



# 2019 State of the Forest: **Charlottesville Tree Commission**

Charlottesville City Council

November 5, 2018

Presenter:

Paul Josey, ASLA - Chair, Cville Tree Commission



# Public Trees *Around Town*

# Public Trees Around Town – Utility Work on Preston Ave (Entrance Corridor)

JANUARY 23, 2019

Utility  
excavation at  
structural  
root zone of  
canopy trees



# Public Trees Around Town - Preston Ave, Entrance Corridor

JANUARY 23, 2019

Utility excavation at structural root zone of canopy trees



# Public Trees Around Town - Preston Ave, Entrance Corridor

JANUARY 24, 2019

One day later:  
Major tree failure  
as a result of  
structural root  
loss



# Public Trees Around Town - Preston Ave, Entrance Corridor

JANUARY 24, 2019

One day later:  
Major tree failure  
as a result of  
structural root  
loss



# Public Trees Around Town - Preston Ave, Entrance Corridor

October 29, 2019

9 months later:  
Structural impacts  
to roots buried  
and soil and  
debris remain  
piled against trunk



# Big Trees Around Town – 2<sup>nd</sup> & Garrett Streets

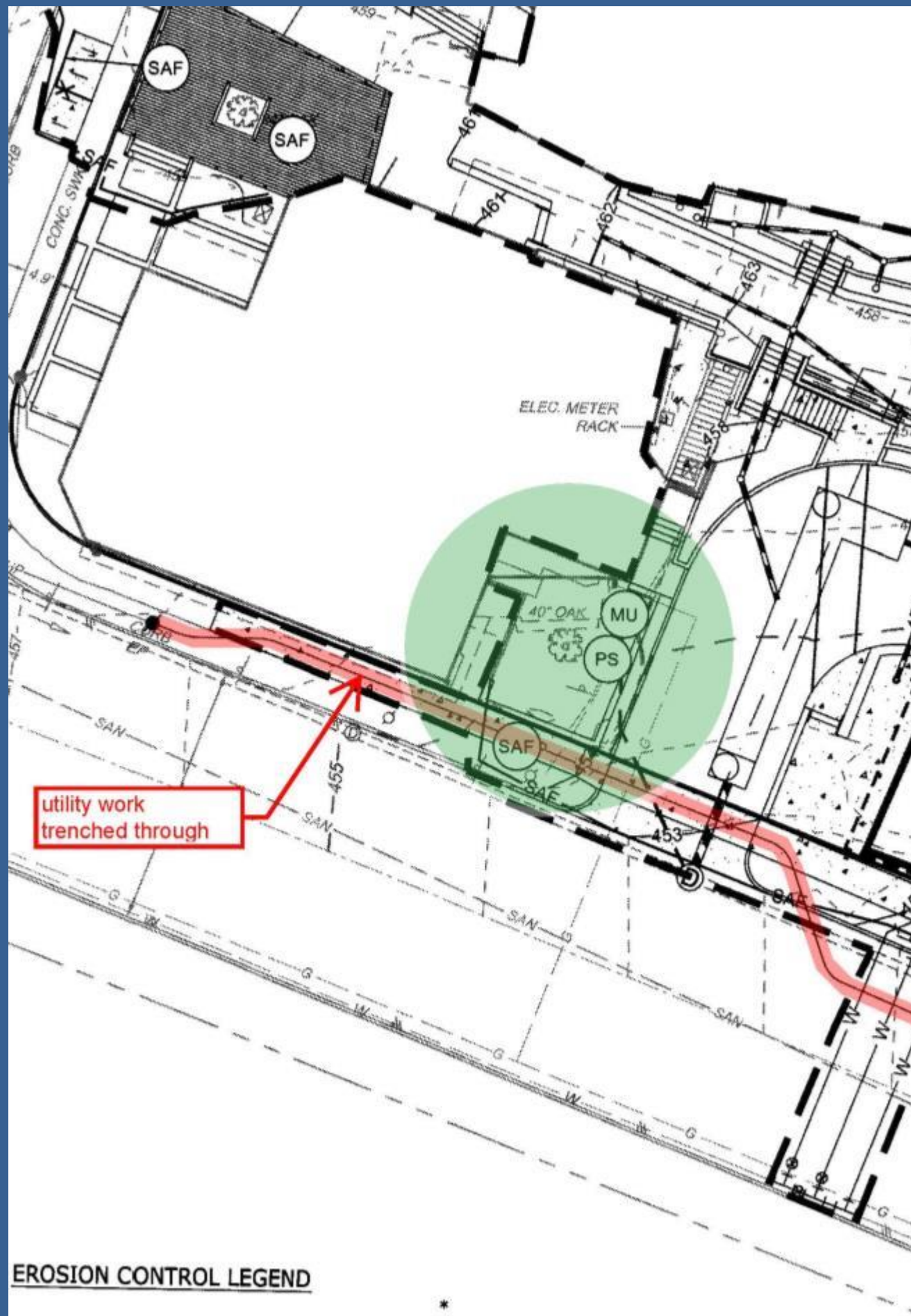
Tree “Preserved” yet 50% of canopy removed and majority of critical roots removed by building and utilities





# Big Trees Around Town – 2<sup>nd</sup> & Garrett Streets

Tree “Preserved” yet 50% of canopy removed and majority of critical roots removed by building and utilities



# Big Trees Around Town – 2<sup>nd</sup> & Garrett Streets

Tree “Preserved” yet majority of critical roots removed by new paving and seatwalls placed in Critical Root Zone



How is the Tree Commission helping?

# Standards and Design Manual UPDATE

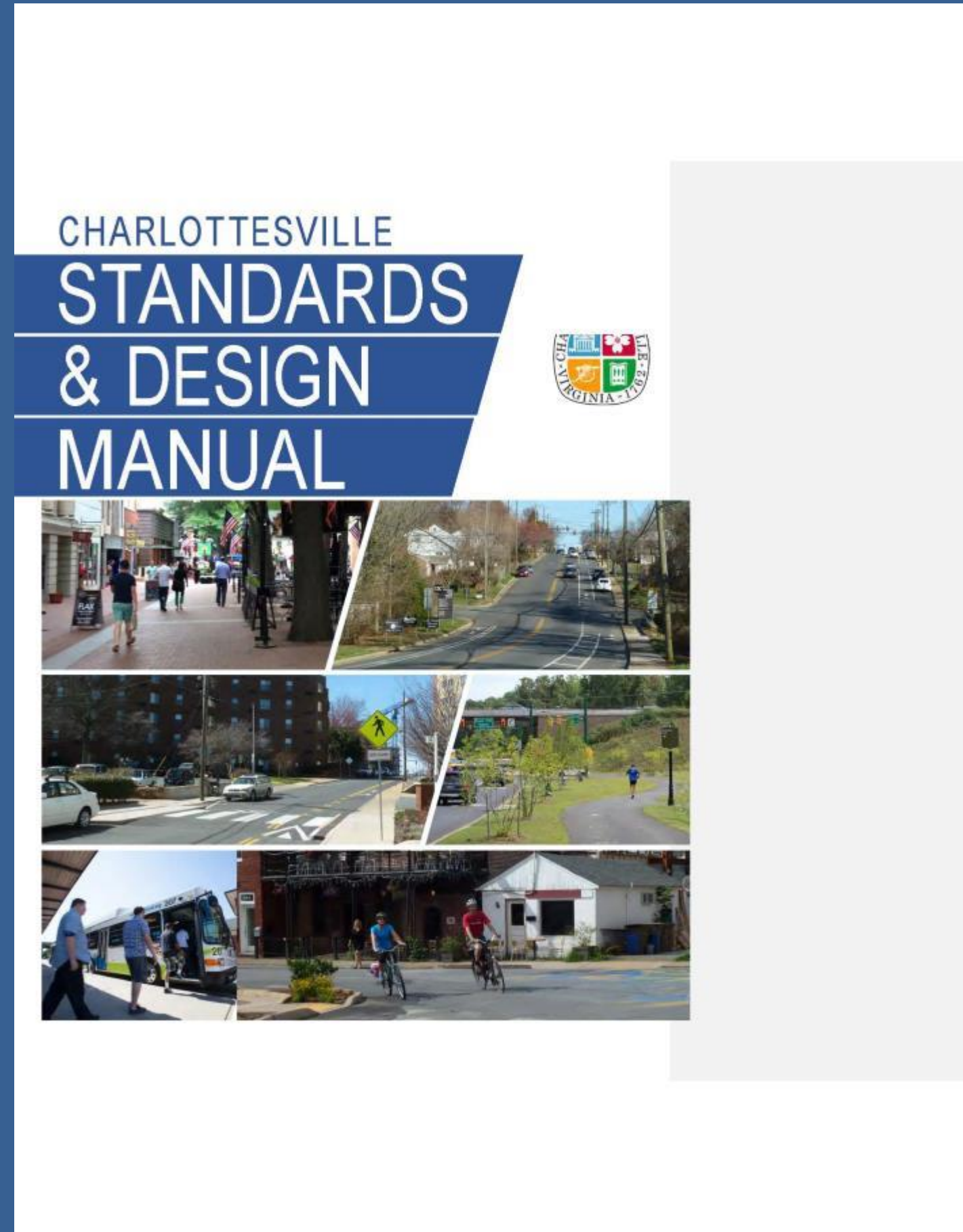
- Complete overhaul of Chapter 10: Tree and Landscape (collaboration with city staff)
- Clear preservation requirements (based on city's Best Management Practices and Streets that Work)
- Clear planting measures

