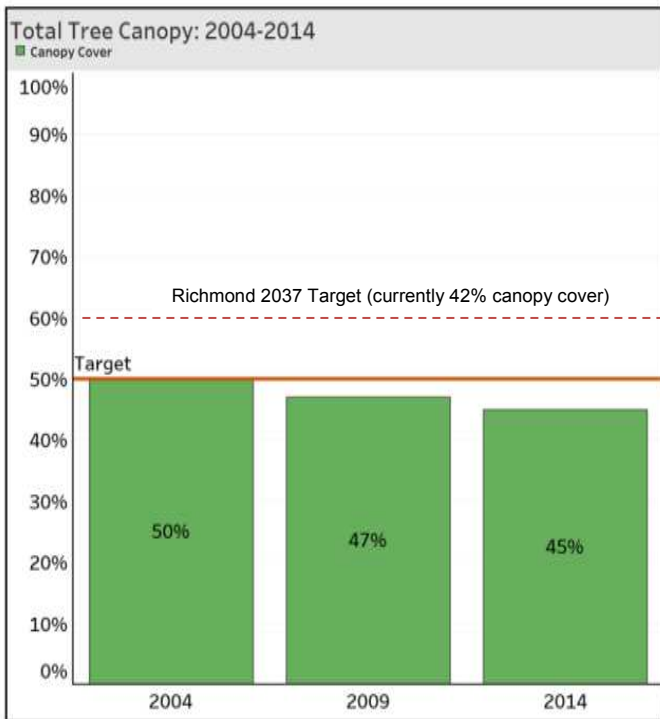


STATE OF THE URBAN FOREST

FY2020 Annual Report of the Charlottesville Tree Commission

City Council established the Tree Commission in December 2010 with the charge to “*protect and improve the urban forest,*” in pursuit of a “*better quality of life for City residents and . . . environmental and aesthetic benefits.*” Throughout the pandemic year, a year of social upheaval and environmental crises as well, the Commission endeavored to execute this charge. Beyond addressing environmental sustainability and aesthetic benefits, the Commission more fully embraced the reality that *improving the urban forest is also a matter of environmental justice and social justice.* These are all defining challenges for Charlottesville. Here are some measures of how the City and the Commission responded this past year.



Critical Importance of the Urban Tree Canopy – Increasing the City’s urban tree canopy is critically important for enhancing numerous City goals: public health; energy conservation; environmental sustainability; water and air quality; stormwater

management; and environmental justice. *Unfortunately, Charlottesville’s overall tree canopy cover continues to decline, and the City has not succeeded in meeting its annual tree planting goals each of the past four years.*

The amount of the City’s land area with tree canopy cover declined 5% between 2004 and 2014, which is a loss of roughly 325 acres of canopy. Although the next canopy study (aerial flyover) will not occur until summer 2021, preliminary *i-Tree* software projections suggest a consistent pattern of loss, with an additional 2% decline (135 acres) since 2014. As such, *the City’s total land area covered by tree canopy has declined from 50% to 43% in the last 16 years – a 7% decline, or total tree canopy loss of approximately 460 acres. (See map on page 4.)*



Critical Need to Plant Trees – “Number of trees planted” each year is a primary measure for assessing whether or not Charlottesville is achieving its Strategic Plan vision of a “green city”. *The City’s goal is to plant 200 trees every year, but it has not met this goal in any of the past four years.* Only 129 trees have been planted on average each year, which is a 65% success rate. To compound this disappointing trend, over the same period the City has removed more trees than it has replaced.

