

STATE OF THE URBAN FOREST

FY2021 Annual Report of the Charlottesville Tree Commission

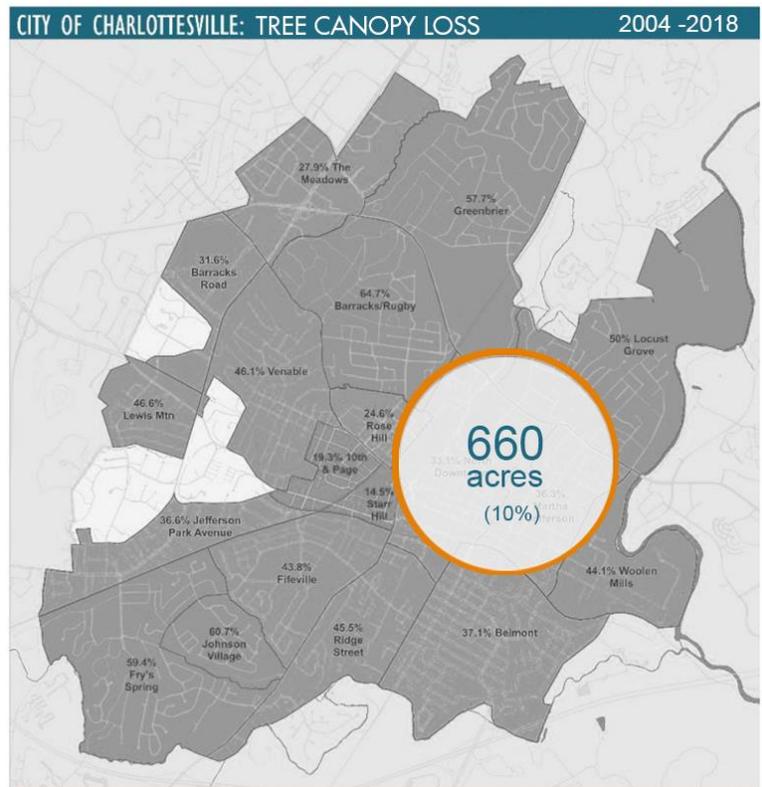
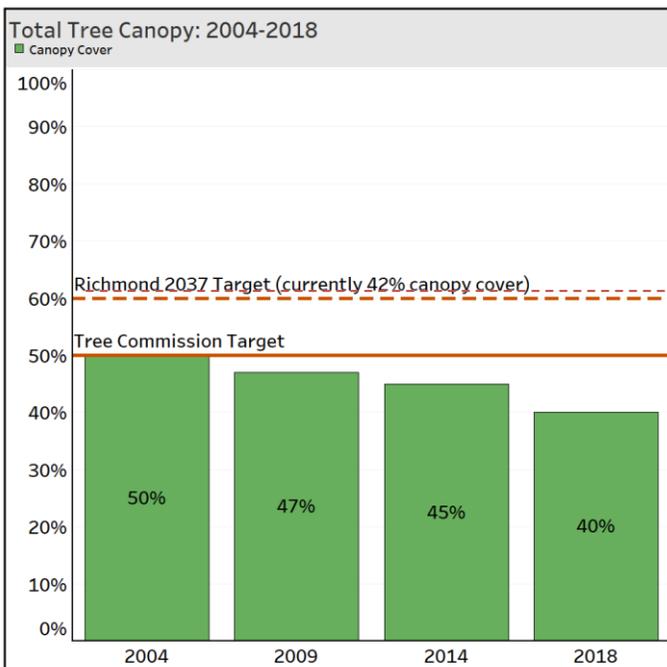
The Tree Commission works with the Parks & Recreation Department to “**protect and improve the urban forest,**” in pursuit of a “**better quality of life for City residents and . . . environmental and aesthetic benefits.**” While aesthetics is important, concern for quality of life is the primary reason to preserve and expand our urban forest and local natural resources. Preservation is critical to **achieving climate sustainability, protecting public health, and ensuring environmental justice and equity.** 2021 was another year of challenges in achieving these aims. It was difficult for the Commission to engage the community directly, and reductions in fiscal and staff resources affected the ability of Parks & Recreation to meet green infrastructure goals. This report reflects these realities while offering some hope for the years ahead.