Tree Commission Edits May 29, 2019 with addl edits from Meeting with Mike Ronayne June 24

## Table of Contents

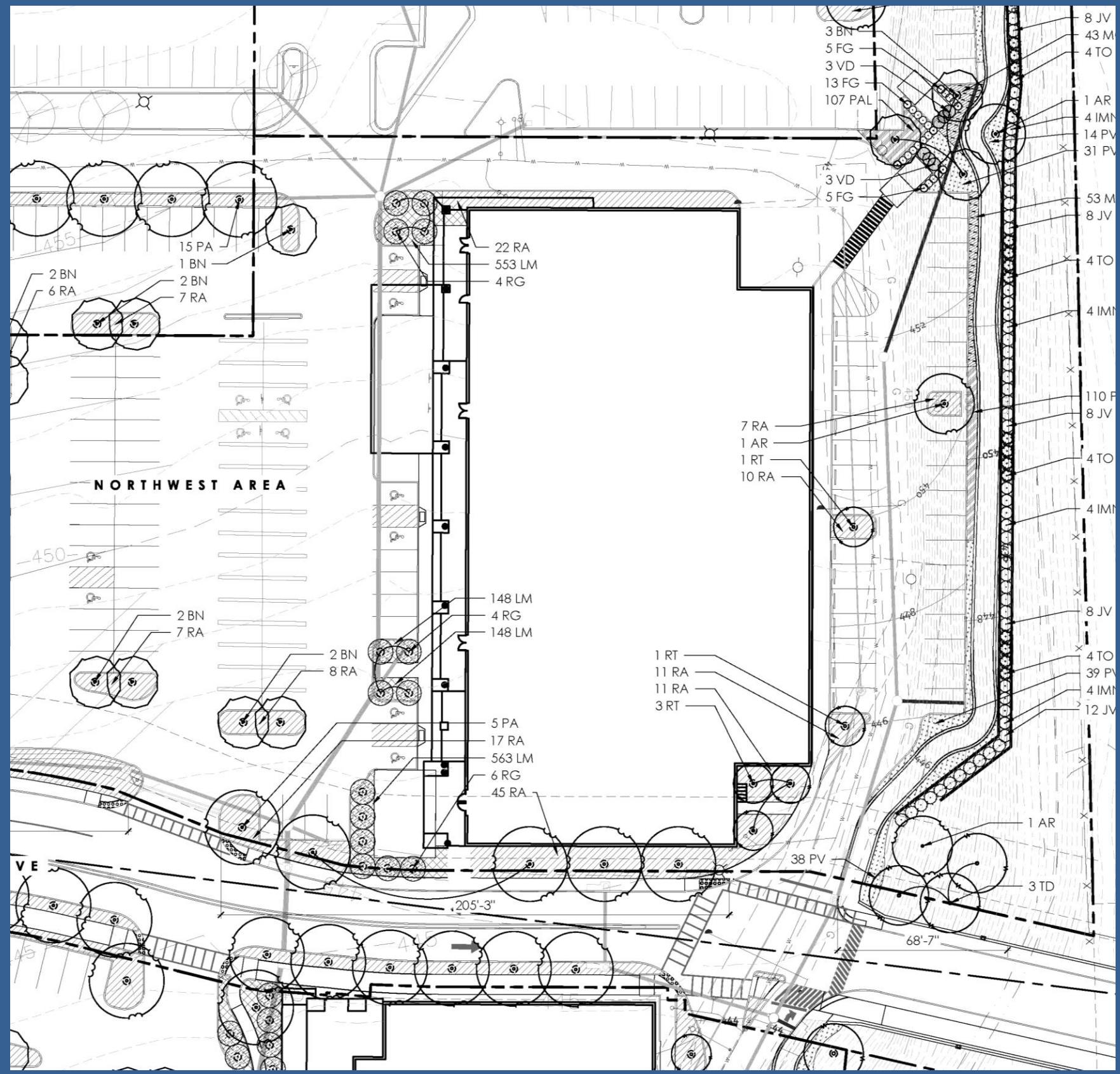
### **Chapter 10: TREES AND LANDSCAPE**

10.1 Intent and Purpose .....	173
10.2 <del>Curb Side Buffer</del> .....	173
<del>10.3</del> Landscape in the Right-of-Way (ROW) .....	174
10. <del>32</del> .1 Street Trees .....	176
10. <del>32</del> .1.1 Soil Volumes .....	178
10. <del>32</del> .1.2 Streetscapes .....	181
10. <del>32</del> .1.3 Tree Protection .....	181
10. <del>32</del> .1.4 Tree Grates .....	182
10. <del>32</del> .1.5 Approved Plant Species List .....	183



# Commenting on upcoming Site Plans / Steering Committees

- Submitted site plan comments for:
  - Belmont Bridge
  - Friendship Court
  - Kaiser Family
  - Seminole Square
  - Zero Carlton
  
- East High Street, Fontaine Ave and Barracks Road Steering Committee input



# Public Trees Around Town: Friendship Court Redevelopment

Root zones of existing street trees unprotected in current design.

High probability all trees will die within 3 years of project completion.



Garrett Street

# Public Trees Around Town: Friendship Court Redevelopment

Are the trees and root zones protected in Phase 2 of this project?



Garrett Street

# Public Trees Around Town: Friendship Court Redevelopment

Are the trees and root zones protected in Phase 2 of this project?



