

Worcester Urban Forest Master Plan

District 5 Meeting
22 September 2022



The City of
WORCESTER



Worcester's Urban Forest

What is It?

Urban Forest

All of the trees that surround us every day in Worcester

Public Trees

- Streets
- Parks and Natural Areas
- Other City-owned Property

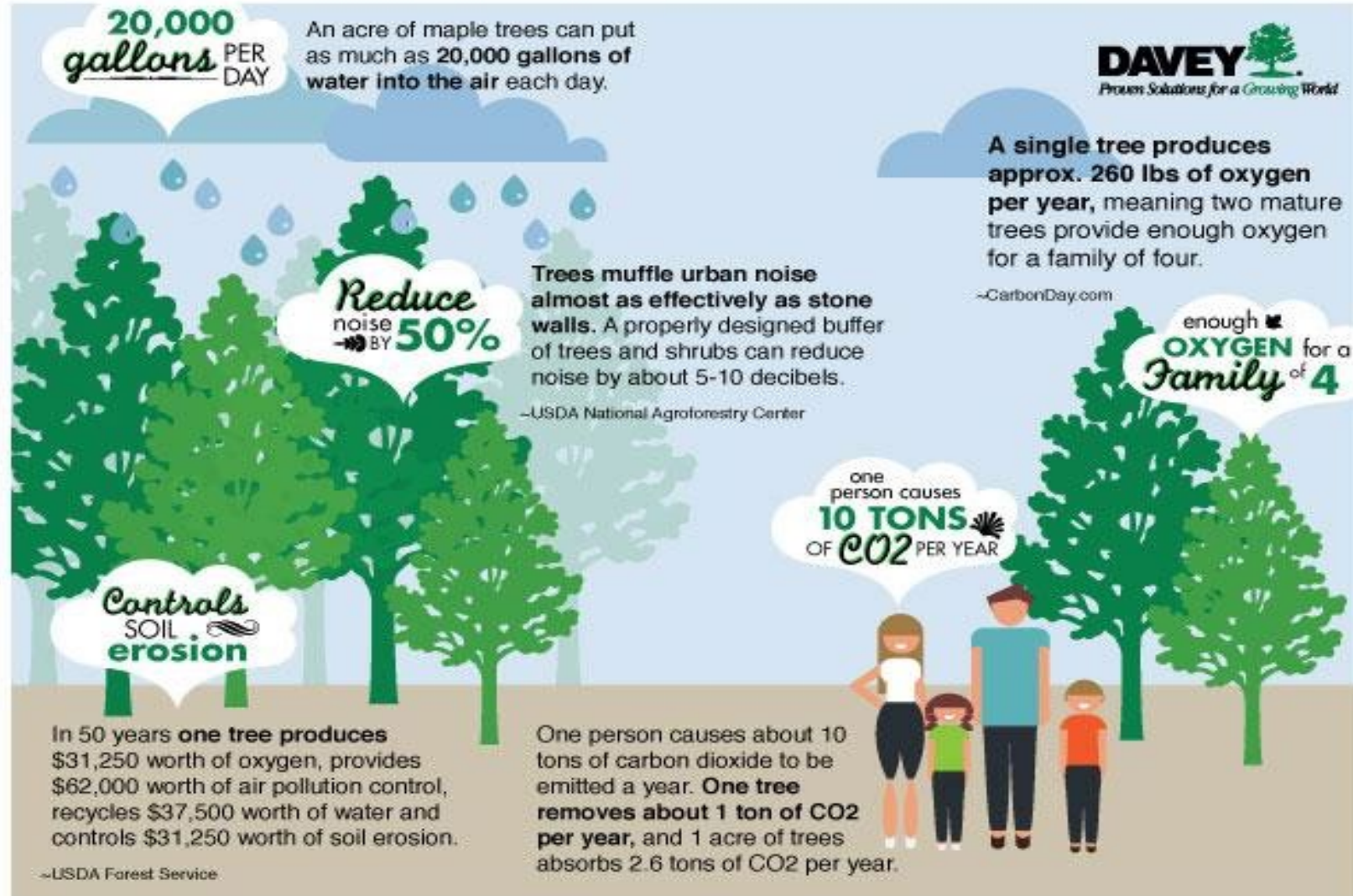
Private Trees

- Residential
- Commercial
- Industrial
- Institutions (colleges, universities, hospitals, etc.)



Photo: Worcester Polytechnic Institute wpi.edu

General Benefits of the Trees

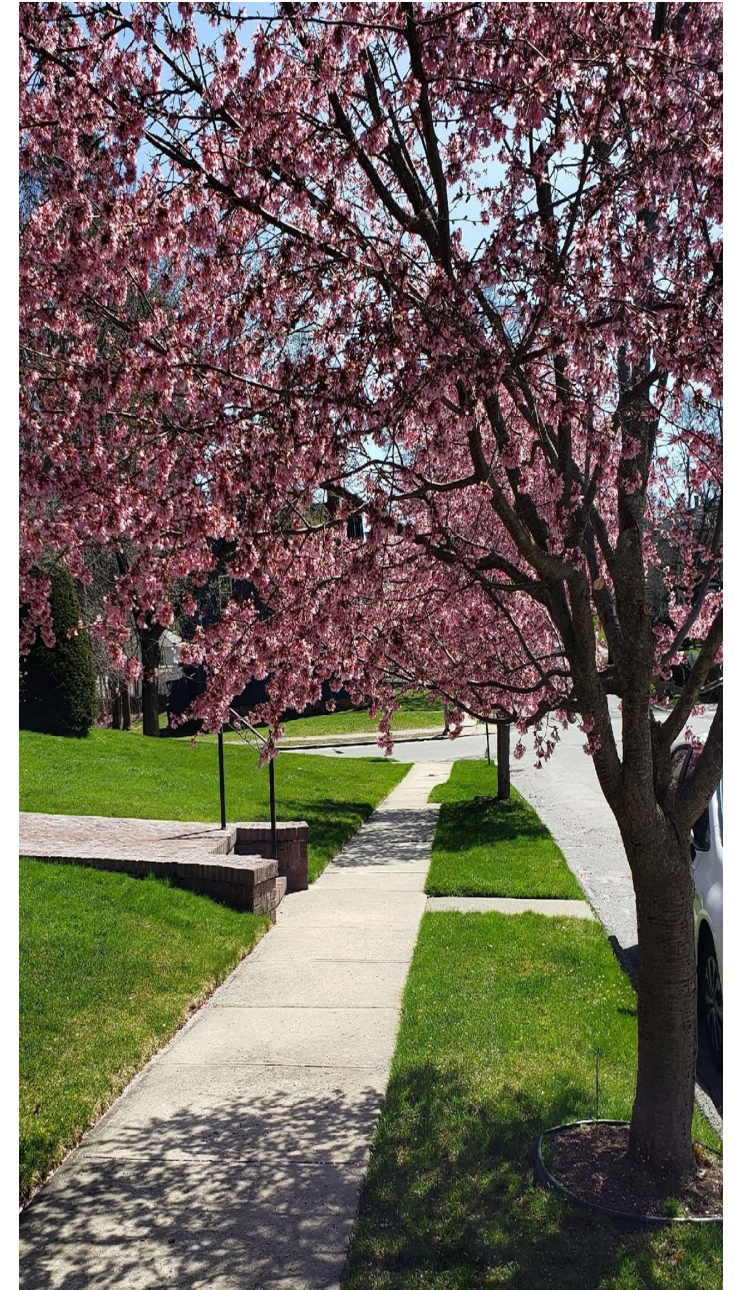


Urban Forest Master Plan

Why Plan?

