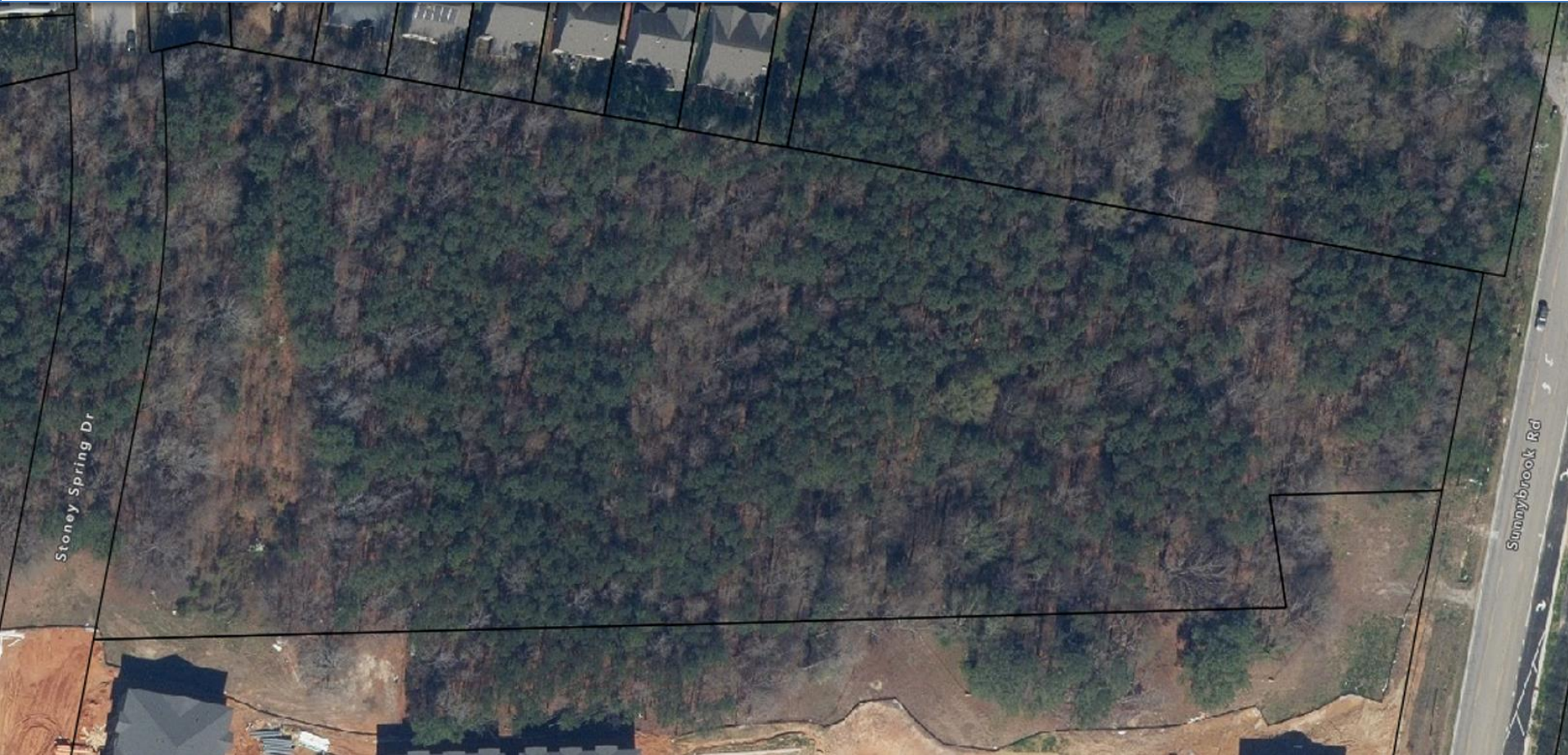
# Tree Conservation (TCA)

- All lots  $\geq 2$  acres must **preserve** trees
- Tree save area = **10%** of the lot area

*R-1 and R-2 zoned land  
require 15%*



# Tree Conservation Area (TCA)





# Tree Conservation Area (TCA)

The map shows a development site with a green hatched area at the top labeled 'TREE CONSERVATION AREA (TCA)'. The site includes a large brown building footprint, a central parking lot, and three amenity areas labeled AM 1, AM 2, and AM 3. Various engineering notes and labels are scattered throughout the map, including 'STONY SPRING DR', 'PROPERTY BOUNDARY', 'COVERED LOADING DOCK', 'DUMPSTER LOCATION', 'AMPHIBIOUS POND', 'STORMWATER POND', 'SANITARY SEWER', and 'STORMWATER ACCESS PATH'.



# Tree Conservation Area (TCA)





# Tree Conservation Area (TCA)



# Forestation

All lots (regardless of size) located in one of the three watershed protection overlay districts **must have forestation**