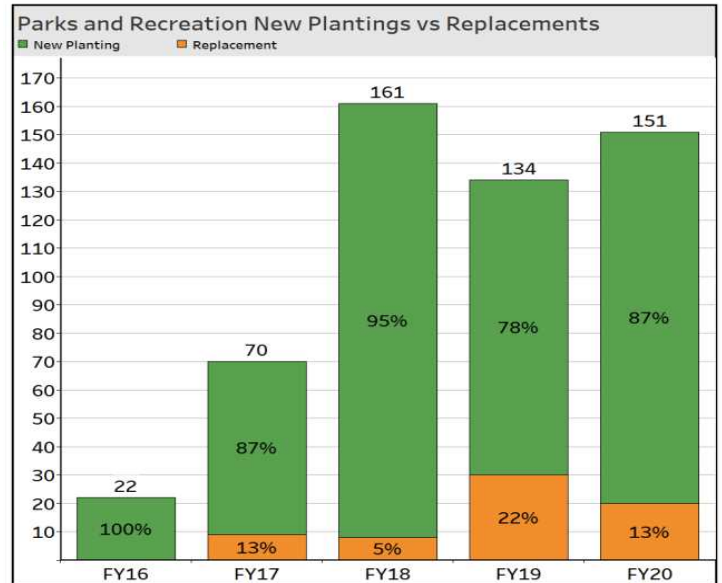
With 548 trees removed and 516 trees planted over the past four years, the City has an overall tree replacement rate of 94%, thus averaging less than one tree planted for each tree that it takes down. This means that additional trees are not being planted to counteract the years-long

decline in the tree canopy. And a majority of trees planted each year by the Parks and Recreation Department simply replace those that have been removed.

The urban forest is suffering further fragmentation and degradation as a result of the development of private land, a process in which the City’s review and regulation is limited and a substantial number of trees (many with large, mature canopies) are cut down.

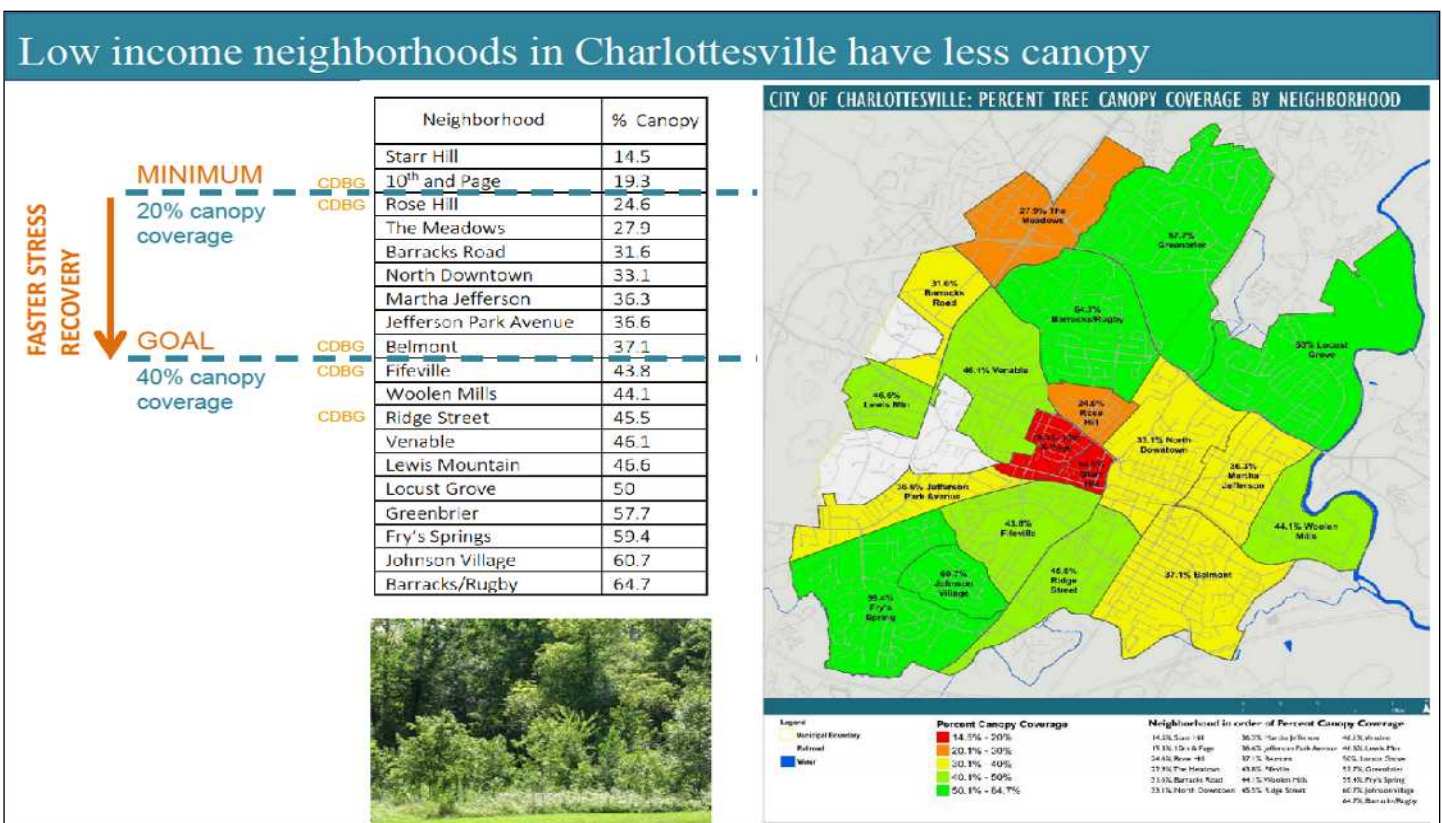
Tree Canopy, Heat Islands, Public Health, & Justice – Nine of the City’s 19 neighborhoods are “low-canopy” (below 40% canopy cover), and two are “extremely low-canopy” (below 20% canopy cover).

