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Summary of Tree ordinance review

In order to gauge how other communities across the southeast are managing their urban forests, the tree ordinances of seventeen cities were reviewed. The review focused on cities that include large universities or are known for their tree canopy. Aspects that seemed relevant to Gainesville's ordinance review are listed below. Some general trends and noteworthy ordinance requirements are summarized below:

- Many communities have a performance based approach that sets tree density or canopy cover standards based on the zoning classifications of properties. Lower densities or canopy cover standards are set for denser urban areas. Ordinances that have been updated more recently have a canopy cover approach, such as Decatur GA, Athens GA, and Chapel Hill NC.
- With the exception of Atlanta Georgia all communities regulate trees differently on single family zoned property than non-single family zoned property. Regulations for tree removal and density are stricter for non-single family zoned properties.
- No other community has an automatic mitigation fund payment requirement for heritage tree removal in their ordinance. However, some communities have a more rigorous review process for heritage tree removals, such as Charleston SC and Tallahassee FL.
- A few communities allow for mitigation funds to be used for uses currently under discussion. For example, Decatur GA allows funds to be used for tree planting on private property, urban forest assessments, and tree education programs. Chapel Hill NC allows for funds to be used for the study and inventory of the urban forest.
- Some communities allow for the city to have easements for tree planting on private property next to roadways that do not have room for tree planting (Durham NC, Decatur GA, and Savannah GA).
- Two communities have lower tree preservation standards for properties with affordable housing (Orange County, FL and Atlanta GA)
- Decatur Georgia requires a performance bond for new tree planting and/ or tree preservation to ensure compliance and the long term health of preserved trees.
- Several communities incentivize heritage tree preservation through bonus credits for tree density/ canopy cover requirements (Tallahassee FL, Savannah GA, and Charleston SC)
- Other tree preservation incentives include reduced parking requirements and open space requirement reduction
- There are a wide range of sizes for regulated and heritage trees:
 - 8" DBH is a common minimum size for a regulated tree.
 - Heritage tree minimum sizes range from 24-36" DBH typically.

Tallahassee, Florida

- Protected tree standards- Pre development
 - Any tree of two inches DBH or greater.
- Protected tree standards- During development and post development
 - Dogwoods 3" or >
 - Hardwood or Longleaf Pine 12" or >
 - any tree 18" or >
 - Any tree four inches DBH or greater which is located in the lot perimeter zone of any development site except for sites being developed for detached single-family dwellings
 - Any tree within a canopy road tree protection zone;
 - Any patriarch tree – 36" DBH or greater
- High priority placed on preservation of "Patriarch" trees. Double credit for preservation within a specified "Multi-Modal Transportation District"
 - Patriarch trees can only be removed with approval of director
 - Director has to balance the preservation of the tree with the property owner's ability to develop a site at the intensity or density permitted by the comprehensive plan and the implementing land development regulations
- All sites, except for individual lots being developed with one single-family, duplex, or triplex, and residential subdivisions that do not exceed four dwelling units per acre shall provide, upon completion of development activities, a minimum number of trees equivalent to a ratio of 40 tree credits for each acre proposed for development. Existing trees count towards this require density.
- Detailed standards for tree preservation outlined in ordinance
- Credit/ Debit system allocates points for trees preserved or planted. Sliding scale of points based on size and type of trees (bigger trees of high quality species get more points for preservation)
- Defines a minimum planting soil volume of 1,200 cubic feet with a minimum width of 12 feet
- In order to promote planting of larger size trees, the number of two inch-diameter trees that must be planted may be reduced when trees are of a larger size than two-inch caliper.
- Trees shall not be planted closer than three feet from the edge of any impervious area.

Pensacola, Florida

- Heritage trees- 34" or greater.
 - All zoning classifications regulate this size tree. Permit required for removal.
 - Mitigation costs for a single family residential property owner are capped at \$1,000

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- Incentive for heritage tree preservation -Parking space reduction, reduction or waiver of the required park and open space
- Credit for additional landscaping – up to one half of the required mitigation cost can be reduced by the addition of screen landscaping that is not required by code
- Minimum of ten (10) percent of the total combined trunk diameter of protected trees on a proposed development site must be retained (but lots of provisions allow trees to be removed)
- Credit for retention of protected trees above minimum requirements. For each inch of trunk diameter above the minimum ten (10) percent requirement that is protected in place or relocated on site, an equivalent trunk diameter inch credit shall be given against replacement and mitigation requirements
- Less than inch for inch replacement established in a table within the ordinance
- If trees can't be planted on a property, then \$400 paid into tree fund per tree required to be planted
- Canopy road tree protection zone. All lands within ten (10) feet of the outer boundary of the right-of-way of specified roadways- no removal or a protected tree without a permit