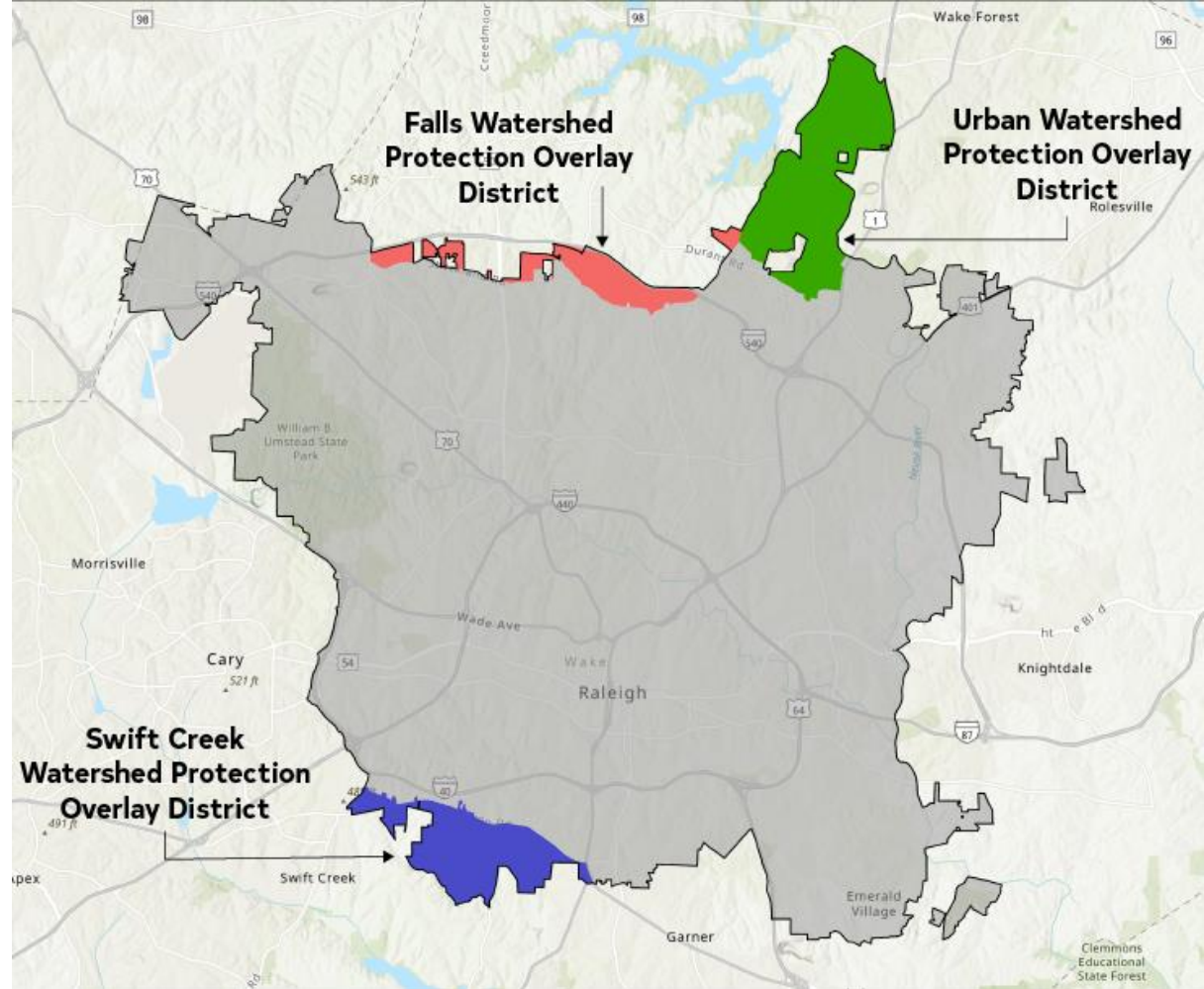
- 40% of the lot area
- Can preserve trees or plant trees (or both)
- Planted trees must meet minimum size standards



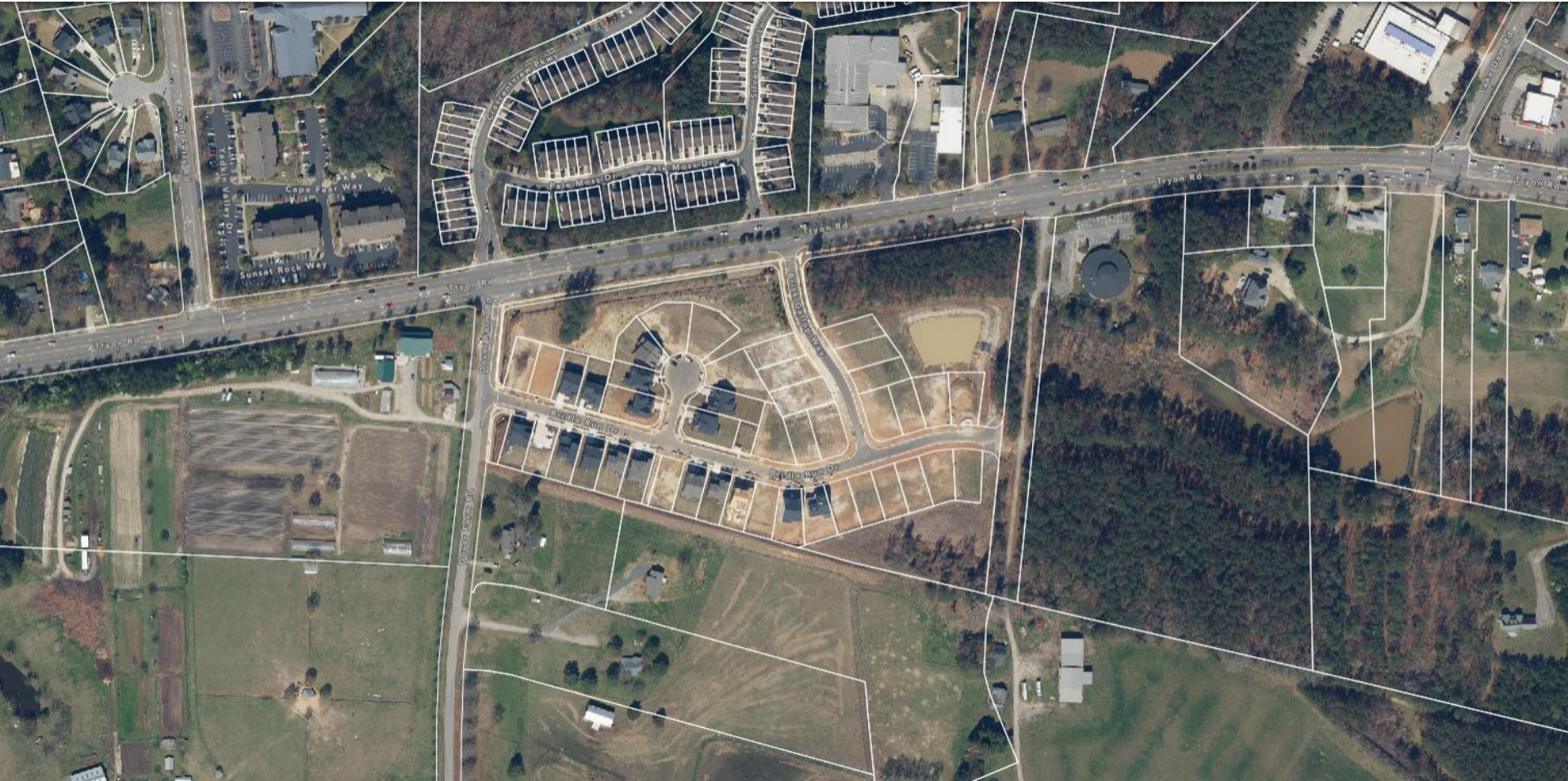


# Forestation

- **40%** forestation requirement
- Met through tree preservation, planting, or a combination of both



# Watershed Forestation Area





# Watershed Forestation Area





# 2018





# 2024



1954



Brighton Rd

N King Charles Rd

Remington Rd



Powell Center for Play  
and Ingenuity Magnet...