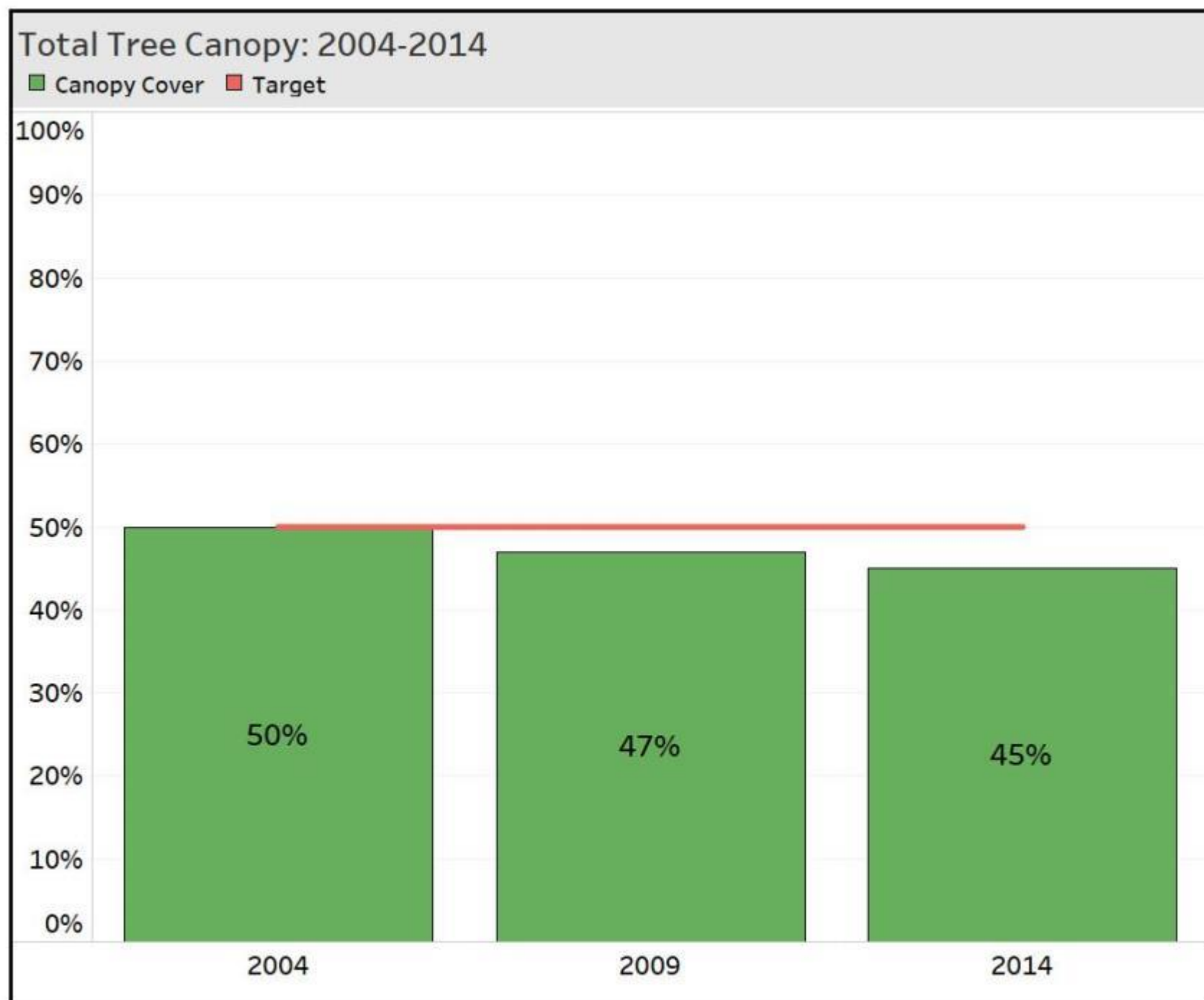
2<sup>nd</sup> Street



# GIS data system to track annual tree spending

Tree Commission & Parks & Rec collaboration

## 5% LOSS OF TOTAL TREE CANOPY



**Total Tree Canopy** This measure reflects City Council's **Comprehensive Plan Goal 2.2** "to expand and protect the overall tree canopy of the City".

The urban tree canopy is measured every 5 years by aerial photography. The 2014 study showed that the City's tree canopy has decreased 5% since 2004. The Tree Commission's goal is to maintain the tree canopy at the 2004 level of 50%.

## HOW IS THE CITY EXPANDING AND PROTECTING THE OVERALL TREE CANOPY?"

- 5% canopy loss = 400 acres\*
- 2013 City Comp Plan  
GOAL 2.2 : "expand and protect the overall tree canopy"

\*2015 Urban canopy study showed a canopy loss of 5-7.5% in past ten years (350 – 518 acres).

# Poor neighborhoods have less shade.

Social Issues






## 'I don't want to die': As the country bakes, studies show poor city neighborhoods are often much hotter than wealthy ones



Washington Highlands is one of the neighborhoods deemed most vulnerable to "heat island" effects. Resident Cheryl Johnson is on dialysis and uses a walker, and spending time outside on very hot days is risky for her. (Marvin Joseph/The Washington Post)

By Terrence McCoy

### Most Read Local

- 1 Nationals championship parade set for Saturday in Washington, D.C. 
- 2 This classroom on a Chesapeake Bay island taught generations of students. As the sea rises, its doors are closing. 
- 3 The lonely battle of the last Republican lawmaker from northern Virginia 
- 4 Maya Rockey Moore Cummings is 'thinking carefully' about running for her late husband's congressional seat 
- 5 Frustrated Airbnb hosts wait for D.C. to explain new regulations 

Local Headlines newsletter

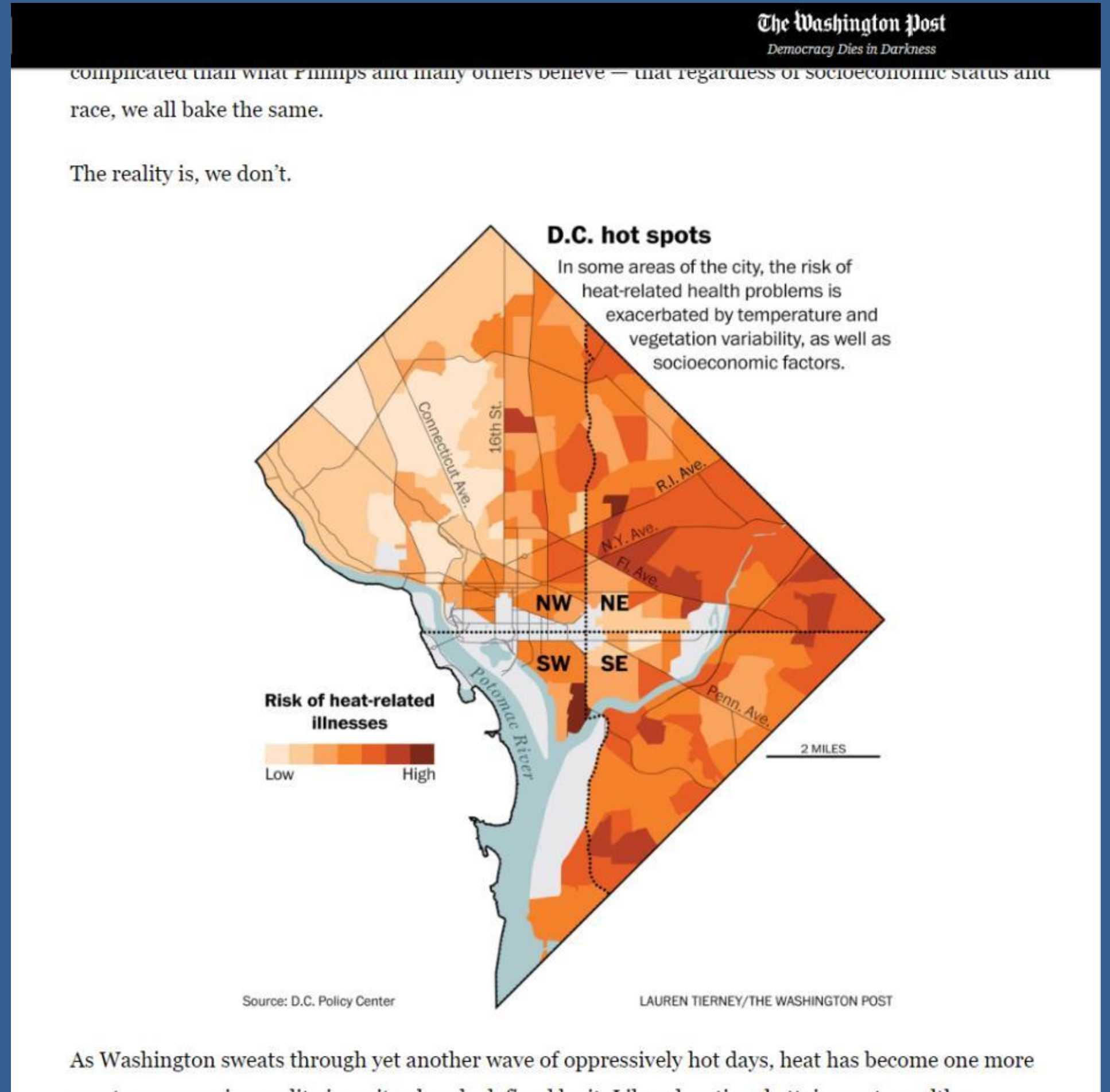
# Poor neighborhoods have less shade

Less Shade =

Higher rate of heat-related illness  
(heat stroke, heat exhaustion, heat cramps)

Low canopy areas are prone to:

- Higher blood pressure
- Higher obesity rates
- Higher ADHD rates



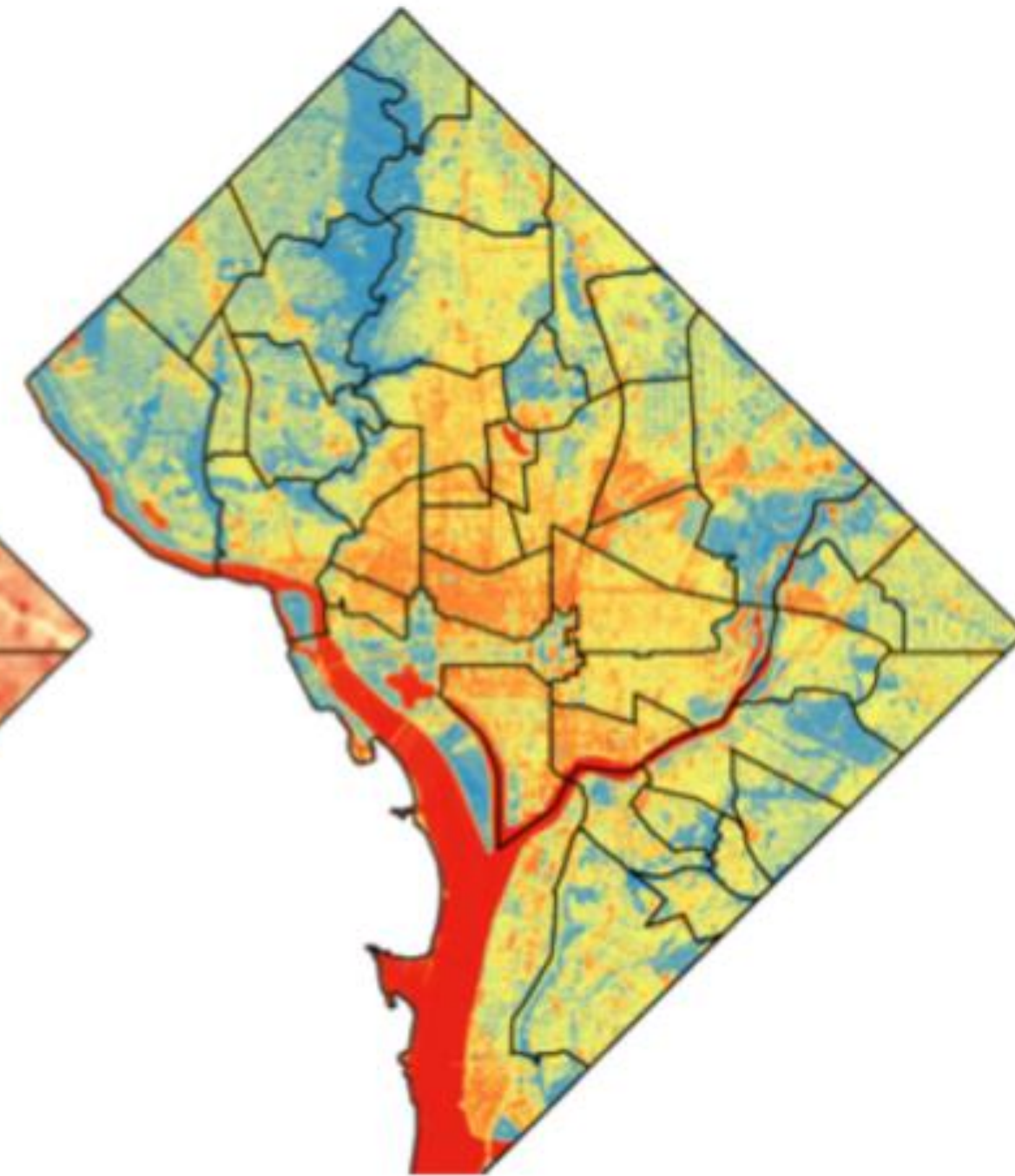
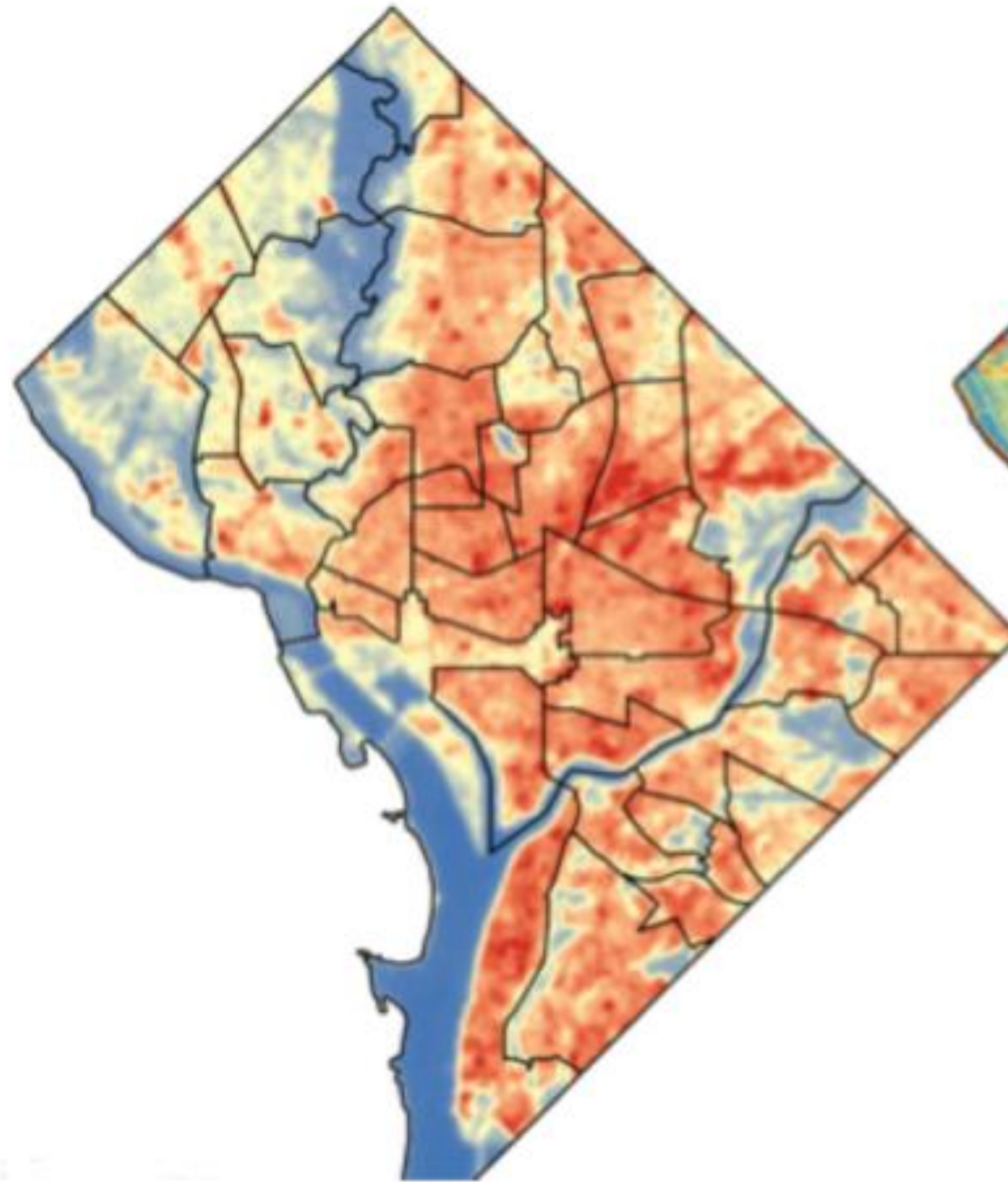
# Washington, D.C. Heat Island Effect

