

Recommendations for Sustaining a Healthy Urban Forest in Durham, NC

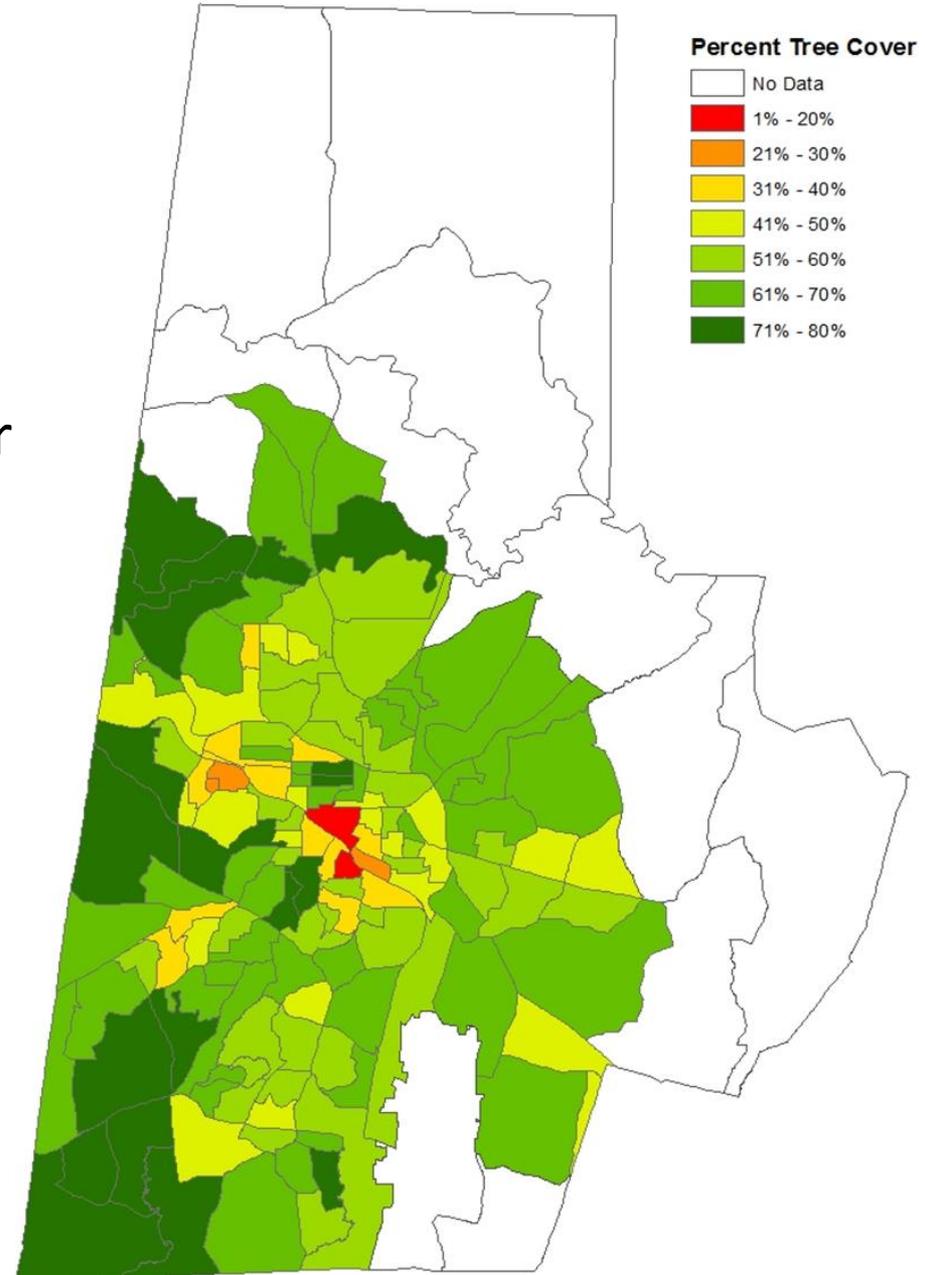
Durham City-County
Environmental Affairs Board (EAB)

Trees in Durham

The City of Durham is a wonderful place to live, due in part to trees along streets, in parks, and on other public land.

-Currently the tree canopy covers ~40% of the city

Trees provide a plethora of economic, environmental, human health, and social benefits, making them a valuable part of the urban landscape.



Trees in Durham

- Durham's urban forest is at a critical juncture due to the impending death of 13,000 large trees planted in the 1930s.
- These trees, mostly Willow Oaks, will likely reach the end of their lifespan over the next two decades.
- Due to their size, Willow Oak removal is costly and results in a significant reduction of canopy coverage.
- Because of this, the City Council requested that the EAB determine the number of trees that will need to be planted each year to maintain the current level of canopy coverage, as well as the number of dead/dying trees that will need to be removed each year to ensure public safety.