Science reveals that residential zones with tree canopy cover below 40% are effectively unhealthy neighborhoods, accounting for the majority of heat-related illnesses in any community. Neighborhoods with less than 20% canopy face even higher surface temperatures and greater utility costs, and their residents suffer the greatest physical stress.



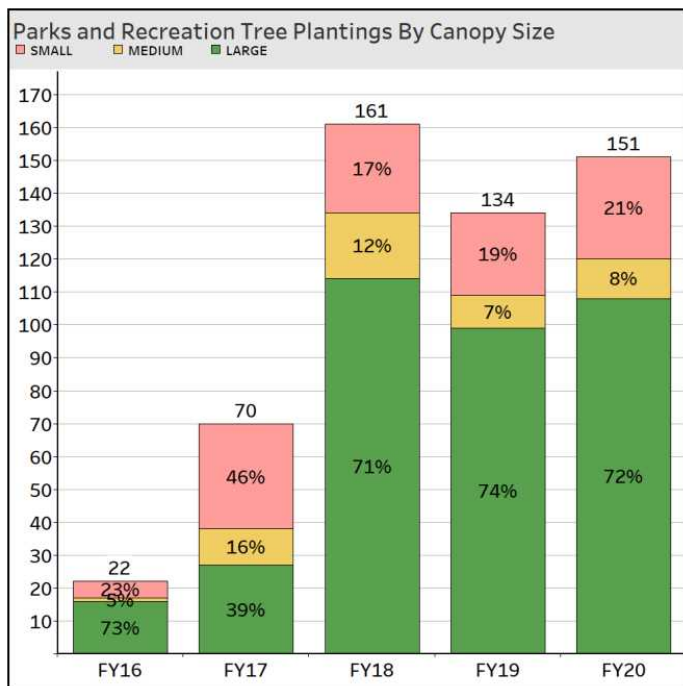
The map below of tree canopy cover by neighborhood clearly shows that **the City’s low-canopy and extremely low-canopy neighborhoods correlate with historically and predominantly African-American neighborhoods, and with lower-income neighborhoods that are designated as CDBG-eligible.**

These neighborhoods retain higher ground heat and have a more extreme urban heat island effect than high-canopy neighborhoods. By these measures, Starr Hill and 10th & Page (below 20% canopy) and Rose Hill and The Meadows (below 30% canopy) fare worst in the City.