## TEMPERATURE

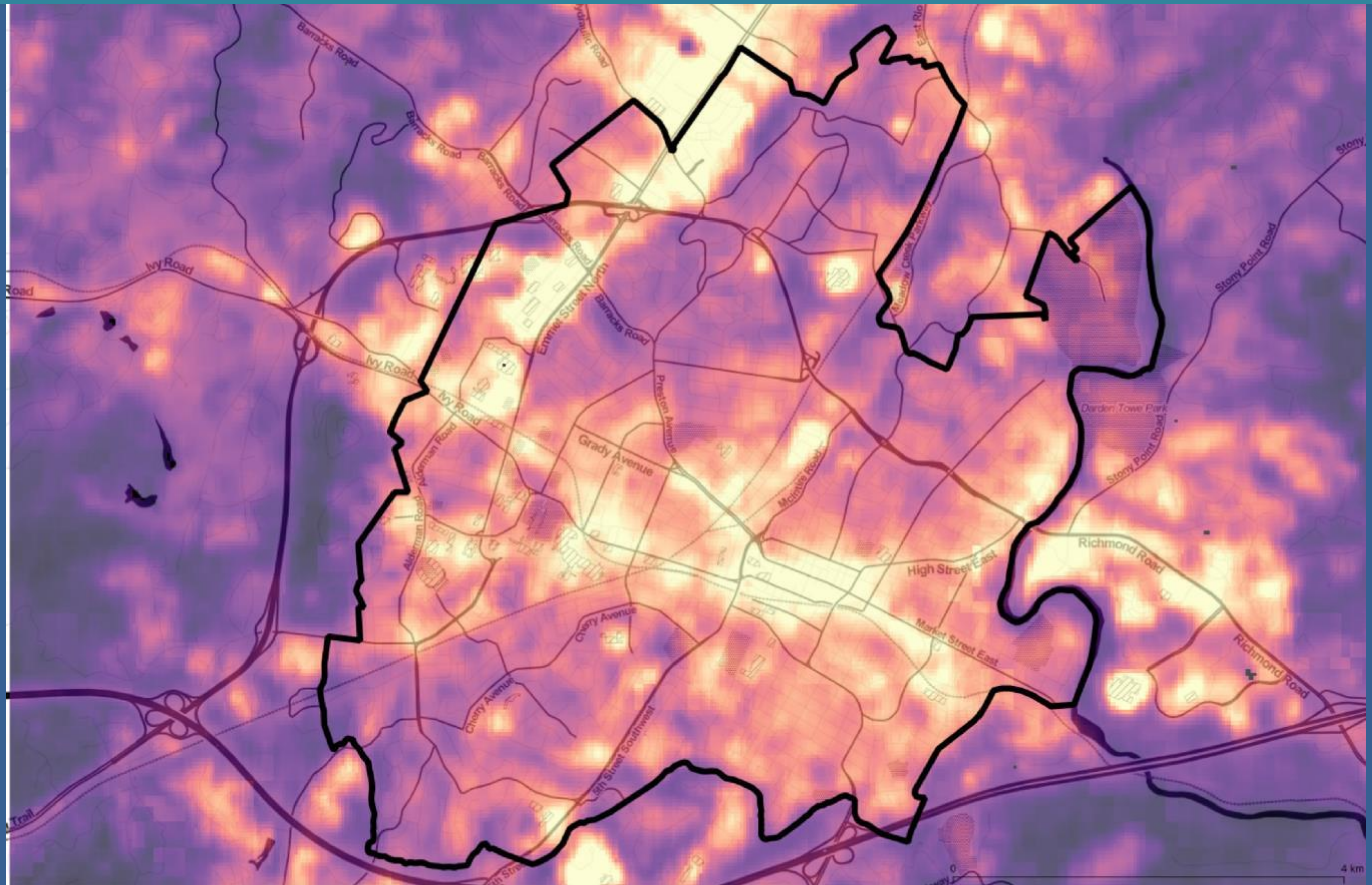
## VEGETATION

High surface temperatures correspond with

Low vegetation / canopy coverage



# Charlottesville Heat Island Effect



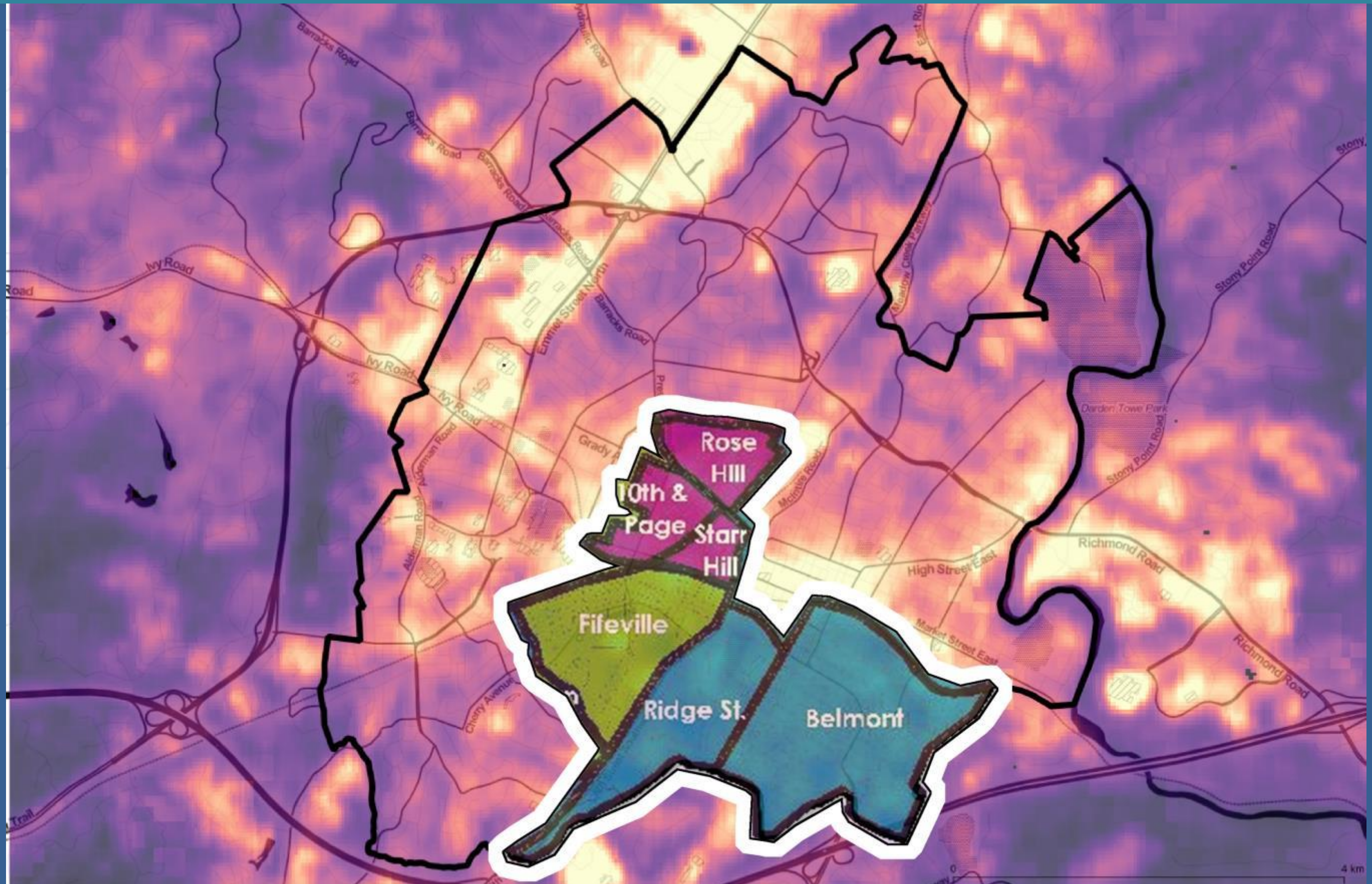
06/10/2017 Land Surface Temperatures - Analyzed by J.S. Hoffman

80°F



109°F

# Low Income / CDBG Neighborhoods



06/10/2017 Land Surface Temperatures - Analyzed by J.S. Hoffman

80°F

109°F

# Low income neighborhoods in Charlottesville have less shade



06/10/2017 Land Surface Temperatures - Analyzed by J.S. Hoffman

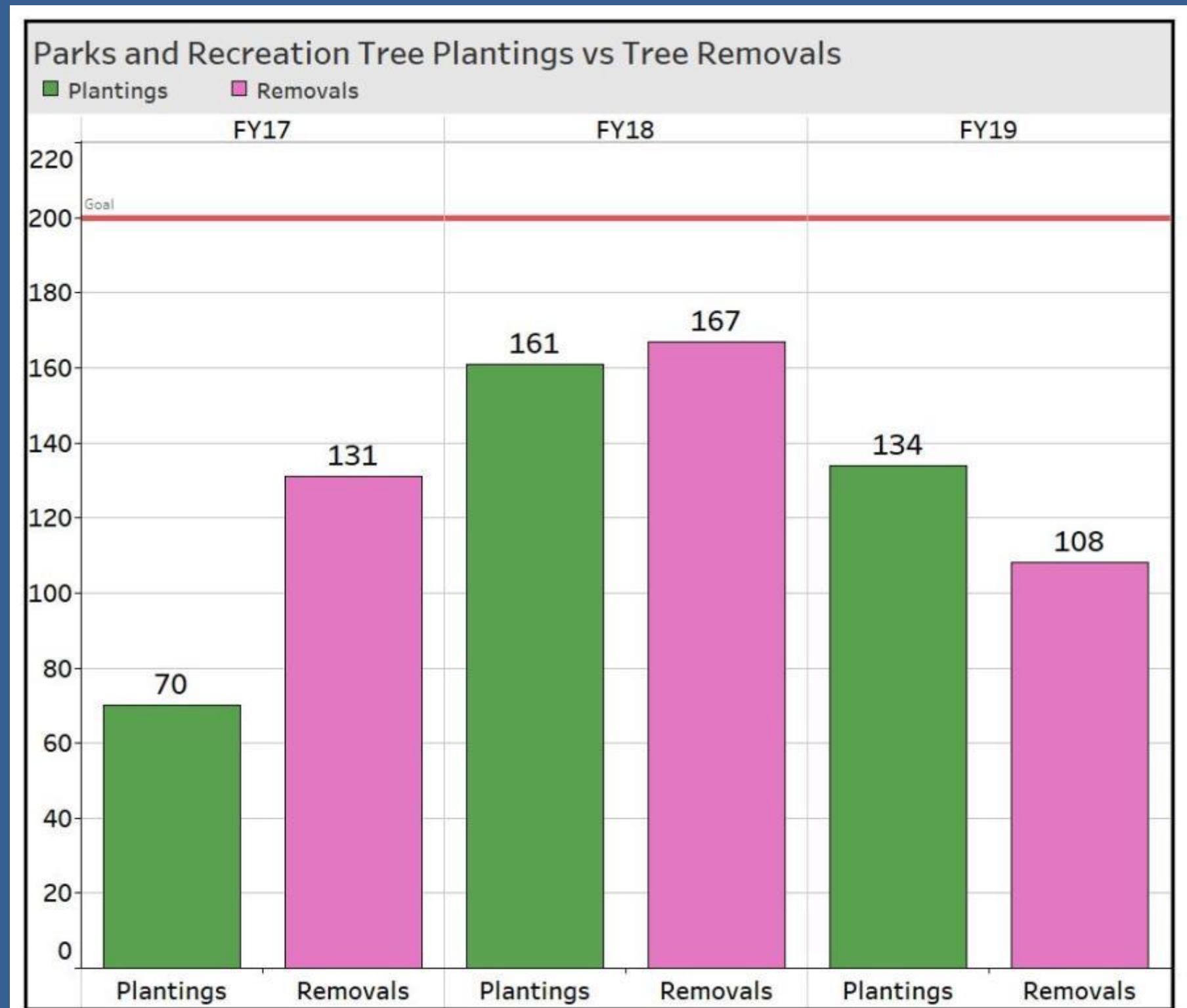


# GIS data system to track annual tree spending

Tree Commission & Parks & Rec collaboration

## TREE PLANTING VS. REMOVALS

- Goal of 200 new tree plantings per year not met



**Tree Plantings vs Tree Removals** Urban Forest Management Plan. Action#4.13. *"Maintain GISD layer to include new and removed trees to keep inventory up to date."*