Orange County, Florida

- Certified Affordable Housing Projects are exempt from tree removal requirements.
- Mitigation of non-specimen trees (8-24")- inch for inch replacement
- Healthy preserved trees on site count toward meeting the replacement requirements
- Specimen trees- 24" or greater, only Live Oaks or Magnolias
- Specimen trees are replaced at a ratio of two (2) to one (1) of the cumulative caliper of the trees to be installed to the cumulative DBH of the trees removed. Notwithstanding the ratios established immediately above, commercial lots under ten thousand (10,000) square feet shall be required to replace specimen trees at a one-to-one ratio of the cumulative caliper of the trees installed to the cumulative DBH of the trees removed
- Single Family residences on lots 2 acres or less in size are exempt from tree removal permit requirements
- Requires a minimum number of trees per lot for single-family new homes. Sliding scale based on lot size

Tampa, Florida

- Protected trees- 5"> DBH
- Review process for tree removals, replacement inch for inch greater than 30", sliding scale for trees less than 30" DBH (for example trees 20-29" require 4 trees per tree removed).
- No bonus incentive for preservation of existing trees

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- Tree canopy study required every five years

Columbia, South Carolina

- Minimum tree density required, 30 units per acre for non-single family developments, 20 units per acre for single family subdivisions
- Double credit for trees preserved in density requirements
- Half credit for pines and cedars.
- Mitigation fund must be used within the planning area from which the fund is obtained
- When removal of grand trees is approved, the following replacement requirements shall apply: Grand trees shall be replaced with shade trees wherever possible. An equal number of density factor units of replacement trees shall be planted to replace the density factor units for trees removed. This planting shall be in addition to the required density factor for the site.

Charleston, South Carolina

- Grand trees= 24" or greater D.B.H., excluding pine trees and sweetgum trees
- Protected trees= trees 8" or greater DBH
- Tree removal of trees 8-24" DBH- 2 for 1 replacement. Minimum tree size at planting 2.5" caliper
- Trees within 25' of property line regulated differently. Tree removal variance possible if tree is further than 25' from property line and in buildable area
- Variance process for removal of any protected tree
- Sliding scale for mitigation requirements based on quality of tree type (100% mitigation for high quality canopy trees)
- Minimum standard for tree preservation- total number of protected trees existing on any one parcel shall not be reduced below a total number equal to fifteen (15) protected trees per acre.
- For parcels containing less than fifteen (15) protected trees per acre, the total number of protected trees required to be saved shall equal the total number of protected trees existing on the parcel
- Allee removal prohibited. Allees are defined as two (2) or more parallel rows of trees of the same species with a minimum of four (4) trees total and a minimum of two (2) trees measuring twenty inches (20") or greater D.B.H.,
- Single Family residential zoned property less than one acre size exempt from the ordinance, with the exception for regulations for grand trees

Athens, Georgia

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- Canopy cover approach- sets overall goal of 45% coverage, sliding scale for coverage requirements based on zoning (higher canopy cover and preservation requirements for lower density zoning classifications)
- Percentage of property canopy coverage has to be preserved. Administrative waiver process available
- Owners of single-family residential lots are encouraged, but not required, to maintain a minimum of 60 percent tree canopy cover
- Required amount of total tree canopy, conserved and planted, has to be maintained in perpetuity
- Forest regeneration area or individual tree planting an option if trees can not be preserved, allows for flexibility in development.
- Lots smaller than 12,500 SF are exempt from preserved tree requirements
- Existing single family residences exempt from canopy coverage requirements
- Provisions for Landmark tree designation (application process). 36" or > canopy tree, 24" or > for medium trees, and 12" or > for understory trees.

Decatur, GA

- Canopy cover performance based approach:
 - If a non-single family zoned property maintains the minimum 45% canopy cover standard than no replacement tree planting required. Ties replacement standards tied to the amount of increase in impervious coverage or building floor coverage
 - Payment to tree bank can be used for up to 75% of tree planting requirement
- Single family Residential properties regulated differently than other types
 - Allows removal of up to 3 healthy protected trees within an 18 month period
 - Additional trees beyond these three trees require replacement planting so no net loss of canopy
- Assigns the following credits for newly planted trees
 - Large- 1,600 SF, Medium- 900 SF, Small- 400 SF
- Allows mitigation funds to be used for tree planting on private property to expand and improve the City's tree canopy. Allows these funds to be used for tree educational programs
- All trees planted to fulfill the tree ordinance require a 3-year tree planting bond. The amount of the bond is equal to 125% of tree planting expenses, including materials and labor. The City Arborist inspects the trees at the end of the establishment period and provides a written report to the permit holder indicating what actions, if any, are required before the bond will be released

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- Similar escrow account held for boundary trees (protected trees on the property line of a development)
- Provision allows for the city to enter easement agreements with property owners to plant trees. Three year time limit. Property owner has to agree to maintain the trees and hold the city harmless for liability.