The Urban Forest Master Plan will serve as a **guiding document** for Worcester to ...

- **sustainably manage, maintain and grow** Worcester's urban forest.
- develop a **unified community vision** for the future of Worcester's urban forest
- **maximize the benefits** that trees provide.



Project Timeline

LATE FALL

Project
Launch

SPRING – FALL

Street & Park Tree Inventory
Community Engagement

WINTER

Develop and
Finalize Plan

2021

2022

2022

2022

2023

WINTER

Stakeholder Engagement
Operations Review

FALL

Develop and Present
Draft Recommendations

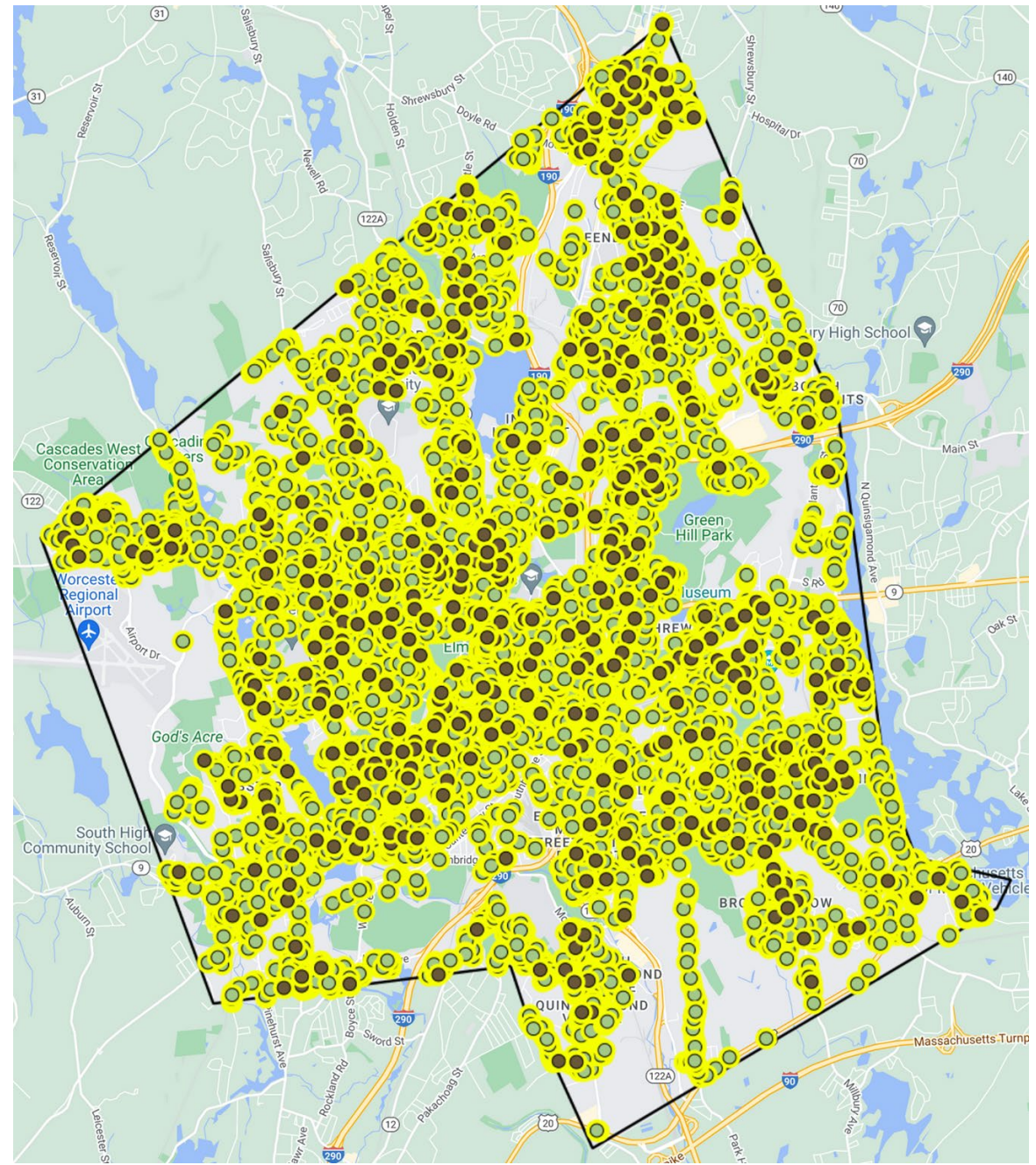
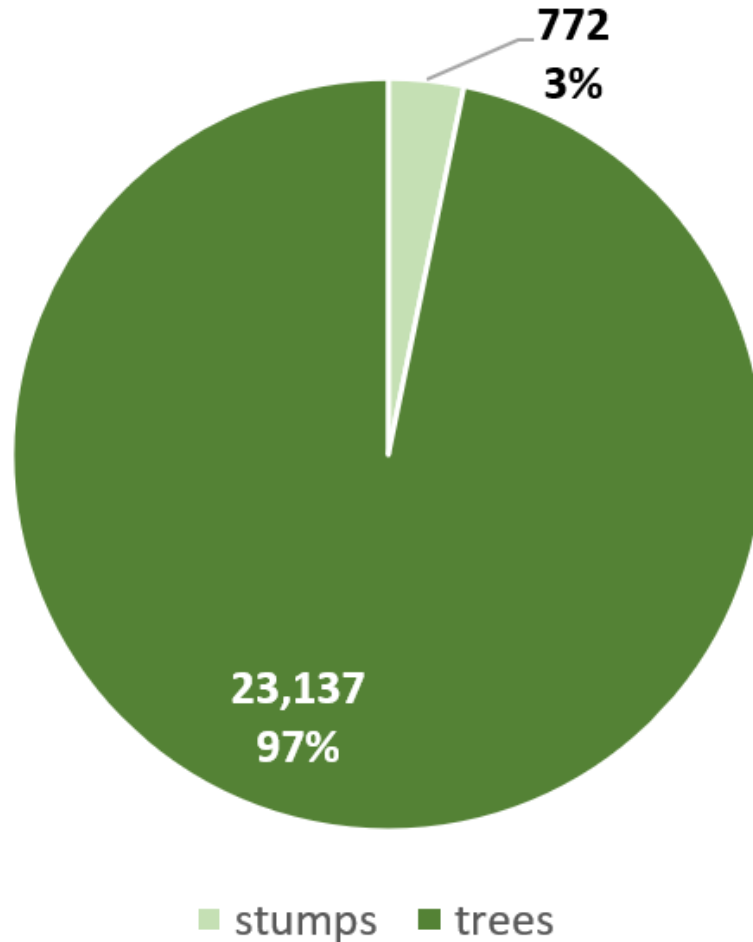


Street Tree Inventory

What Do We Have?