Critical Importance of the Urban Tree Canopy – A stable and flourishing tree canopy is essential for attaining the critical city goals for public health; energy

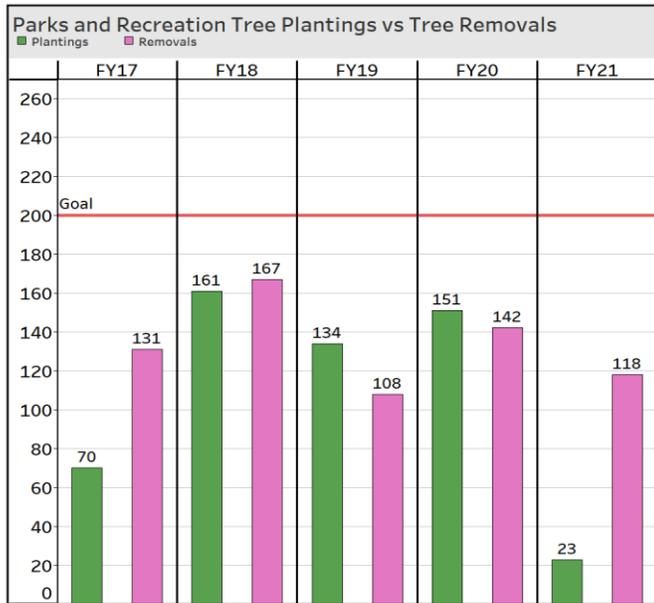
conservation; climate sustainability; stormwater management; water and air quality; and environmental justice and equity. The city’s new Comprehensive Plan sets as an explicit goal “the creation, protection, and expansion of robust urban forests.”

Rather than robust and flourishing, Charlottesville’s overall tree canopy continues to decline at an accelerating rate. This alarming trend relates in part to another: ***For a fifth consecutive year the city was unable to meet its annual tree planting goal.*** While the Commission acknowledges the difficulties posed by the pandemic and reduced city resources, it is imperative that we confront these unsustainable trends and take every action to plant, preserve, and protect trees.

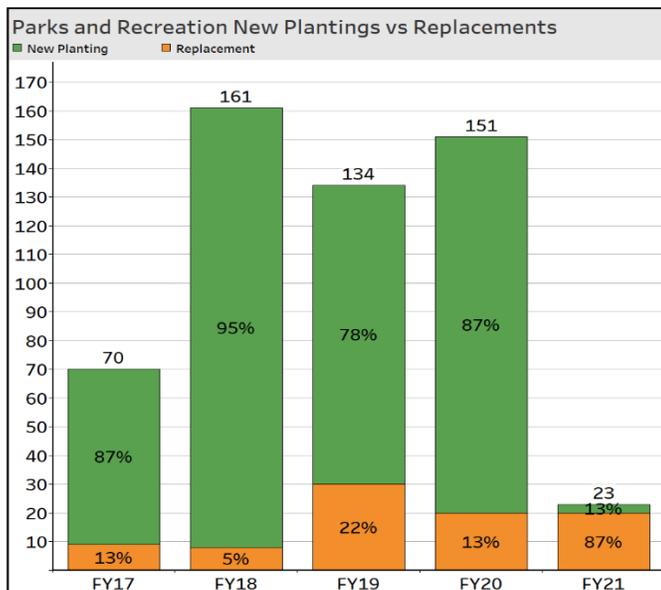
A recent expert analysis of satellite imagery from 2018 shows a **10% reduction in tree canopy between 2004 and 2018, from 50% coverage of the city’s 6,600 acres to 40%, which is a loss of 660 acres of canopy in a period of fourteen years.** What is worse, the rate of loss is increasing over time, and the **actual canopy in 2021 may be closer to 35%, meaning a loss of nearly 990 acres in less than two decades.** The canopy decline across all neighborhoods is most detrimental to those with the lowest coverage, generally low-income neighborhoods.