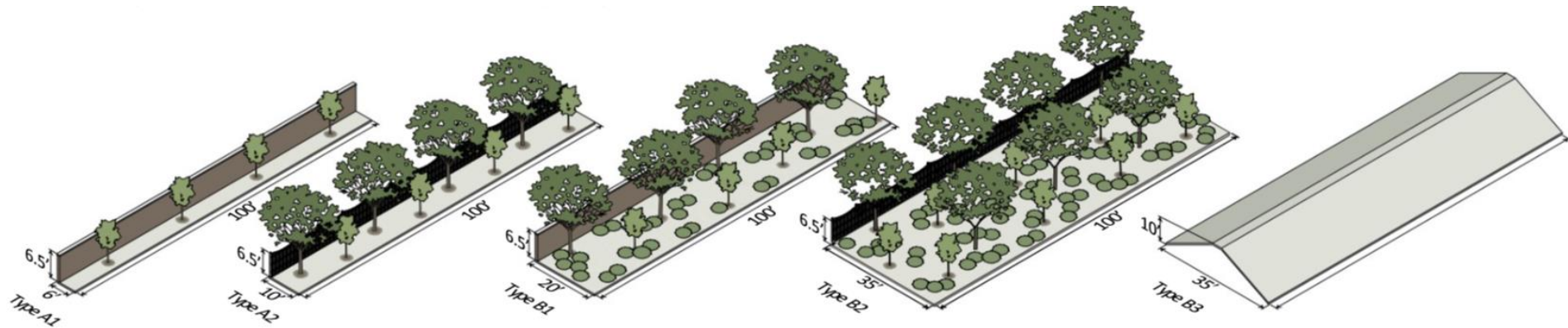


# Today



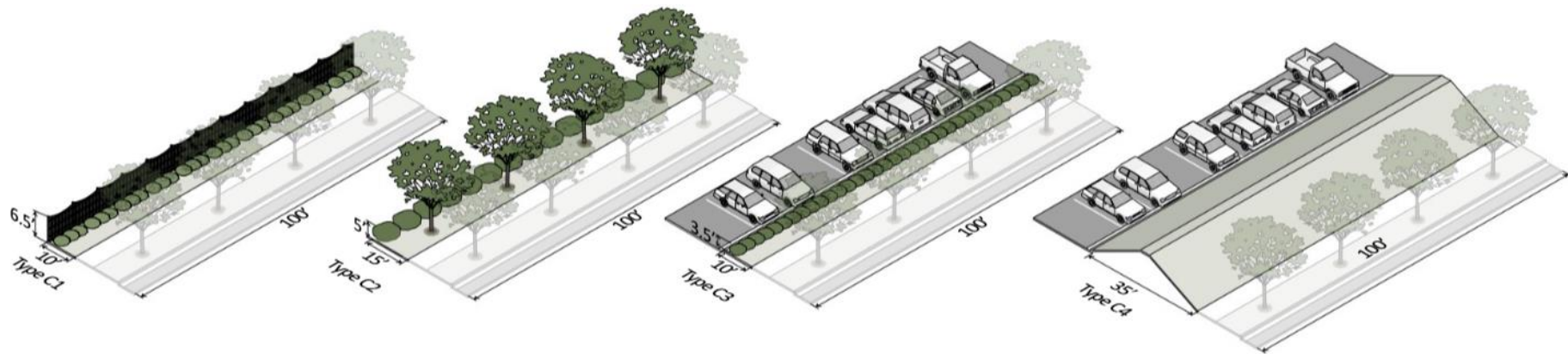


# Neighborhood Transitions and Protective Yards





# Neighborhood Transitions and Protective Yards









# Green Stormwater Infrastructure



Treating or reducing  
**stormwater run-off** through  
landscape features and/or  
engineered devices  
(i.e. bioretention cells, bioswales, etc.)



# Greenway Easement Dedication

When a greenway is designated on the Comprehensive Plan, it is included in a residential subdivision or residential site plan includes any part of, the greenway shall be platted and dedicated as a greenway easement.



# Greenway Easement Dedication

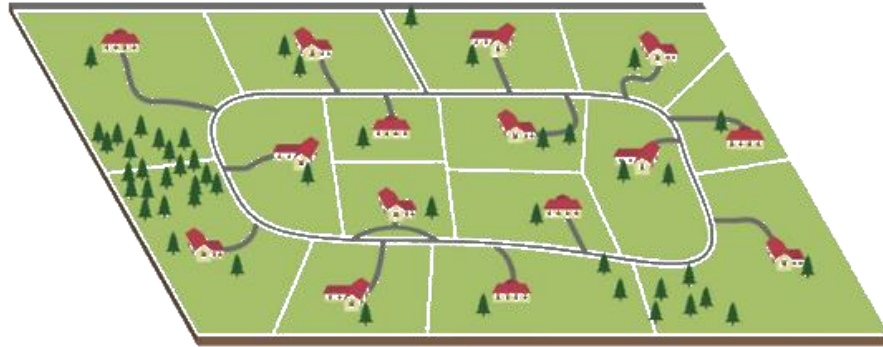
- Neuse River:  
**150** feet from each bank
- Crabtree & Walnut Creeks:  
**100** feet from each bank
- All other tributaries:  
As established by the current City  
Council-approved Raleigh Parks  
Plan (50-75')





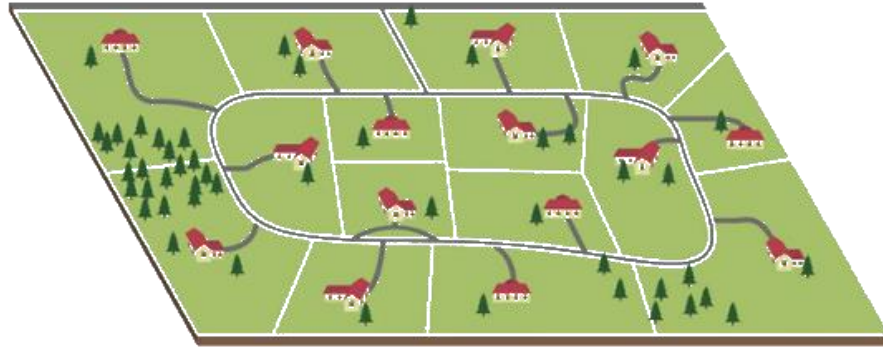
# Compact & Conservation Development Options

Instead of  
this...