TREE INVENTORY SUMMARY

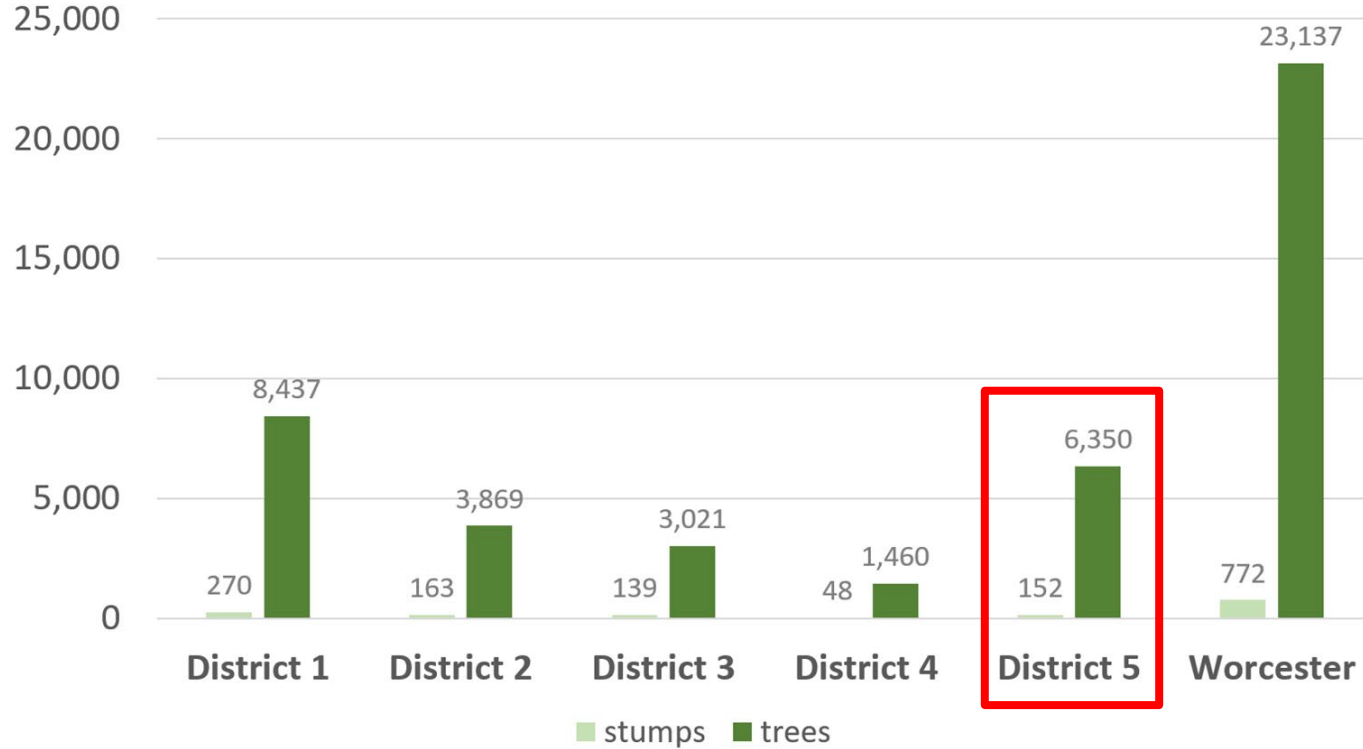
Street Trees & Stumps



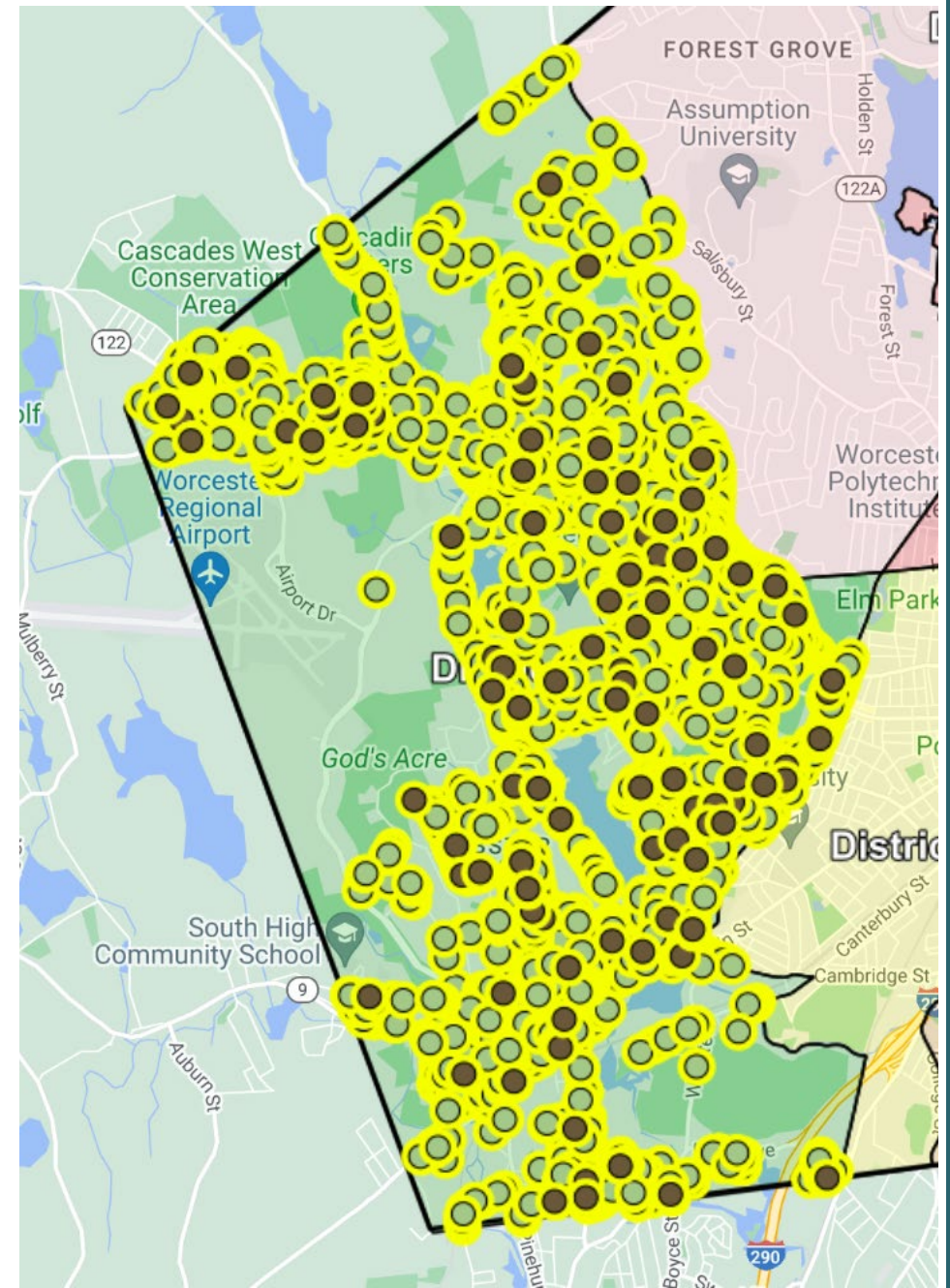
What Do We Have?