Critical Need to Plant Trees – “Number of trees planted” is a primary measure for assessing if Charlottesville is realizing its vision of a “green city.” **The city’s goal is to plant 200 trees every year. It has not met this goal in any of the past five fiscal years, especially FY21 in which only 23 trees were planted.**

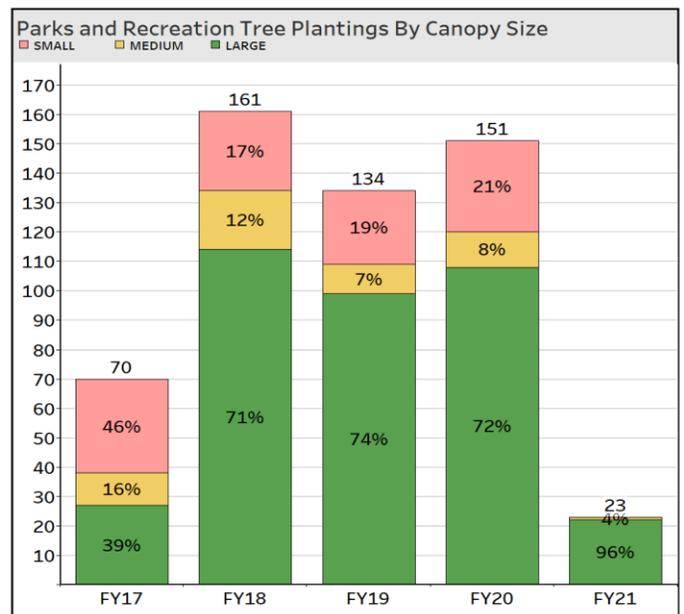


The city has planted an average of 108 trees each of the past five years, 54% of its planting goal. Compounding this shortfall, it has removed more trees because of disease and damage than it has replaced. **With 666 trees removed and 539 trees planted, the city’s tree replacement rate is 81%, which means less than one tree planted for each tree taken down.** Too few trees are being planted to counteract the years-long decline in tree canopy. And a majority of trees planted each year 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 regarding trees is limited and a substantial number of trees (many with large, mature canopies) are cut down or have their lives considerably shortened by construction damage and neglect. This damage extends to public street trees. **The zoning ordinance must be revised to address the ways in which development is appropriating a public good for private gain.**

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, **to increase canopy cover over the long-term Parks & Recreation continues to include a high percentage of large canopy trees among those it plants each year.** This accords 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 – Although resources did not allow for planting many trees in 2021, the graph below shows that plantings were primarily in the public right-of-way (ROW) and in parks. While these trees contribute to the overall tree canopy, they do not provide sufficient shade in low-canopy neighborhoods to protect residents and pedestrians and to help reduce energy costs and promote health. Thus, in order to improve tree canopy

cover in an equitable manner, the Commission continues to support use of a weighted scale to help prioritize the planting of trees in public ROW within low-canopy and extremely low-canopy neighborhoods where heat island effects are most severe.

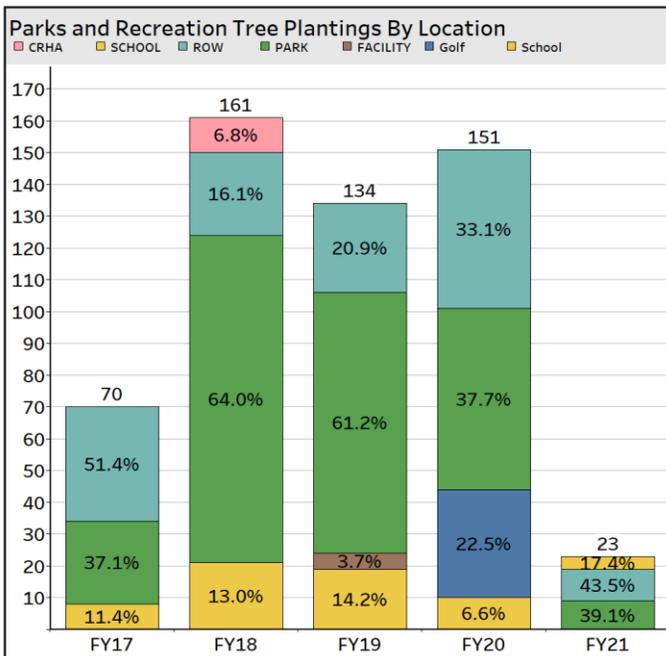
Heat Islands, Public Health, & Justice – Fourteen of the city’s 19 neighborhoods are now “low-canopy” (below 40% canopy cover), and two of these are “extremely low-canopy” (below 20% canopy cover).