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Instead of  
this...



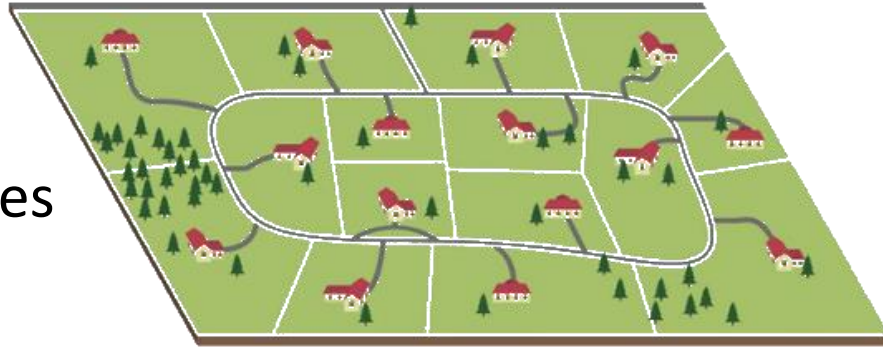
This! →





# Compact & Conservation Development Options

Additional building types and smaller lot sizes as part of a conservation development are allowed in exchange for preserving common open space



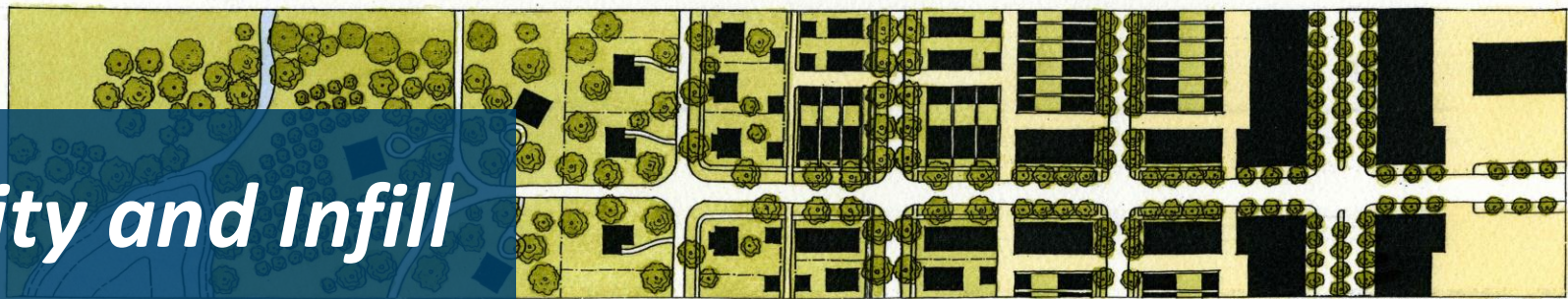
# Laurel Hills Compact Development







# *Density and Infill*



© DUANY PLATER-ZYBERK & COMPANY









## *What We're Doing: Other Programs & Initiatives*



# Initiatives

- Comprehensive Plan
- Strategic Plan
- Community Climate Action Plan