TREE INVENTORY SUMMARY

Street Trees & Stumps



Trees	District 1	District 2	District 3	District 4	District 5	Worcester
2005	5,880	2,370	1,689	1,302	4,245	15,486
2022	8,437	3,869	3,021	1,460	6,350	23,137
% change	43%	63%	79%	12%	50%	49%
22 % total	36%	17%	13%	6%	27%	100%



What Do We Have?

TREE INVENTORY SUMMARY

Street Tree Diversity

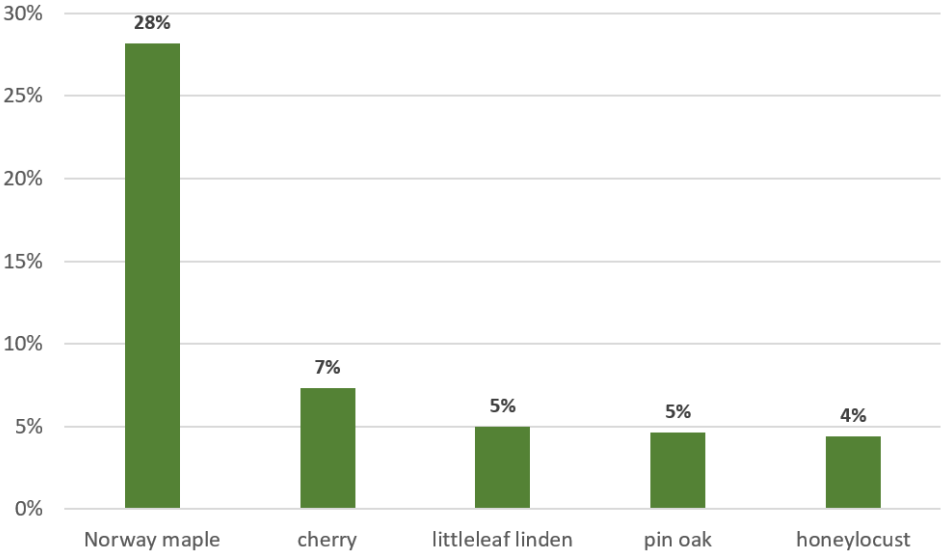
District 5

2005			2022			
Species	Count	Percent	Species	Count	Percent	% change
Norway maple	2,633	62%	Norway maple	2,208	35%	-16%
sugar maple	503	12%	cherry	465	7%	
red maple	205	5%	sugar maple	347	5%	-31%
littleleaf linden	164	4%	littleleaf linden	304	5%	85%
red oak	126	3%	red maple	258	4%	26%
silver maple	62	1%	red oak	254	4%	102%
Callery pear	51	1%	arborvitae	194	3%	
white ash	41	1%	pin oak	172	3%	406%
crabapple	37	1%	Japanese zelkova	143	2%	
pin oak	34	1%	honeylocust	134	2%	

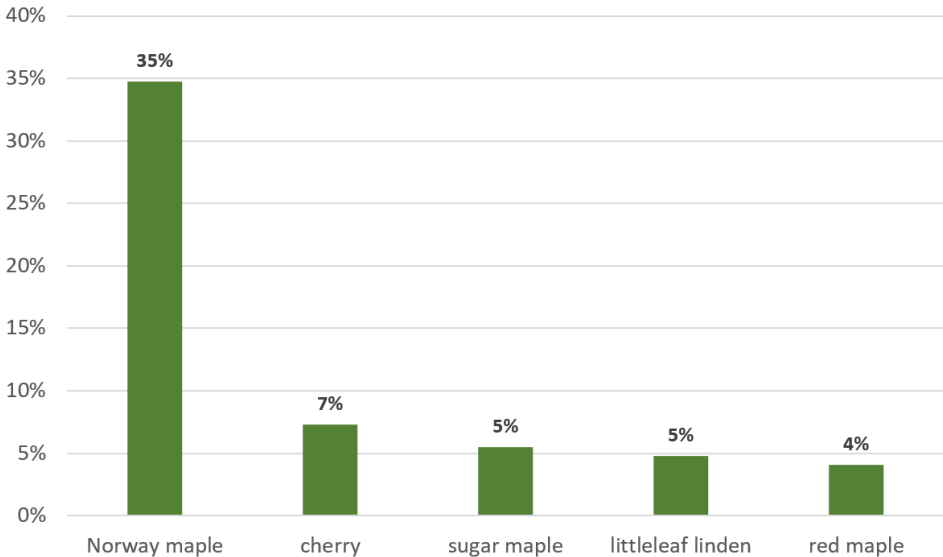
maples -14%
oaks +207%
cherries +1,582%
crabapples +238%
honeylocust +270