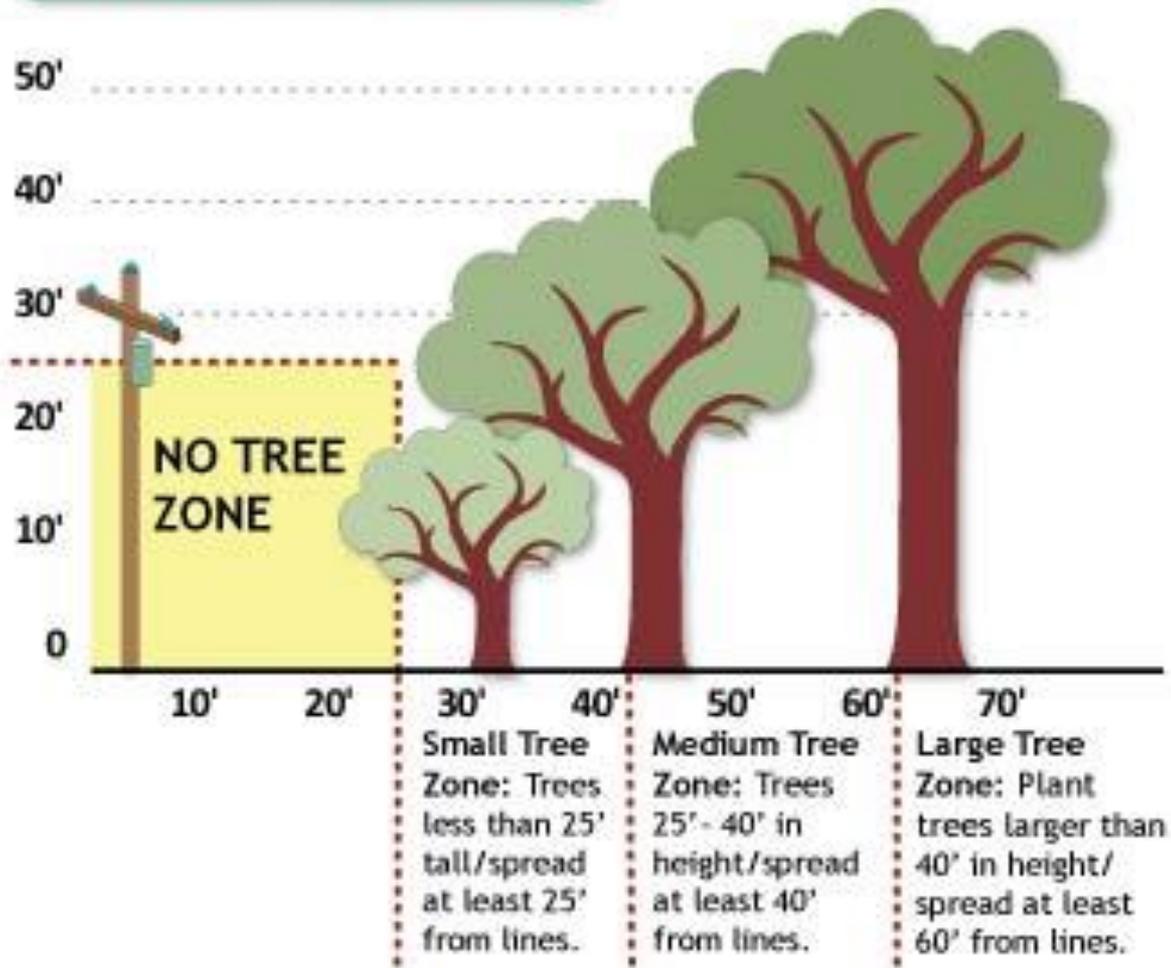
Tree Loss in Durham

	Tree loss over each of the next 20 years
Large Trees	650
Medium Trees	50
Small Trees	50
Total Trees	750

Current tree replacement operations support the removal of **only 300** potentially hazardous dead/dying trees per year.

Trees in Durham

Tree Planting Guide



Trees in Durham

	Equivalent planting ratio for loss of large trees and restricted space for replacements
Large Trees	$\frac{1}{3} \times 650 = 217$
Medium Trees	$(\frac{1}{3} \times 650) \times 2 + 50 = 483$
Small Trees	$(\frac{1}{3} \times 650) \times 3 + 50 = 700$
Total Trees	1,400

Trees in Durham

	Trees that must be planted to account for 80% survival rate[†]
Large Trees	$217 \times 1.2 = \mathbf{260}$
Medium Trees	$483 \times 1.2 = \mathbf{580}$
Small Trees	$700 \times 1.2 = \mathbf{840}$
Total Trees	1,680

Current tree replacement operations support the planting of **only 500** trees per year.

[†]This analysis does not take into account cankerworms, a potential cause of additional tree loss. Actions are being taken to minimize the damage caused by cankerworms, but cankerworm damage could add to the number of dead/dying trees in Durham in the future.

Trees in Other Cities

- **Charlotte:** Has an Urban Forestry Management Plan goal to reach a tree canopy of 50% by 2050, and specific strategies by which to accomplish that goal.
- **Alexandria, VA:** Adopted an Urban Forestry Master Plan, which adds trees as part of the City's Capital Improvement Plan (CIP). Has a tree canopy coverage goal of 40% through citywide strategies. They have also detailed best planting practices to ensure healthy tree growth in an urban environment.

EAB Recommendations

- **Allocate resources to facilitate the planting of at least 1,680 trees per year, the removal of at least 750 trees per year, and the proper maintenance of all trees on public property in Durham.**
- Adopt a Capital Improvement Plan (CIP) for maintaining/improving tree infrastructure, which includes a city-wide inventory and risk analysis of the number, location, and condition of trees currently located on public property.
- Implement a policy for the immediate replacement of dead/dying trees.
- Consider increasing the number of trees required to be planted/preserved on private land by policies in the Unified Development Ordinance.