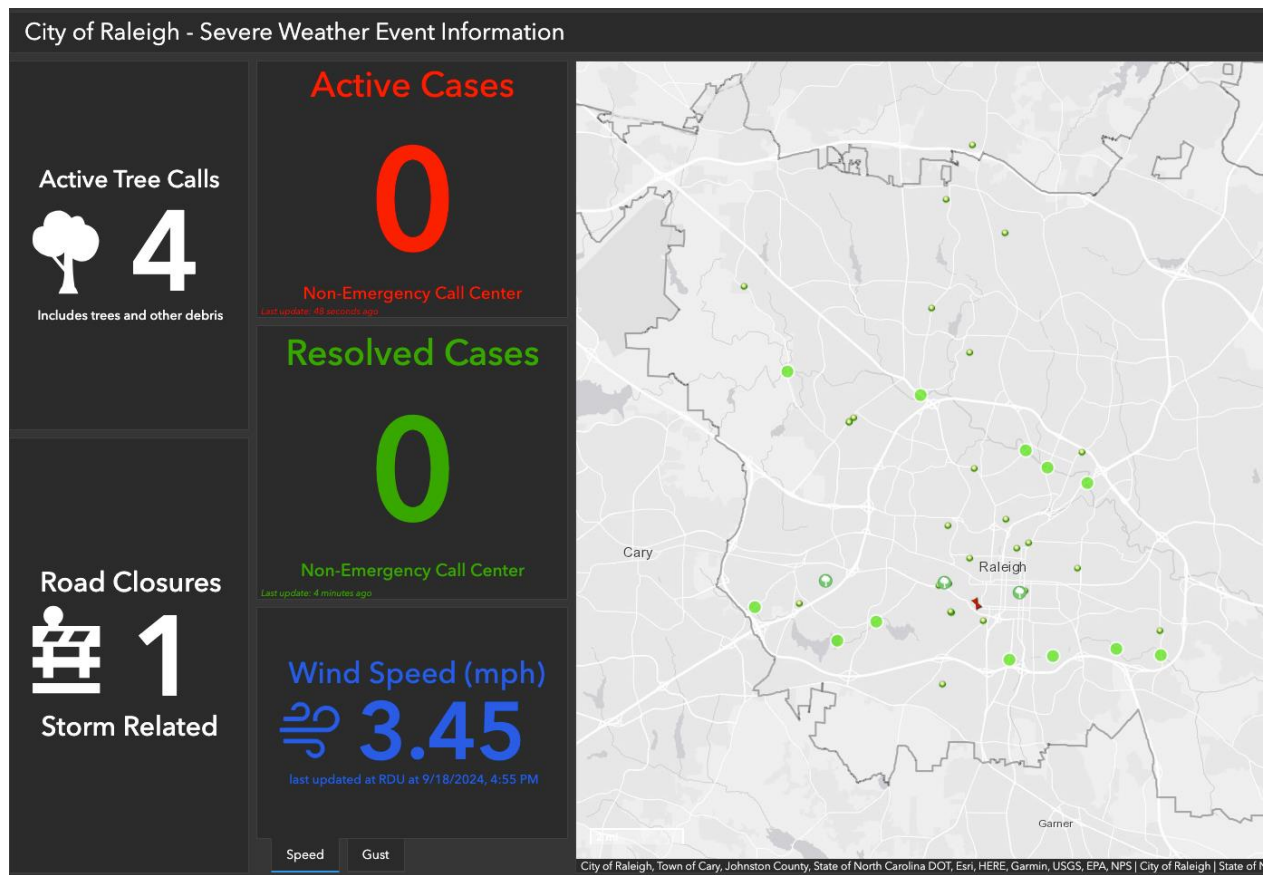
# State of Raleigh's City Trees

- What is a City tree?
- Part 9 Chapter 8
- City Tree Manual



# City Tree Management

- Tree maintenance
- Planting
- Inspections
- Storm response
- Education
- Regulatory review
- Permitting





# Data Management

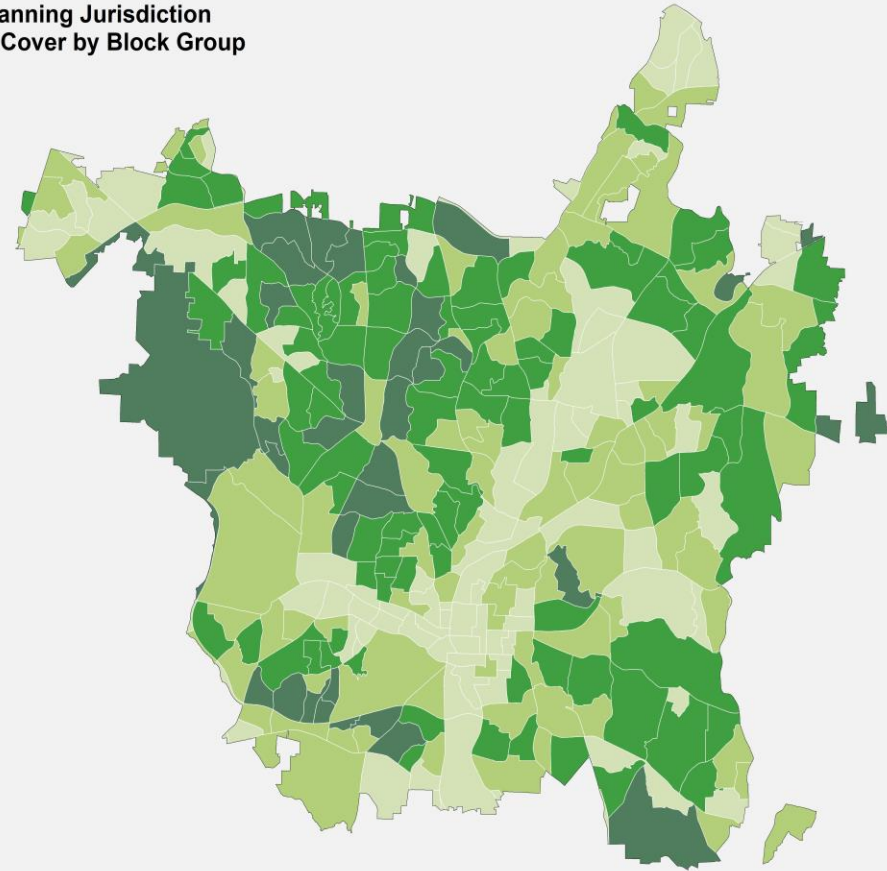
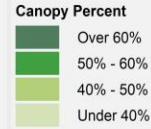
- Tree Inventory
- Work Order Tracking
- Street Tree Density
- Possible Planting Sites
- Canopy Cover



# Canopy Results 2020

- Canopy coverage **50%**
- Vegetation **20%**
- Impervious surface **26%**
- Bare soil **2%**
- Open water **2%**