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 shows that ***the city’s low-canopy and extremely low-canopy neighborhoods correlate closely with historically and predominantly African-American neighborhoods, and with lower-income neighborhoods 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 Belmont, Rose Hill, and The Meadows (below 30% canopy) fare worst in the city.

An array of national studies confirms a strong correlation between low-canopy areas and neighborhoods that were

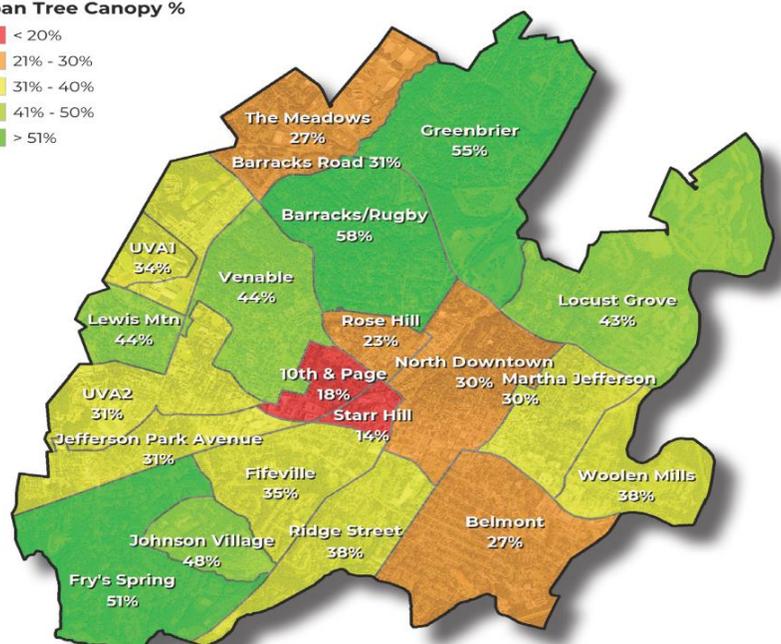


Neighborhood Planning Areas	UTC %	ROW UTC %	UTC % Change
10th & Page	18%	9%	-1%
Barracks Road	31%	20%	-1%
Barracks/Rugby	58%	4%	-7%
Belmont	27%	12%	-10%
Fifeville	35%	10%	-9%
Fry's Spring	51%	15%	-8%
Greenbrier	55%	16%	-3%
Jefferson Park Avenue	31%	12%	-6%
Johnson Village	48%	7%	-12%
Lewis Mtn	44%	8%	-3%
Locust Grove	43%	10%	-8%
Martha Jefferson	30%	8%	-6%
North Downtown	30%	11%	-3%
Ridge Street	38%	9%	-8%
Rose Hill	23%	13%	-1%
Starr Hill	14%	10%	0%
The Meadows	27%	12%	-1%
UVA1	34%	0%	0%
UVA2	31%	5%	-2%
Venable	44%	10%	-2%
Woolen Mills	38%	12%	-7%
City of Charlottesville	40%	12%	-5%

40% URBAN TREE CANOPY
22% POSSIBLE PLANTING AREA
39% UNSUITABLE AREAS
-5% CANOPY CHANGE 2014-2018

Urban Tree Canopy %

- < 20%
- 21% - 30%
- 31% - 40%
- 41% - 50%
- > 51%



Charlottesville’s 2018 urban tree canopy metrics by neighborhood planning areas: UTC %, UTC % by ROW, and UTC % change since 2014 (table, left) and UTC % (map).

historically subjected to racially inequitable “red-lining” zoning and lending practices. ***The city’s goals for increasing the urban tree canopy cover offer significant opportunities for advancing environmental justice and equity in Charlottesville.***

Financial Investment in the Urban Forest – The financial uncertainty of the pandemic led to the elimination of the FY2021 CIP allocation of \$75,000 for tree planting. A \$7,600 surplus in Parks & Recreation’s tree maintenance budget paired with private donations allowed for planting 23 trees, a small victory in a year of very few. The FY2022 allocation of \$75,000 for tree planting is welcome; however, pandemic shortages and inflation have caused the cost of a tree to rise to \$450, ensuring that the city will not be able to meet its goal of planting 200 trees in the current fiscal year. ***It is crucial that Charlottesville plant trees, which requires full funding of future CIP requests.*** Further delay in investing in the urban forest will only exacerbate negative health, environmental, and social consequences and reduce the likelihood of closing a years-long gap in planting.