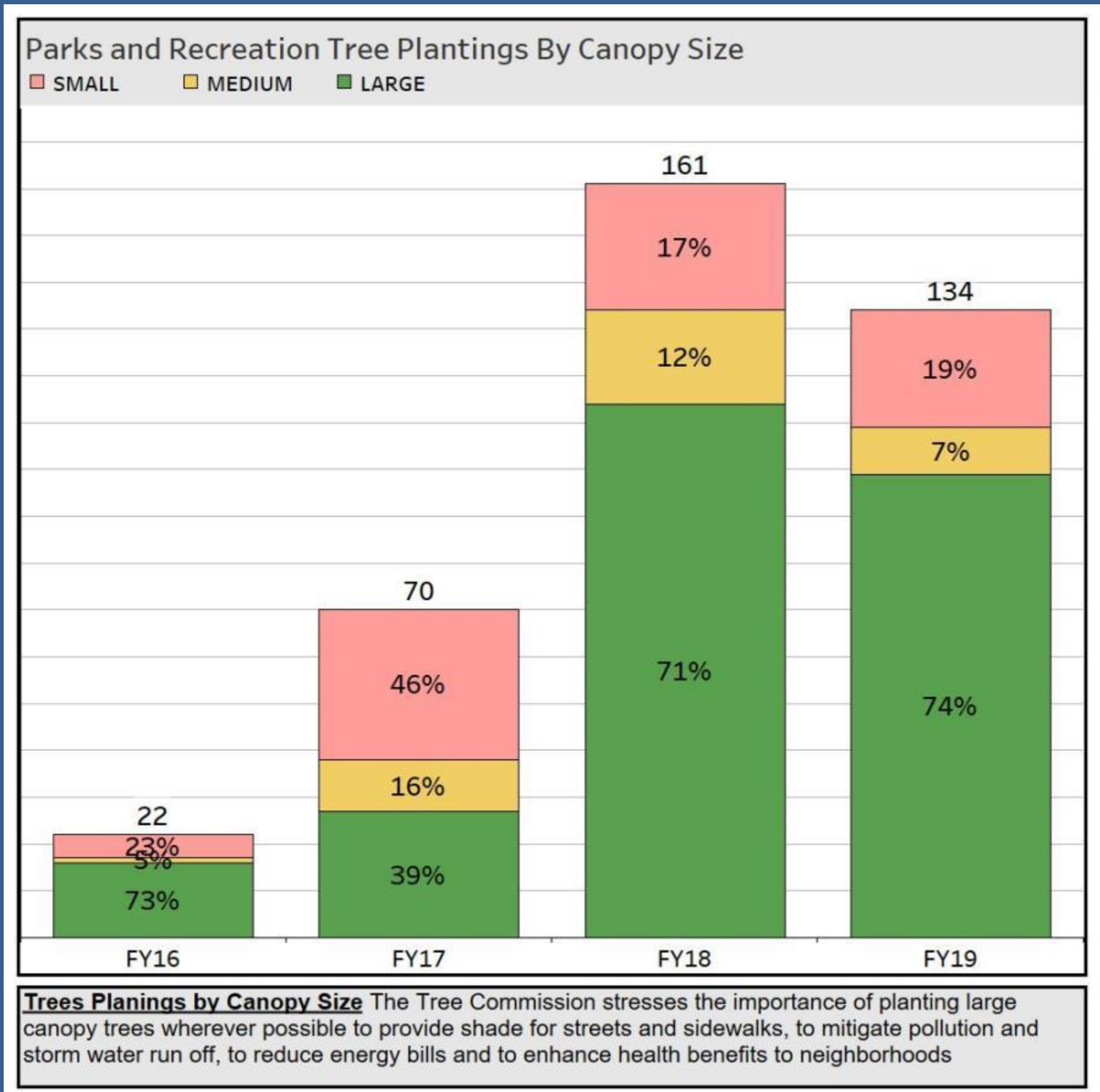
The chart shows that the number of trees planted annually is only slightly outpacing the number of trees removed in that same year.



# GIS data system to track annual tree spending

Tree Commission & Parks & Rec collaboration

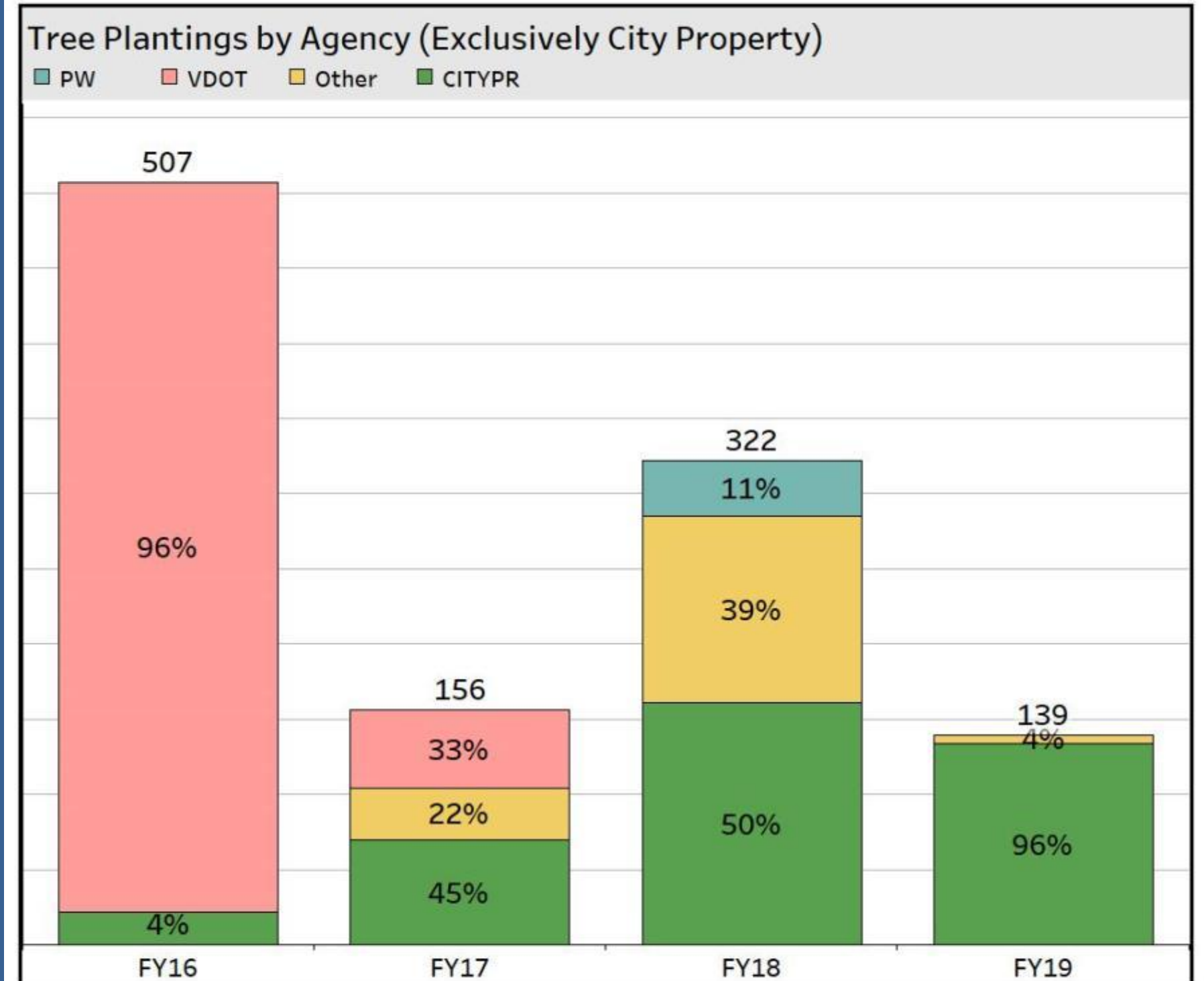
## TOTAL TREE PLANTINGS (by canopy size)