Raleigh Planning Jurisdiction  
2020 Canopy Cover by Block Group





# Canopy Stats

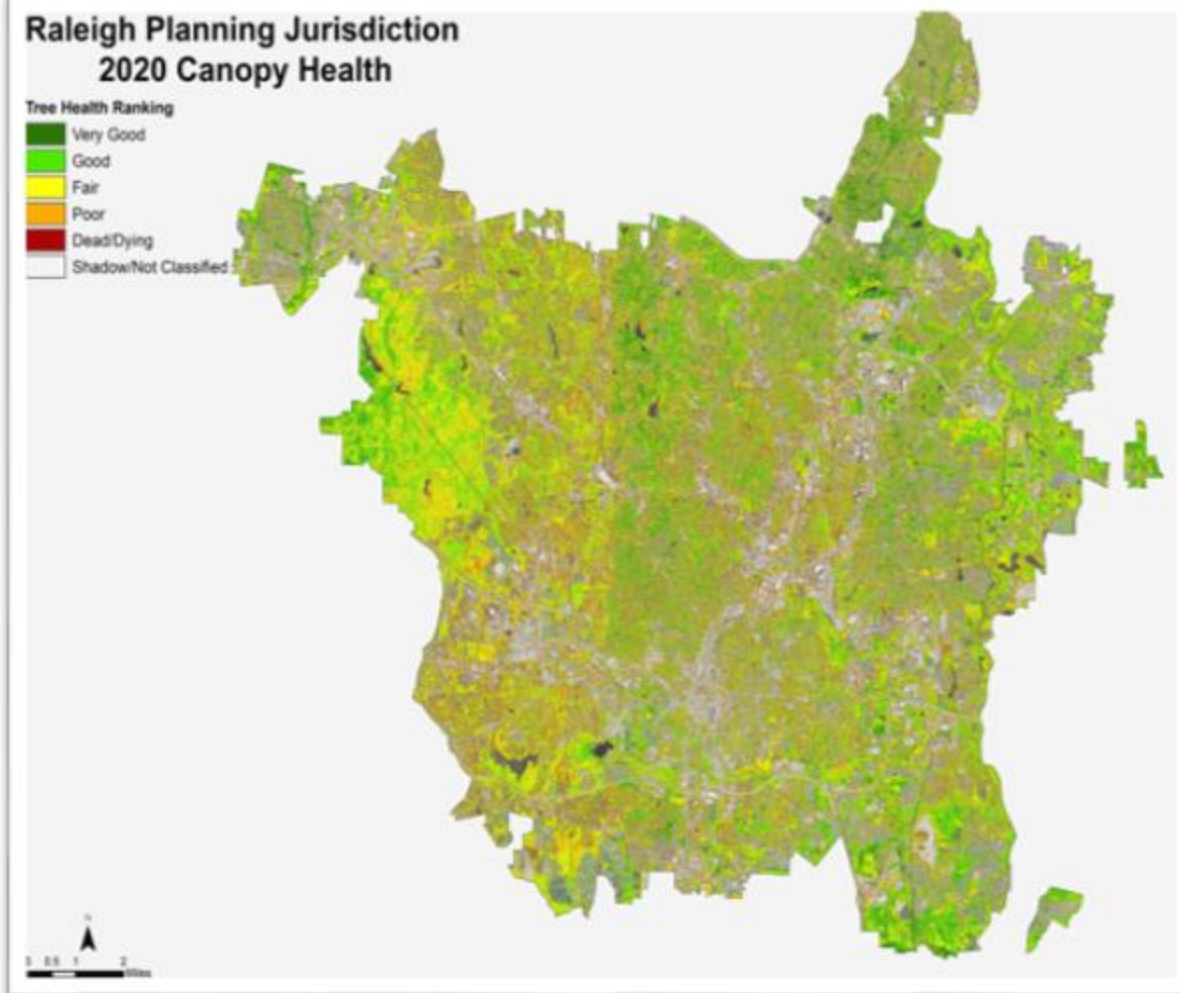
## Type

77% Deciduous

23% Coniferous

## Health

72% Very good, good  
or fair condition



# Planting Priority Criteria

- Existing/potential canopy cover
- Heat islands
- Social Equity Index (Wake County)
- Mental health
- Air quality
- Stormwater
- Asthma Prevalence
- Soil Erosion
- FEMA Floodplain





# Ongoing Work

- Street Tree Equity Project
- Leaf Out
- Raleigh Rainwater Rewards
- Urban Forest Equity Project
- Tree of the Year
- Earth Day/ Arbor Day
- Watershed Protection Program



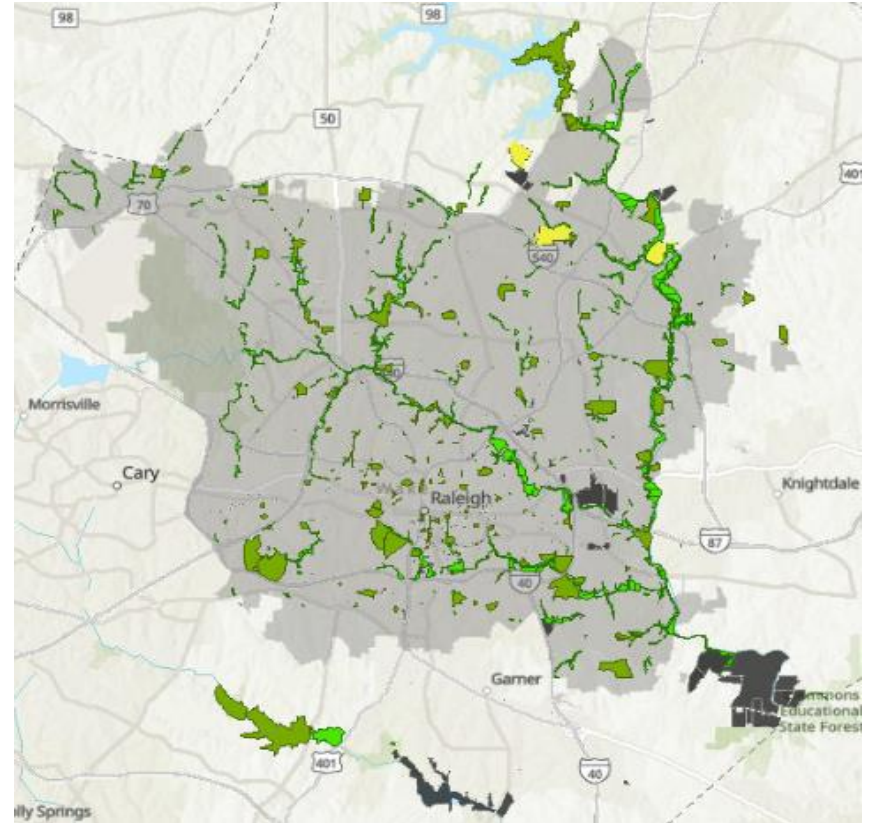
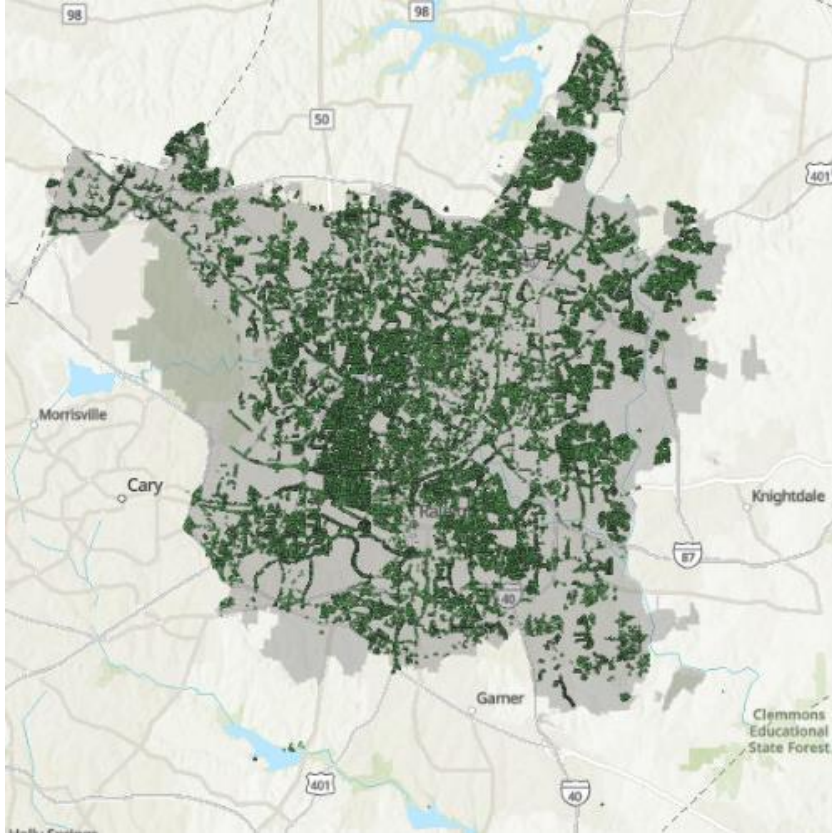