The inexorable spread of the emerald ash borer is a present dire threat to over 300 ash trees throughout Charlottesville’s urban forest as well as to the safety of persons on the city’s streets and in its parks.

Sufficient funding is essential for dealing with the damage caused by these insects. Parks & Recreation has taken steps over the past several years to protect 30 of the city’s most important and vital ash trees, but approximately 300 others will have to be removed. ***\$525,000 will be needed over a five-year period for this time-sensitive and safety-critical work.*** A request for \$50,000 for removals was not approved in FY22, making it all the more crucial that the city begin to fund this priority soon. Infected ash trees become extremely brittle and break apart more quickly than do other diseased trees, posing a significant danger to people and property.

As for the preservation of trees, the Commission appreciates that Council recognizes this important need and for several years has provided funding in Parks & Recreation’s operating budget. The

department uses these funds to prune, repair, and protect existing large and valuable trees in the community, especially specimen and historic trees protected under city ordinance. However, ***as much as half of the annual budget available for preservation, maintenance, and dealing with storm damage may have to be diverted to battling the emerald ash borer in the absence of CIP funding dedicated to that purpose.*** Such a diversion of resources would degrade the appearance of the city’s streets and parks in ways obvious to all.

FY2021 Activities of the Charlottesville Tree Commission

The Tree Commission met virtually throughout the fiscal year. Despite the constraints this placed on in-person collaborative efforts, members worked individually and in small groups to educate and advocate on behalf of city trees, and to engage in the planning and regulatory activities of city and nonprofit bodies. What follows is a summary of efforts undertaken by committees during another very unusual year.

Education & Advocacy —

- Established ReLeaf Cville, a private/public partnership to raise funds through CACF for planting and preserving trees on private property and for educating residents in low-canopy neighborhoods on the many benefits of trees.
- Collaborated with City of Promise and Charlottesville Area Tree Stewards to begin planting trees in 10th and Page neighborhood in FY22.
- With Parks & Recreation presented to Venable 3rd and 4th graders on the importance of trees and developed outdoor activities on this theme.
- Collaborated with educators in city schools, including the Lugo-McGinness Academy to develop urban tree education programs.
- Began planning for an event at CHS to educate teenagers about jobs in the Green Industries.
- Presented FY20 report to City Council along with FY21 budget request.
- Coordinated with Urban Forester to address neighborhood associations' concerns for trees on private property.

Arbor —

- Held Arbor Day Celebration at Walker Upper Elementary School and joined with the Charlottesville Tree Stewards in dedicating 150-year-old post oak at Maplewood Cemetery as a Heritage Tree.
- Nominated six trees approved by City Council under Conservation Ordinance. These include the specimen post oak at Maplewood and white ash at the Albemarle Charlottesville Historical Society.

- Prepared nominations for more than 20 mature trees on Garrett St. and 2nd St. NE now further imperiled by continued development.
- Updated criteria for urban tree canopy assessment in fall 2021, allowing City Arborist to submit request for funding from Va. Dept. of Forestry.
- Worked with Urban Forester to prepare RFQ for urban tree canopy assessment.
- Worked with Urban Forester to develop a five-year plan for removing 300 ash trees diseased or at risk for infection by the emerald ash borer.
- Updated the Charlottesville Tree Packet, including the Master Tree List, for use by city staff and developers.

Codes & Ordinances —

- Continued to participate in virtual meetings of the C'ville Plans Together Steering Committee.
- Prepared for a thorough review of city zoning code and comments on proposed changes affecting trees.
- Continued to participate in steering committees for Fontaine Avenue and Barracks Road & Emmet Street Smart Scale projects.
- Prepared comments on the city's draft Strategic Plan.
- Submitted comments on proposed development at 240 Stribling Avenue.

General —

- Held virtual public meeting each month (except November).
- Worked with City Clerk's office and City Council to appoint four new members, bringing Commission to full membership.
- Revised original (2011) Commission bylaws.
- Submitted comments to Council concerning budget for planting trees and removing those affected by emerald ash borer.
- Worked with Parks & Recreation to address concerns about public activity in Maplewood Cemetery.
- Responded to numerous inquiries from residents and business owners concerning condition of trees on city streets and the Downtown Mall as well as in parks.