# GIS data system to track annual tree spending

Tree Commission & Parks & Rec collaboration

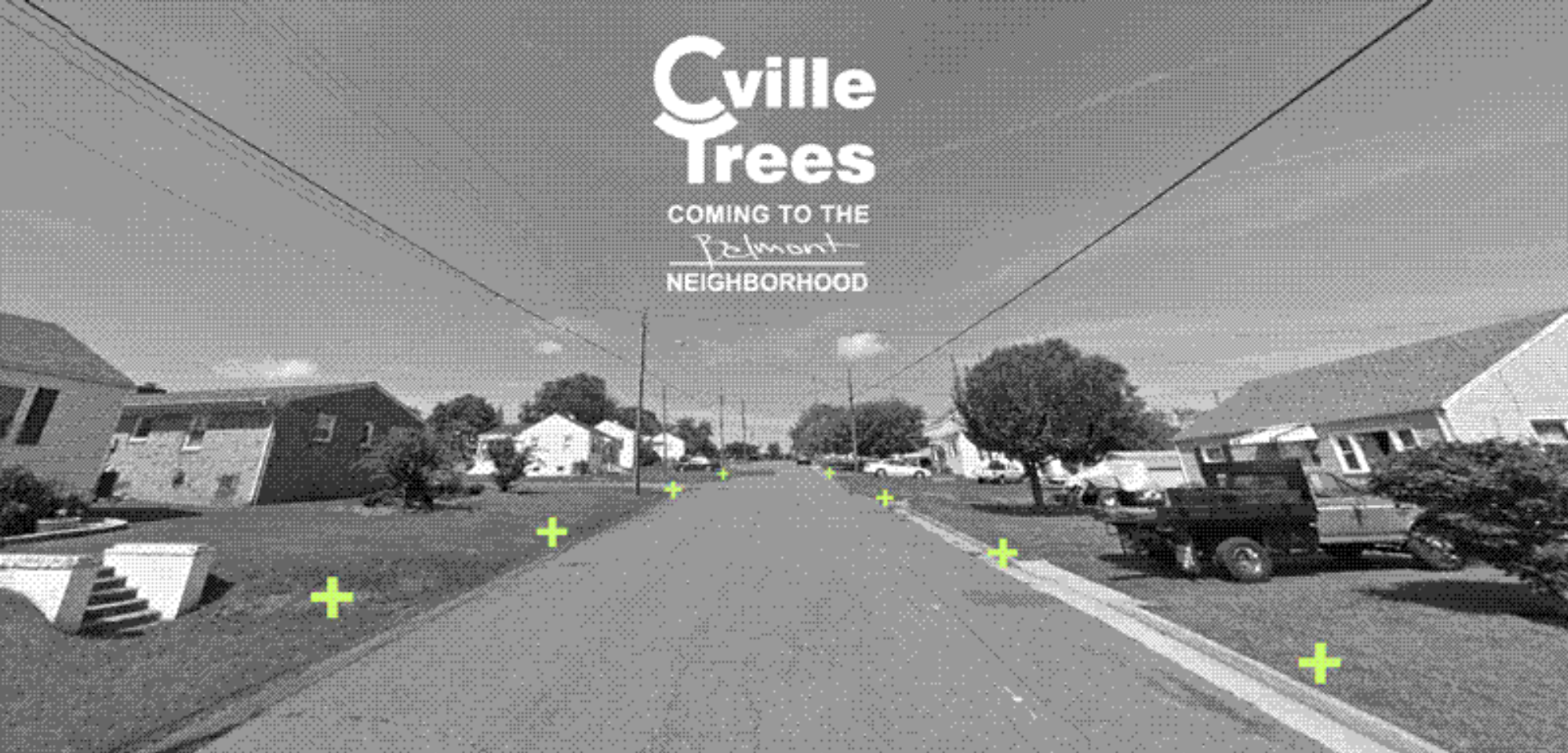
## TREE PLANTING BY DEPARTMENT




**Tree Plantings by Agency** In FY16, VDOT planted 484 trees (96%) in the Warner Parkway interchange. In FY17, VDOT planted 53 trees (34%) in the Route 29 median strip near Best Buy, while Others, i.e., private donations, volunteer groups, Meadowcreek Golf, planted 34 trees (22%) in parks and golf courses. In FY18, similar Other groups planted 126 trees (39%) in greenways, parks and golf courses, while Public Works planted 35 trees (11%) in Schenks Greenway and Forest Hills Biofilter.

# Cville Trees neighborhood planting program

Tree Commission & Charlottesville Area Tree Stewards (CATS) collaboration





## Free Tree!

**BENEFITS OF TREES**

- Provide shade
- Increase real estate value
- Can lower heating and cooling costs
- Increase health and wellness
- Increase sense of community
- Lower stormwater runoff
- Increase bird populations

Details on reverse...

**The Details**

The Tree Commission (Cville Trees) is partnering with the Charlottesville Area Tree Stewards to plant 40 trees, for free, in Belmont! Charlottesville has been losing its tree canopy and we would like to help reverse that problem.

A free tree may be provided to property owners for their front yards, as long as the tree is within 20 feet of the curb. We will assist in the planting, mulching and staking (if necessary) of each tree. Residents will be responsible for watering their tree for a minimum of 2 years.

Trees will be available on a first come, first served basis and you must fill out and return the postcard below before June 30, 2018 to be eligible.

- 25 new trees being planted last November by CATS/TC members
- Independently fundraised (\$3,000 total)

**Future Tree Owner!**

Can you agree to water and take care of your tree for a minimum of 2 years?    Yes    No    please circle one.


First Name \_\_\_\_\_ Last Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Primary Phone \_\_\_\_\_ Email \_\_\_\_\_

If renting, please supply owner name and phone number: \_\_\_\_\_



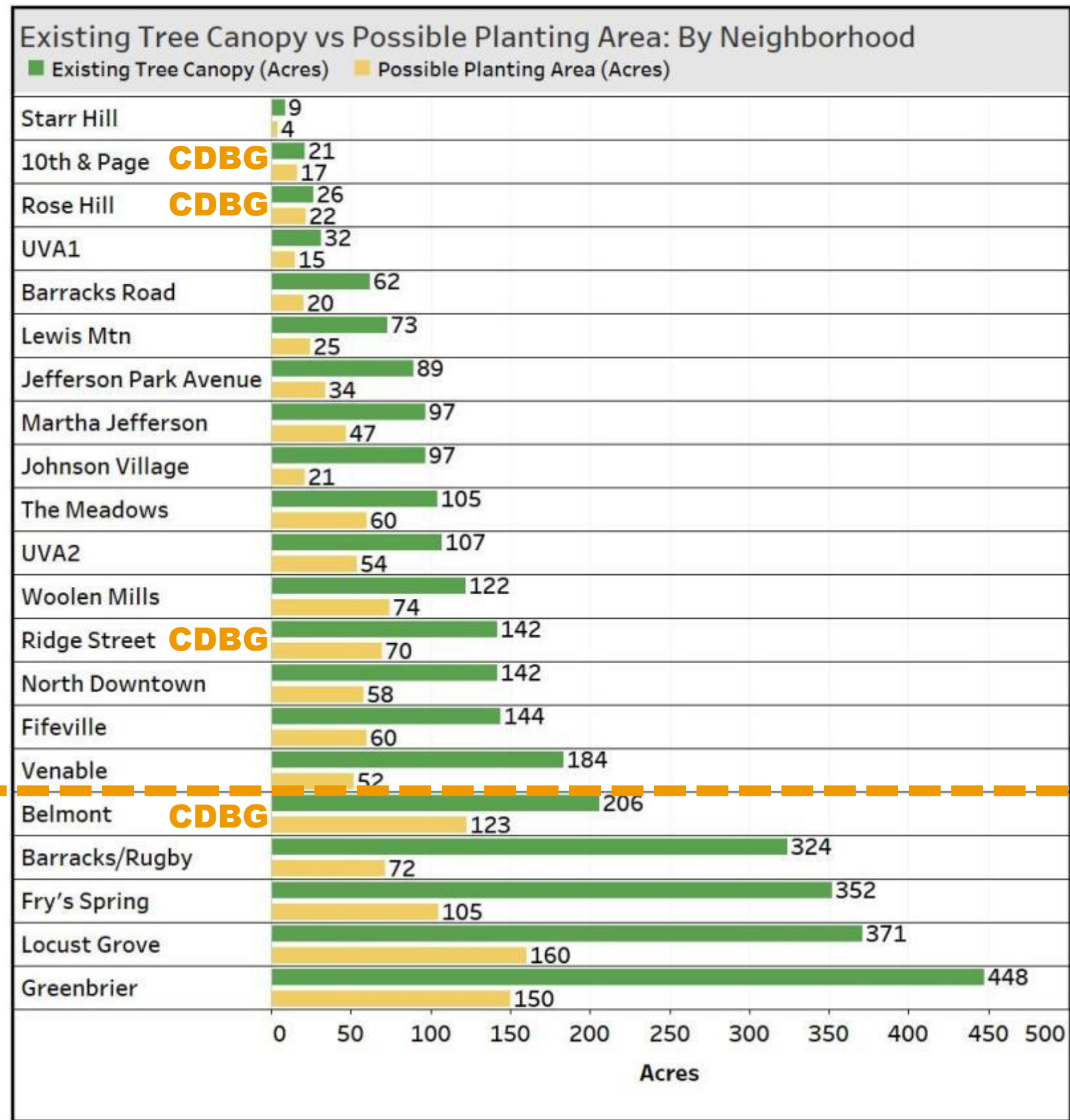
**Cville Trees Belmont**  
**321 Main St**  
**Charlottesville, VA 22903**

This Neighborhood Tree Program is supported by the Charlottesville Area Tree Stewards (CATS), Charlottesville Tree Commission (Cville Trees) and Charlottesville Parks and Recreation.