## ***Beyond Trees: Urban Ecosystems Approach***



# Trees Are Only Part of the Picture!



# Natural Areas

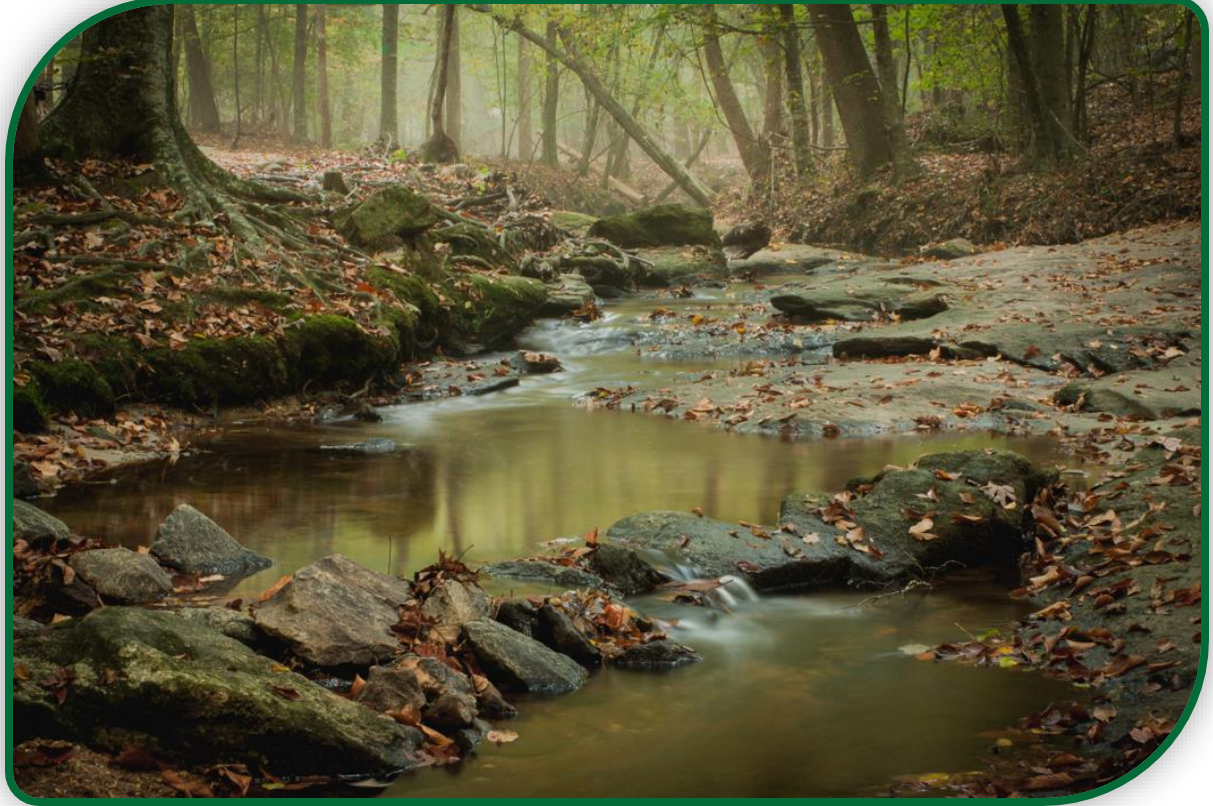
- **Prairies**
- Rivers and Streams
- Lakes
- Wetlands
- Rock Outcrops
- Rare Species