Genus Diversity Changes in District 5
2005-2022

Top 5 Species 2022 - Worcester



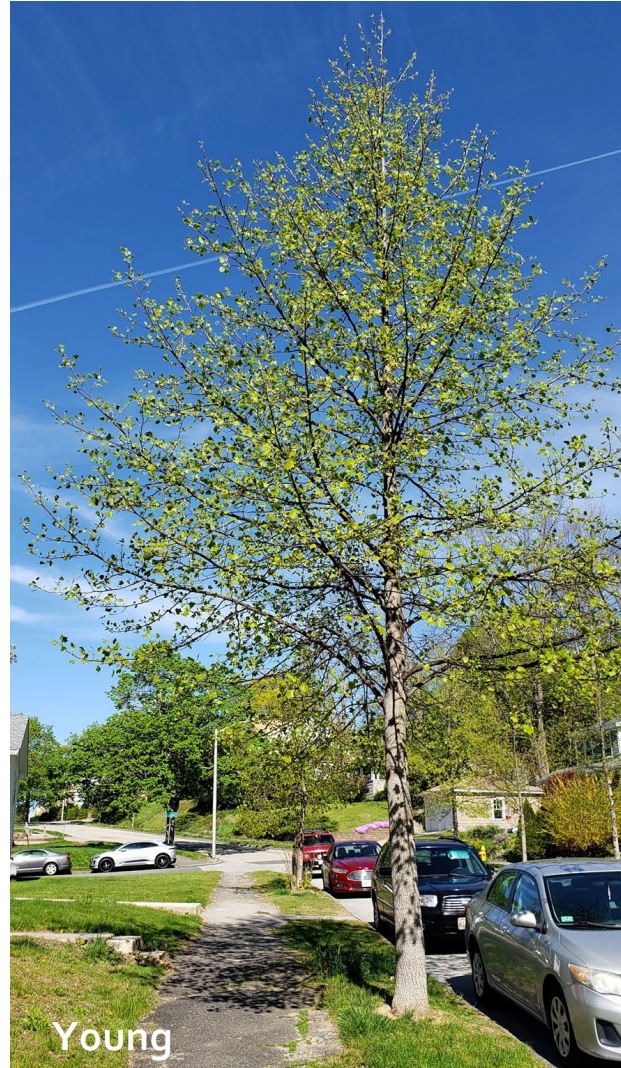
Top 5 Species 2022 - District 5



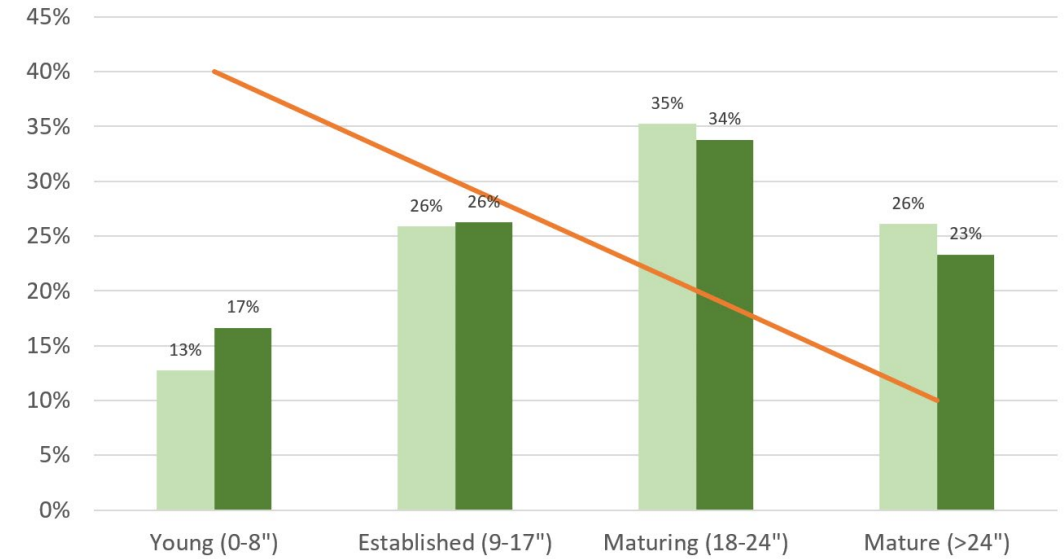
What Do We Have?

TREE INVENTORY SUMMARY

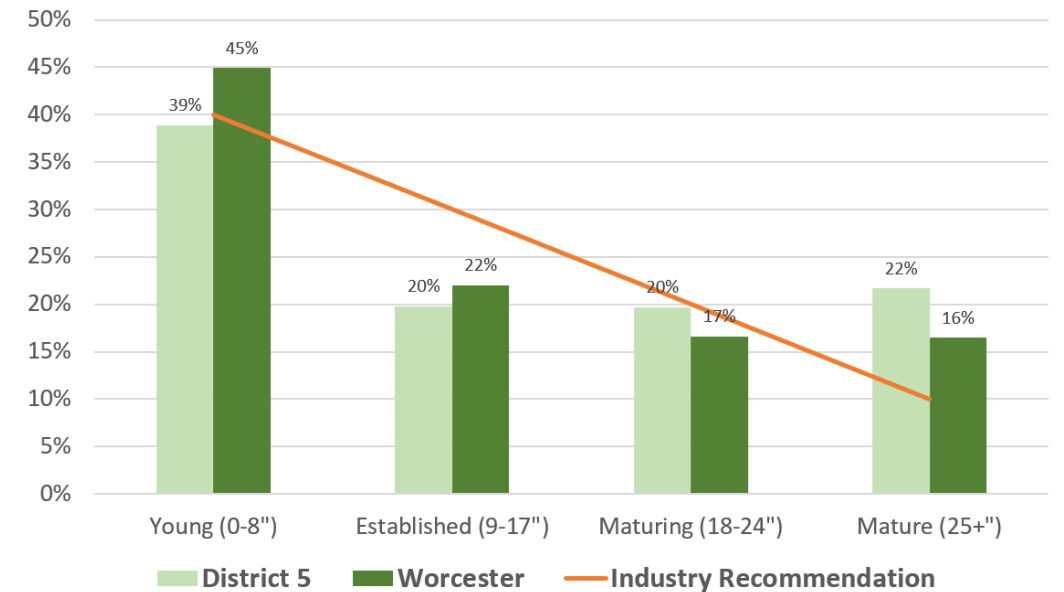
Street Tree Age



Relative Age Distribution of Inventoried Trees 2005



Relative Age Distribution of Inventoried Trees 2022



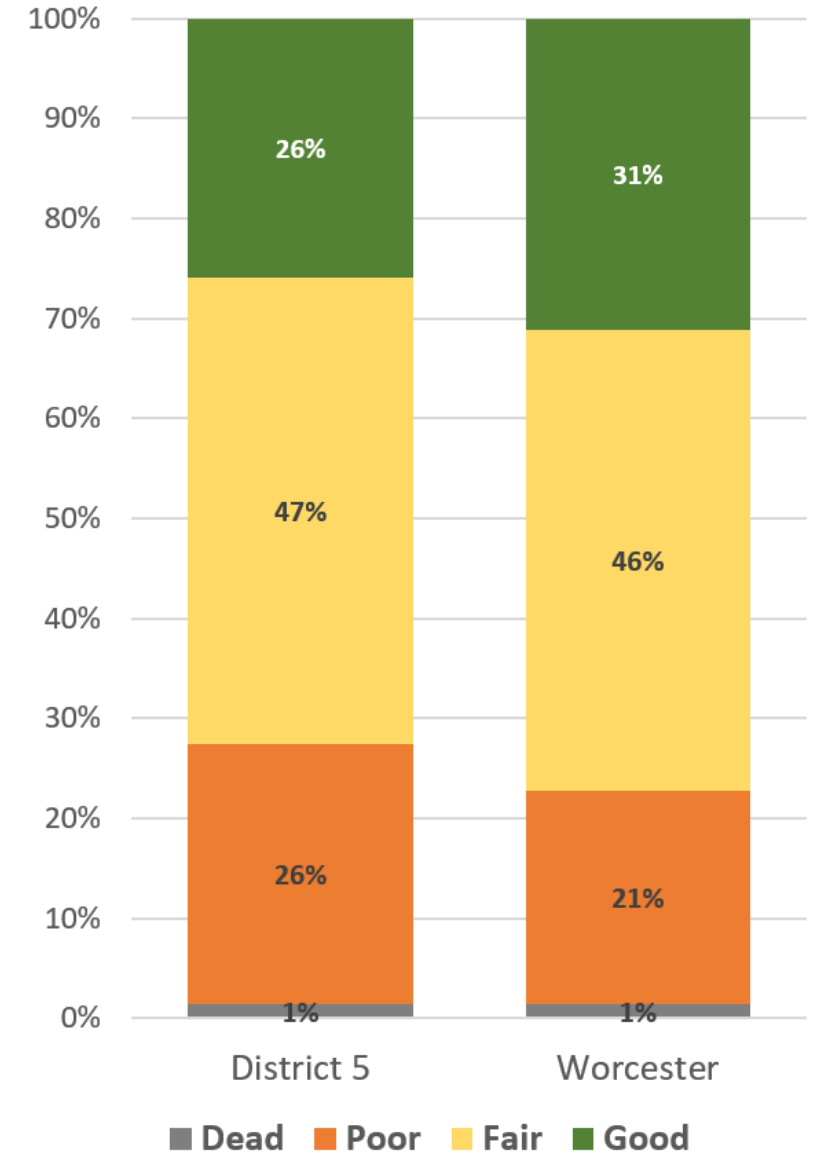
What Do We Have?