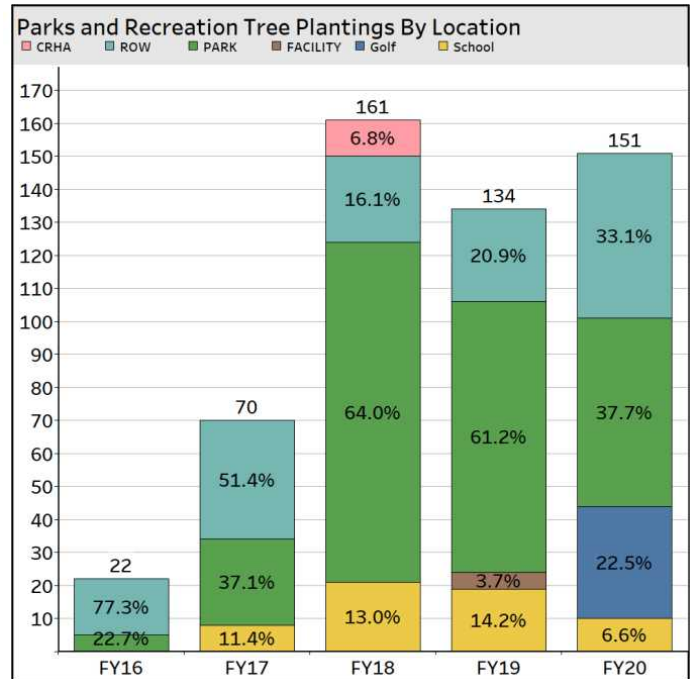
The neighborhood-level data reflect the conclusions of a study by Jeremy Hoffman of the Science Museum of Virginia, which confirms **a strong correlation between low-canopy areas and neighborhoods that were historically subjected to racially inequitable “red-lining” zoning and lending practices.** That study concludes that the “consistency of greater temperature in formerly redlined areas across the vast majority (94%) of the cities included in this study indicates that current maps of intra-urban heat echo the legacy of past planning policies.” In these ways, **the City’s goals of increasing the urban tree canopy cover must be understood as significant opportunities for addressing and advancing social justice and environmental justice in Charlottesville.**

Planting Large Canopy Trees – Planting trees with a larger canopy size helps to increase the overall cover of the urban forest and complements the quantity of trees planted. As the graph below indicates, **Parks and Recreation continues to increase the percentage of large canopy trees that it plants each year to improve long-term canopy cover.** This is in accord with the goals of fostering healthier neighborhoods, providing greater shade for pedestrians and cyclists, reducing energy costs, and mitigating pollution.



Location of Trees Planted on Public Property – The graph top right shows that despite a priority to plant street trees in the public right-of-way (ROW) Parks and Recreation has planted a majority of trees in City parks.

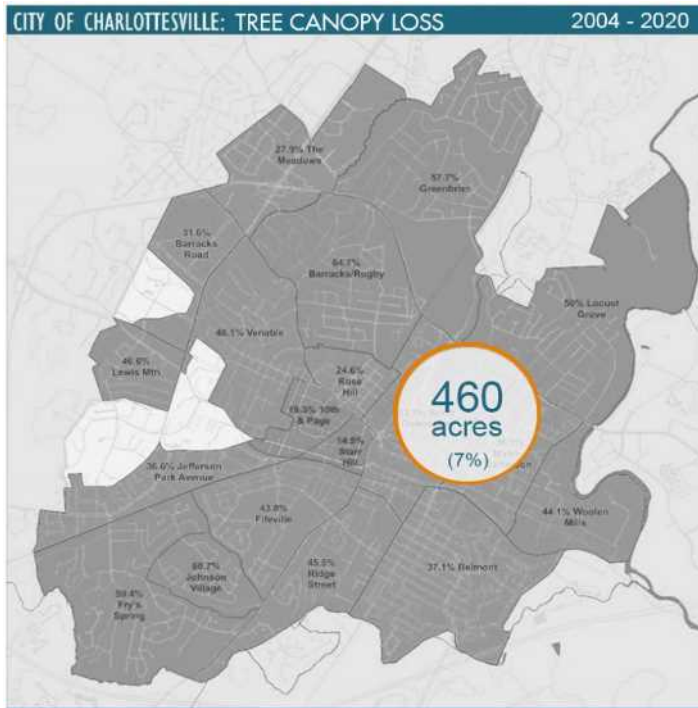
These trees contribute to the overall tree canopy, but they do not provide needed shade for urban neighborhoods, especially those with low canopy, to protect residents and pedestrians and to help reduce



energy costs and promote health. FY2020 trends are mixed, with an increase of ROW planting and a decrease in parks planting, although the latter is offset by a decrease in plantings on school property and significant planting on the golf course.

In order to improve tree canopy cover in an equitable manner, in FY2020 Parks and Recreation developed a weighted scale to help prioritize the planting of trees in public ROW within low-canopy and extremely low-canopy neighborhoods that are designated as CDBG-eligible.