Atlanta, Georgia

- Protected trees- Hardwoods greater than 6" DBH and Pines greater than 12" DBH. Applies to all zoning classifications (including Single Family Residential)
- Public posting requirements for tree removal, allows a time period for citizens to comment on a proposed tree removal
- Minimum tree density per acre required. Varies per zoning classification.
 - If this tree density is not achieved, then payments allowed into mitigation fund
 - For affordable housing units, the required tree density is half of standard requirements for that units zoning classification (lessens financial burden).
 - Maximum recompense per acre is \$10,000
- Inch for Inch replacement of trees required for removal of protected trees
 - If the replacement trees can not fit on the property then can be planted in public land within the same area (Neighborhood Planning Unit)

Savannah, Georgia

- Protected trees- permit required for removal of the following tree sizes/ types:
 - Undeveloped property- 2" or >
 - Developed property- 18" or >
 - Any tree planted to fulfill tree point system requirements
- "Tree point system"- requires 1,600 points per acre for most developments (includes existing and proposed trees)
 - Tree quality point- A unit of measurement, which quantifies the relative value of trees that are planted or retained on a given site. Tree quality points quantitatively express the desirable qualities of the species with regards to size for each tree that is retained on a site. For planted trees, tree quality points are an expression of species desirability and the expected mature size of each tree.
- Exceptional tree designation allows points at a factor of 2.5 for preservation

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- Exceptional tree. Any tree designated, as provided for in this chapter, to be of notable historic interest, high aesthetic value, or of unique character because of species, type, age, or size.
- Nomination process establishes this designation. Commission reviews nominations, and city manager makes final determination
- If more than 75 percent of the tree quality points for a site are to be provided by one or more mature trees of greater than 30-inch DBH, then a contingency planting plan is required. The contingency plan will indicate locations where trees can be planted in the event of loss of retained trees.
- Sites of one acre or larger no more than 50 percent of trees planted shall be of the same species
- Allows for tree easements to be established for trees on private property in locations where there is not enough room in the ROW
- Bonus for points for trees preserved. Formula based on a square of DBH. Factor varies per species. Higher factor (1.5) for high quality shade trees 1.5). Lower factor (0.5) for less desirable species
- Two-year tree and landscape establishment bond tied to Certificate of occupancy
- Properties required to maintain required tree cover, if inspection reveals property not in compliance, then warning given for 90 days, if still not compliant then penalties possible

Chapel Hill, NC

- Canopy cover performance approach
- Cover standards vary per zoning classification: Multi-family residential – 30%, Commercial- 30%, Institutional- 40%, Mixed use- 40%
- Requires one replacement tree for every 500 SF deficit of canopy coverage
- Allows payment into mitigation fund if property owner chooses not to plant replacement canopy trees (no minimum percentage required on site).
- Mitigation funds can be used for town sponsored tree management programs, and for the study, inventory, maintenance or treatment of public trees. However, mitigation funds can not be used in lieu of general fund support for the existing urban forest management program
- Specimen tree standards- 18" > for pines, 12" > for hardwood canopy trees, 6" > for native understory trees
- Encourages preservation of these types, allows adjustment to lot layout, placement of buildings and pavement, and locations of utilities to save specimen trees

Durham, NC

- Provision allows the city to have a tree planting easement on private properties when there is not enough ROW width to accommodate trees. The city maintains the trees for up to five years.

Knoxville, Tennessee

- Minimum of (6) trees per acre shall be preserved in development (unless cut or fill grading prohibit tree conservation)
 - Trees defined as 6" > for canopy, and 3" > for understory
 - Trees within 150 feet of a house built before 1860 can not be removed without a permit
- For new plantings, 8 trees per acre requirement (and at least half of these must be canopy trees)

Austin, Texas

- Heritage trees- Native canopy trees 24" DBH >
- Protected trees- 19" DBH >, permit required for removal of any of protected tree
 - Provisions allow for tree removal if approval by Development review (allows removal if tree prevents reasonable use of property)
 - No clear mitigation policy defined- "the City may require mitigation, including the planting of replacement trees, as a condition of site plan approval"