TREE INVENTORY SUMMARY

Street Tree Condition



Proportion of Street Trees in Good, Fair, Poor, or Dead Condition 2022



What Do We Have?

Street Tree Benefits

Carbon Storage

17,600+ tons of carbon captured and held in tree tissues

Replacement Value

(cost to replace all inventoried street trees with a similar tree) is **\$39.7 million**

Air Quality

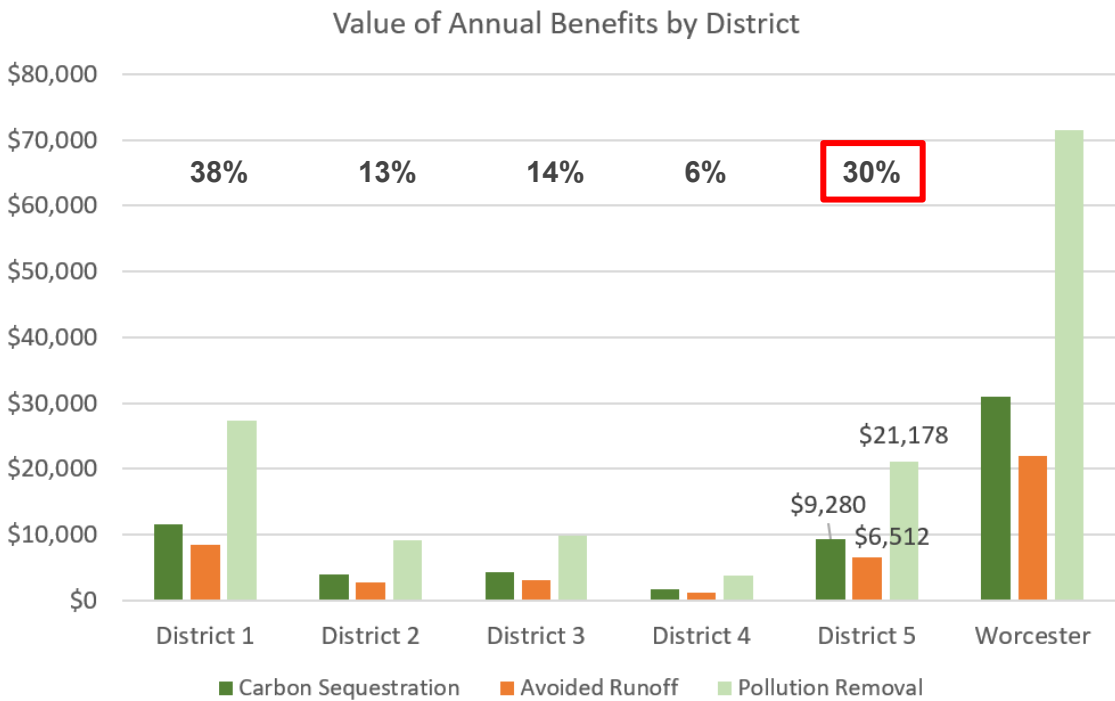
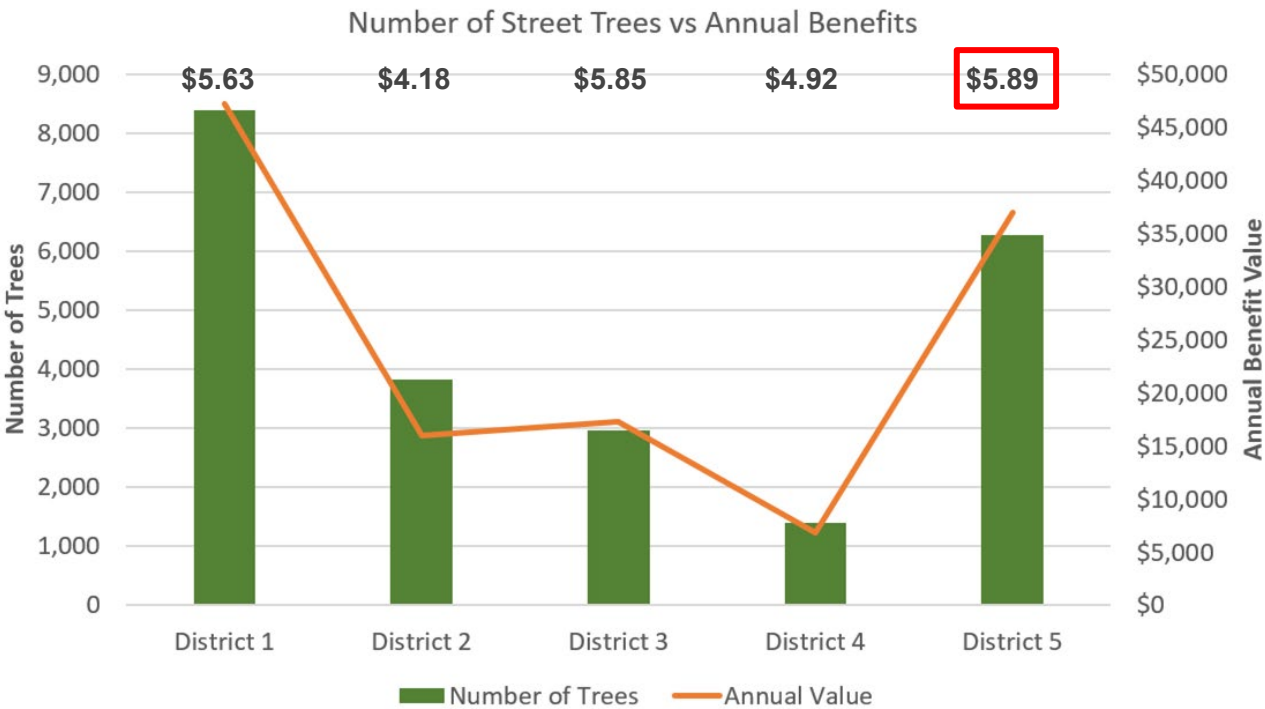
Remove 8,080 pounds of airborne pollutants and particulate matter each year.

Carbon

Sequester (absorb) **181 tons of carbon** each year.