# GIS data system to track available planting zones

Tree Commission & Parks & Rec collaboration

EXISTING Canopy  
&  
POSSIBLE Planting Area



17 ac  
22 ac

70 ac

123 ac

120+ acres of possible planting area (public & private)

LOW Available Planting Area



HIGH Available Planting Area



**Existing Tree Canopy vs Possible Planting Area** The Urban Forest Management Plan "Compare 5-year data with canopy goals set for various sub-areas".

For 21 designated neighborhoods, the dark green represents the acres of current tree canopy, the yellow represents the acres for possible tree planting.

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Tree Commission & Charlottesville Area Tree Stewards (CATS) collaboration



# Cville Trees neighborhood planting program

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# Cville Trees neighborhood planting program

Tree Commission & Charlottesville Area Tree Stewards (CATS) collaboration

- **24 new trees being planted this November 9<sup>th</sup> by CATS/TC members**  
(meet at Belmont Park, 9am)



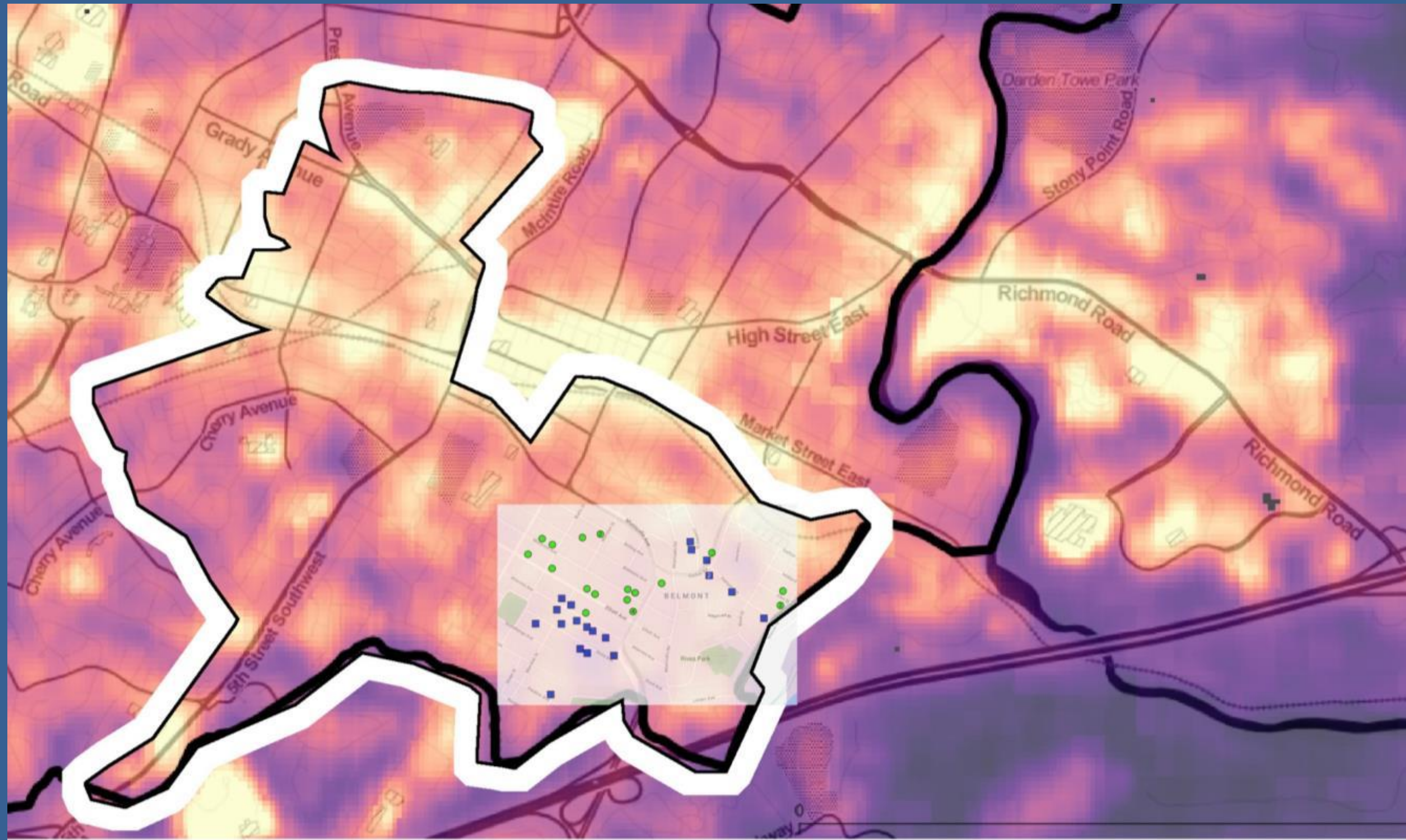
# Cville Trees neighborhood planting program

Tree Commission & Charlottesville Area Tree Stewards (CATS) collaboration

2018: 20 trees

2019: 22 trees

42 new trees  
planted on  
private property  
within 15' of the  
street ROW for  
future shade  
over homes and  
sidewalks



80°F

109°F



How can council help?

# GIS data system to track annual tree spending

Tree Commission & Parks & Rec collaboration

## CIP REQUEST AND APPROVAL TRACKING

- Last year, council continued to support \$50k for the annual tree planting budget from CIP funding (thank you!)

- \$50k = approx. 140 trees (est. \$350/tree)

TREE PRESERVATION/PLANTING PROJECTS (CIP) FISCAL YEAR ACTUAL REVENUES AND EXPENDITURES						
Category	Item	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
REVENUES	Requested	50,000	125,000	125,000	325,000	50,000
	Approved by Council	25,000	50,000	50,000	150,000	50,000
	Existing Carry-over	87,149	77,886	19,841	0	109,725
	Grant reimbursement		0	3,345	0	0
	<b>Balance at Start of FY</b>	<b>112,149</b>	<b>117,886</b>	<b>69,841</b>	<b>150,000</b>	<b>159,725</b>
	Transfer in from OP budget		0	26,109		
	<b>Total Revenues</b>	<b>112,149</b>	<b>117,886</b>	<b>95,950</b>	<b>150,000</b>	<b>159,725</b>
EXPENDITURES	Tree Planting		14,590	37,977	40,275	
	Pro-active Tree Preservation		53,110	54,373	*now wholly funded by operating budget	*now wholly funded by operating budget
	Mall		28,245	3,600		
	Mall Tree Preservation Planning		2,100	0	0	
	<b>Total Expenditures</b>	<b>34,263</b>	<b>98,045</b>	<b>95,950</b>	<b>40,275</b>	<b>0</b>
	<b>Future Carry-over</b>	<b>77,886</b>	<b>19,841</b>	<b>0</b>	<b>109,725</b>	



CIP Preservation and Planting Projects This chart shows the CIP revenues and expenditures for FY16 – FY19. In FY19, the City funded a one-time planning study for the Downtown Mall and \$50,000 for on-going tree planting. Not seen in this chart is an additional \$50,000, which was funded in the operating budget for pro-active Tree Preservation.

# Advocating for trees in our community: Upcoming CIP Funding

- Support \$100k for annual tree planting from CIP fund (~180-280 trees)
- Support \$50k for preservation budget related to upcoming Emerald Ash Borer losses



# How Council can help:



1. Support **City Forester position in NDS** to oversee all site plans and help bring a vision to urban canopy creation (not reaction) between departments
2. Support staff releasing all upcoming **site plans to Tree Commission for optional, advisory feedback**
3. Remove **zero setbacks from all zoning code** to provide space for canopy / healthy, community streets
4. Support **\$100k for annual tree planting from CIP fund** (~180-280 trees)
5. Support **\$50k for preservation budget related to upcoming Emerald Ash Borer losses**