Financial Investment in the Urban Forest – In FY2020, Council allocated \$50,000 for tree preservation and planting. **Given the cost of \$350 per tree, Parks and Recreation unfortunately was unable to meet the Commission’s goal of planting 200 trees per year.** The approximately 140 trees planted were not sufficient in number to replace trees that were removed. The Commission was grateful that Council increased the FY2021 allocation exclusively for tree planting to \$75,000. Regrettably and understandably, the pandemic caused this allocation to be zeroed out. However, approximately \$7,600 remained in the



previous year's operating budget which, along with private donations, will allow for planting 23 trees.

Perhaps the most immediate and serious threat to Charlottesville's urban forest (and to private property and personal safety) comes from the inexorable spread of the emerald ash borer through our City and region. Sufficient funding is essential for dealing with the inescapable damage caused by these insects. Parks and Recreation has been taking measures to protect the City's most important and vital ash trees, but the current inventory shows that 270 ash trees will need to be removed. The Commission's FY2021 request for \$50,000 for removals was not approved. But funds will need to be allocated for this work, as removal is time-sensitive and safety-critical. Unlike most trees which die slowly, an infected ash tree becomes extremely brittle and breaks apart quickly, posing a significant danger to people and property.

With regard to the preservation of trees generally, the Commission greatly appreciates that Council recognized this important need and for several years has provided funding through the operating budget. These funds are used for pruning, repairing, and protecting existing large and valuable trees in the community, especially those now protected by City ordinance.

FY2020 Activities of the Charlottesville Tree Commission

As with other City bodies during the pandemic, the Tree Commission was forced to suspend in-person meetings for nearly the entire second half of the fiscal year. Despite the severe limitations this placed upon the Commission's collaborative efforts, its members continued individually and in small groups to educate and advocate on behalf of City trees, and to engage in the planning and regulatory activities of an array of City and nonprofit bodies. What follows is a summary of efforts undertaken during this extraordinary year.

Education & Advocacy —

- Assembled a digital resources package to orient new Commission Members and inform general public.
- Undertook significant updates of tree data using internal and external data resources.
- Developed a visual presentation about the state of the trees in the City to be used in reporting to City Council, Planning Commission, and educating public.
- Working with the Piedmont Environmental Council, initiated the beginnings of a "Green Coalition" composed of many groups interested in trees and the environment.
- Engaged with the Environmental Sustainability Division of Public Works to discuss "City Green Points 1.0: Charlottesville's Green Infrastructure Guide".
- Reviewed and provided detailed written and oral comments opposing construction of a shared use path within the median on Route 20 from the City line to Route 53.
- Registered strong disapproval of the removal of eight mature oaks on Garrett St. in connection with construction of the Apex Energy building.
- Raised concerns with NDS about adequacy of tree protection at development on corner of E. High & Locust.
- Worked with City Arborist on Meade Ave residents' concerns about utility pruning; addressed issue with Dominion, which corrected some of the pruning cuts.
- Participated in monthly USFS webinars on *Loss of Tree Cover in Urban Watersheds: The Importance of*

Local Codes and Policies; R_x for Hot Cities: Urban Greening and Cooling to Reduce Heat-Related Mortality in Los Angeles and Beyond; and Redlining's Intensifying Harm: Rising Temperatures, Hotter Neighborhoods, and How Trees Can Help.

- Registered concern about several downtown mall trees that had grown into the metal grates surrounding them. Parks & Recreation responded by cutting the grates back.
- Prepared wooden tree identification plaques which were installed at a nearby dog park.

Codes & Ordinances —

- Continued to participate in virtual meetings of the C'ville Plans Together Steering Committee.
- Participated in C'ville Plans Together public webinars seeking community input.
- Prepared for a thorough review of city zoning code and comments on proposed changes affecting trees.
- Continued to participate in steering committees for Barracks Road & Emmet Street and Fontaine Avenue SmartScale road projects.

General —

- Submitted comments to Council concerning budget (pre-pandemic) for trees.
- Worked with City Council to authorize Commission to meet virtually.
- Trained with city Communications Department staff on managing Zoom webinar.
- Worked with City Clerk's office and City Council to appoint four new members and renew terms of three current members, bringing Commission to full membership.
- Worked with City Arborist to address damage to gravestones in Maplewood Cemetery resulting from fall of large red maple during July storm and damage to large white oak in Forest Hills Park during September storm.
- Updated criteria for urban tree canopy assessment in spring 2021, allowing City Arborist to submit request for funding from Va. Dept. of Forestry.
- Assisted in constructing a solar kiln to recycle UVA trees into lumber.