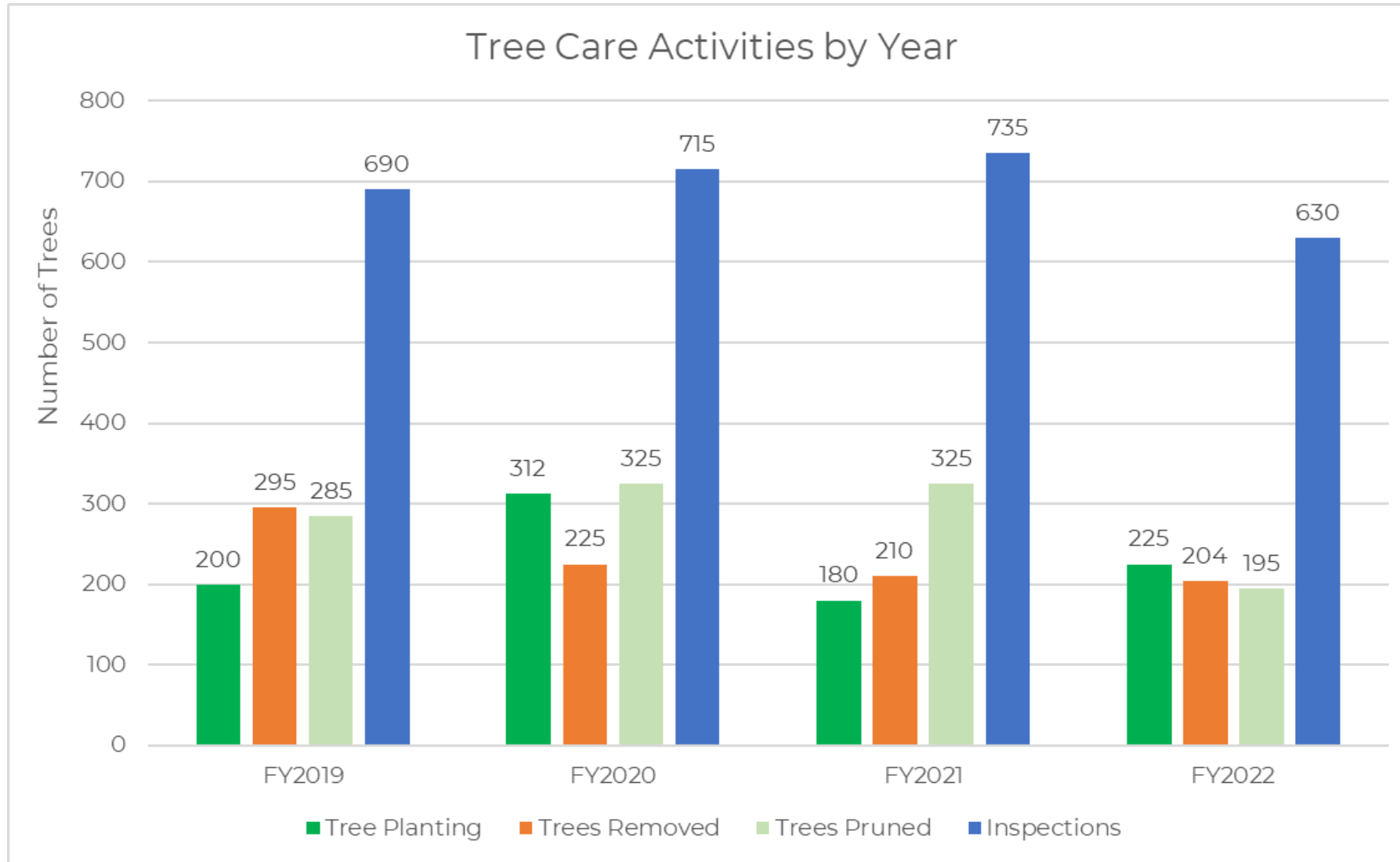
Stormwater

Intercept and absorb **2,457,237 gallons of rainwater per year.**



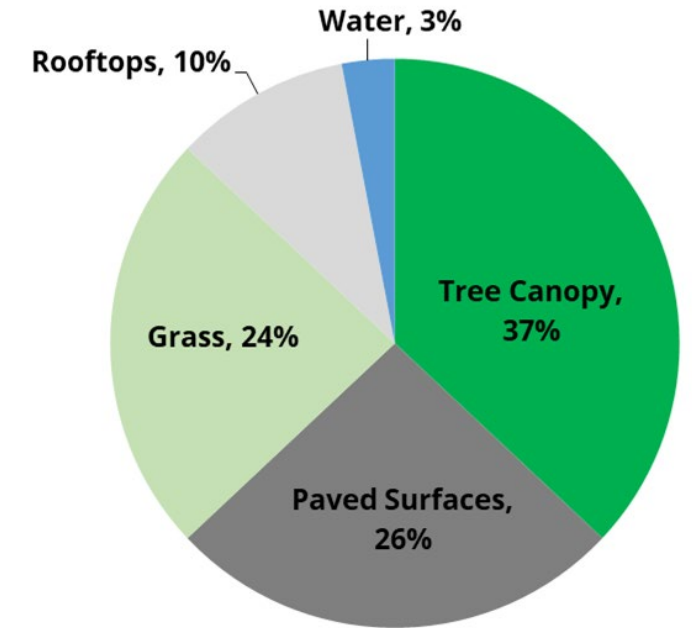
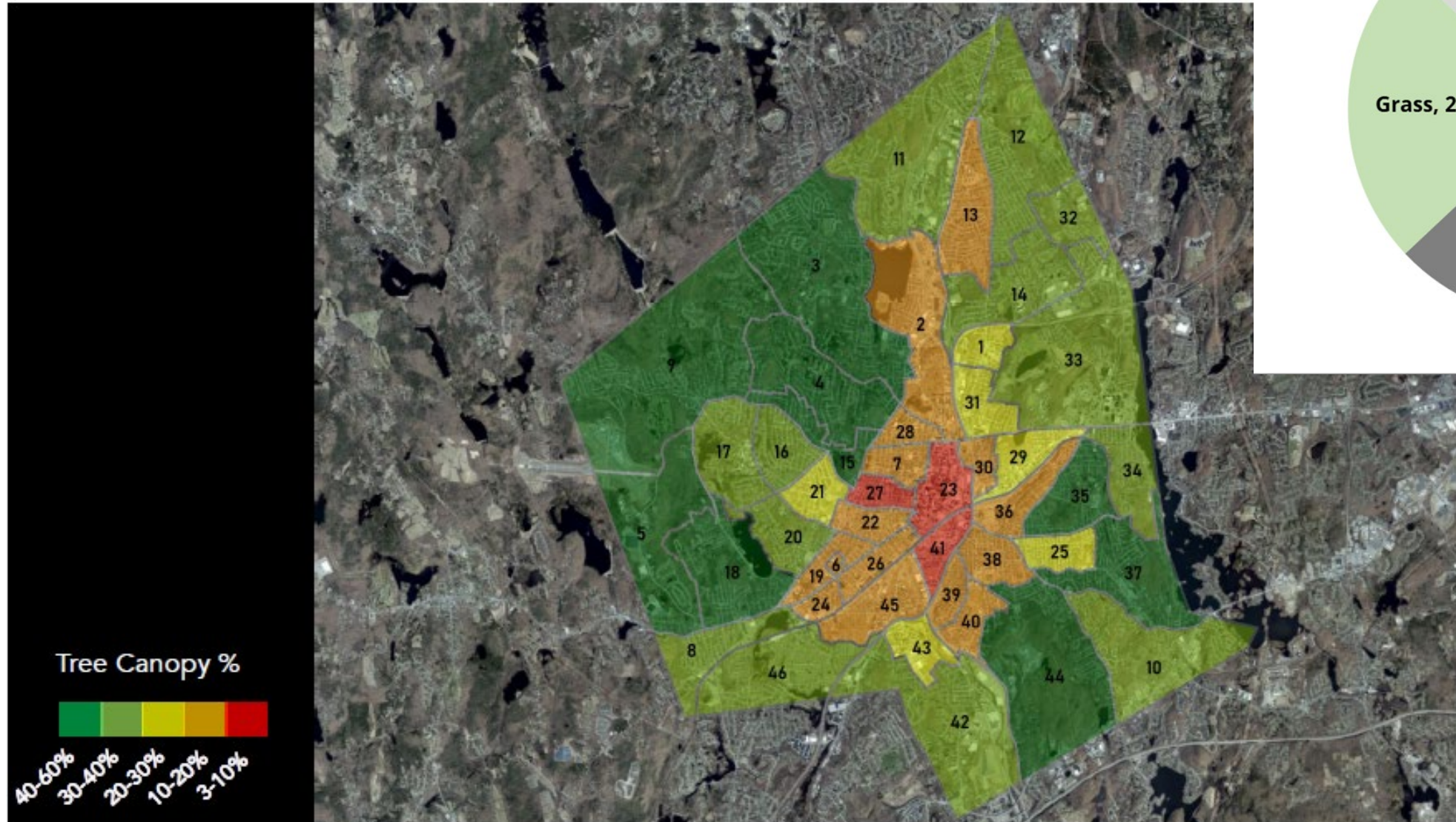
What Do We Have?