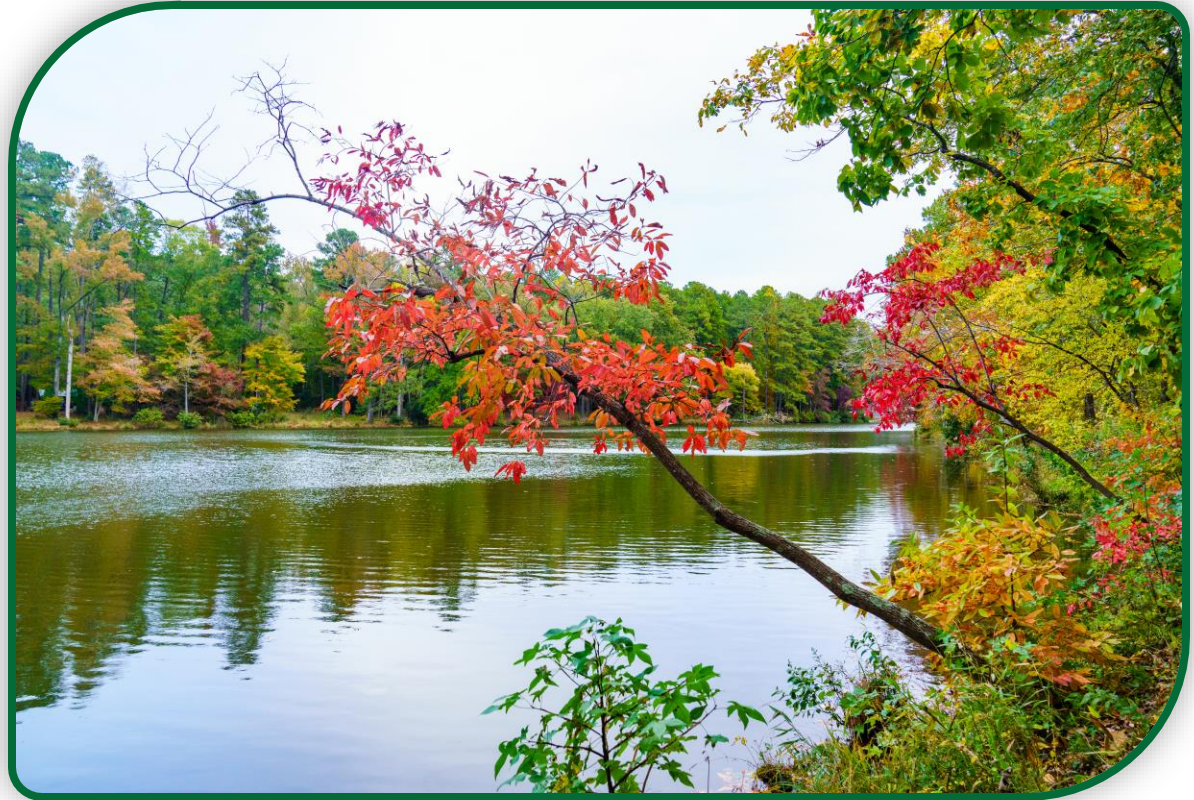
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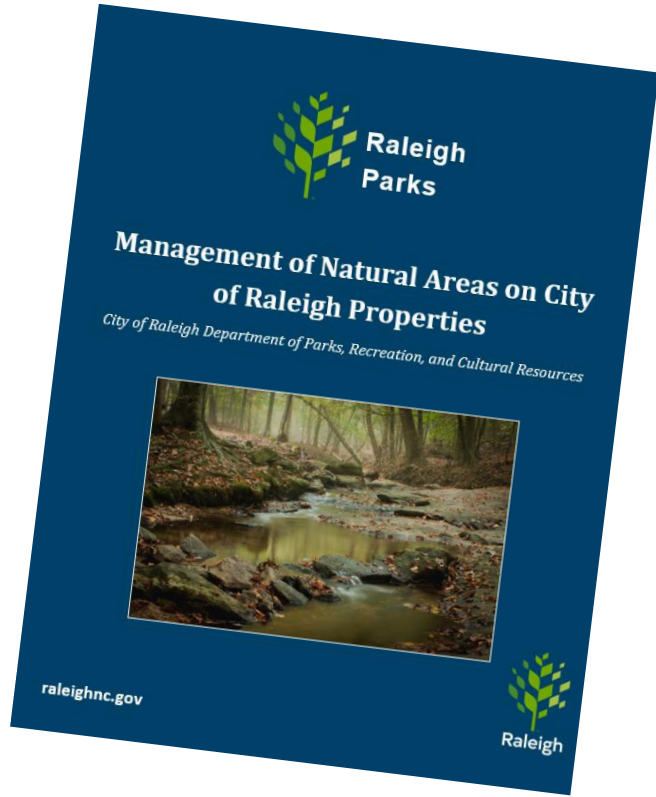


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# Land Stewardship





# Land Stewardship

- Invasive Species Program
- Prescribed Fire
- Native Plants



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Natural Resources  
Habitat

Greenway  
Context

Slope &  
Topography

Street  
Typology

Soils

Hydrology

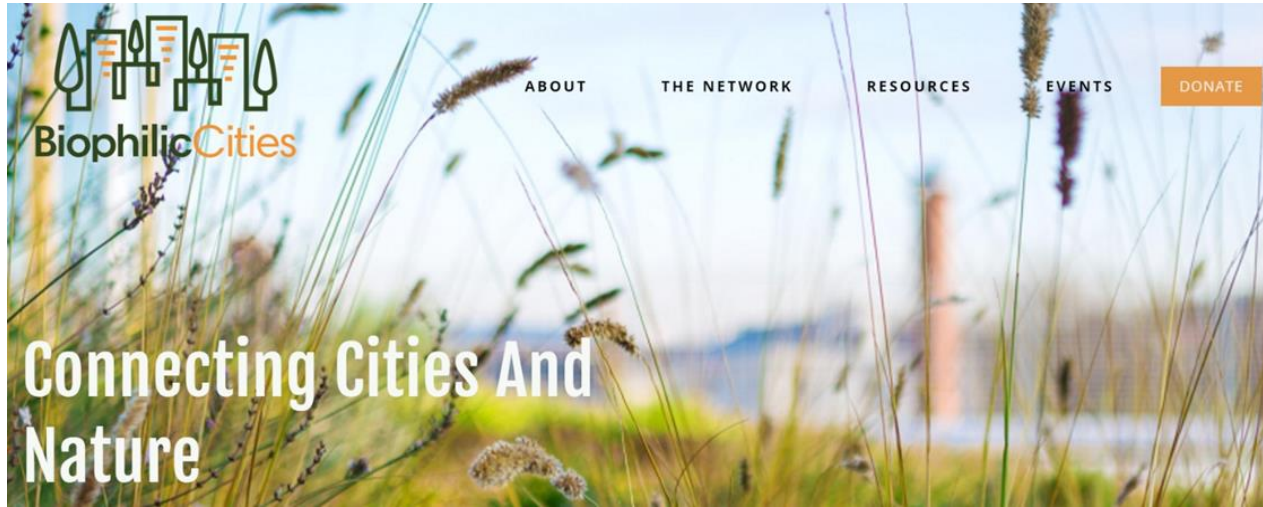
# Land Use Planning

## Pre-Development Assessment Plans

- Identifies natural and cultural resources found on site
- Develops interim management strategies



# Raleigh is Part of the Biophilic Cities Network



Green cities with abundant nature and natural systems that are visible and accessible to urbanites.

[www.Biophiliccities.org](http://www.Biophiliccities.org)



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