Forestry Tree Care Activities



What Do We Have?

Tree Canopy

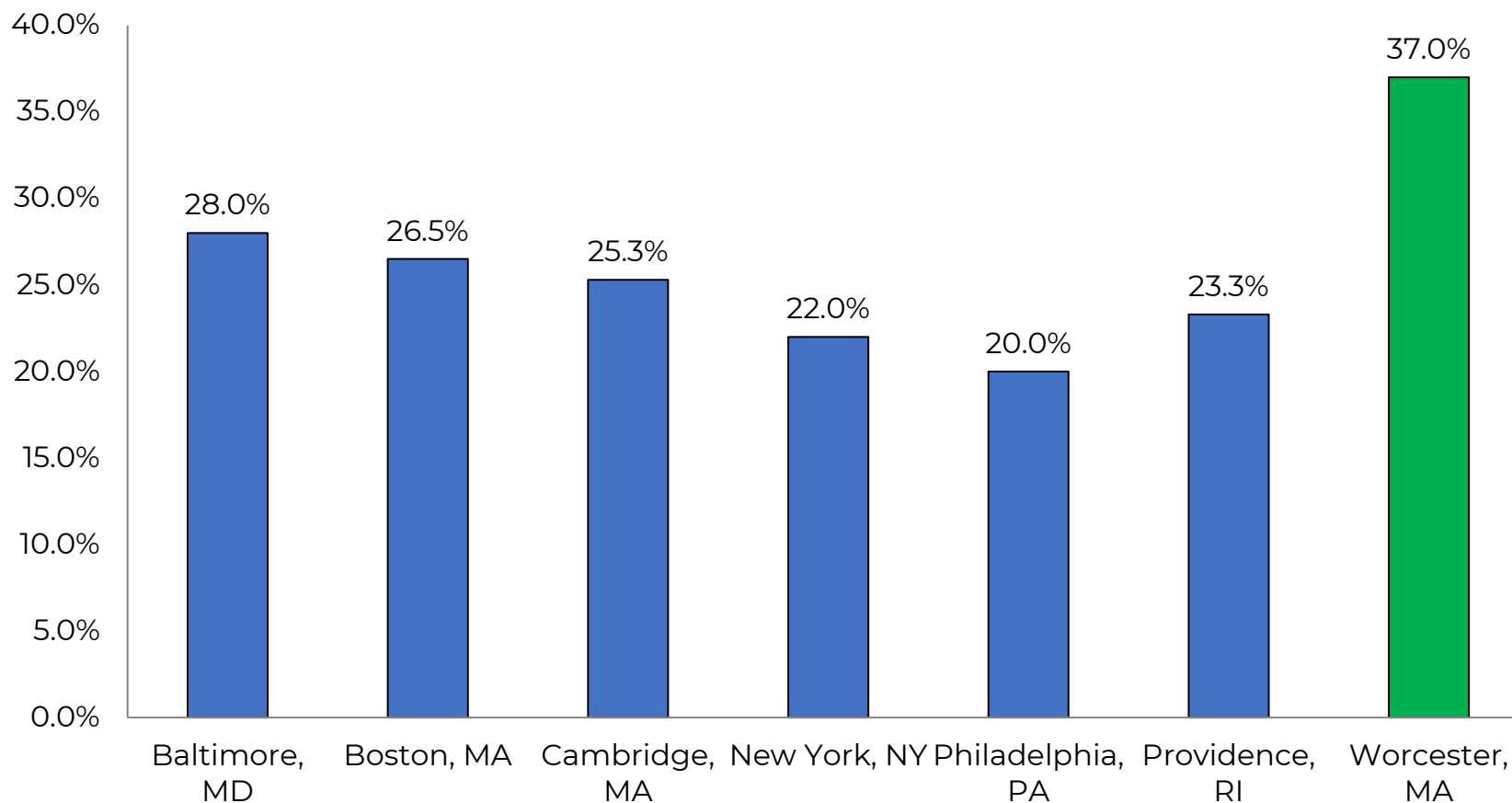


Source: Worcester Heat Risk Assessment (2022) conducted by Urban Climate Consulting for the Worcester Department of Sustainability and Resilience

What Do We Have?

Tree Canopy – How Does Worcester Compare*?

Tree Canopy Cover by City



*Note: This is for general comparison purposes only. The methodologies used to calculate tree canopy cover may differ between communities referenced and/or the information may be outdated.



**What Have We
Heard So Far?**

What have we heard so far?

ENGAGEMENT AND OUTREACH

Stakeholder Meetings

City of Worcester

- Parks and Recreation
- Forestry
- Sustainability and Resilience
- Planning and Regulatory Services
- Public Works
- Human Rights

Community Organizations

- New England Botanic Garden @ Tower Hill
- Worcester GreenCorp (Chamber of Commerce)
- Massachusetts Audubon Society
- Regional Environmental Council
- Greater Worcester Land Trust
- Clark University
- National Grid

Community Open House Meetings

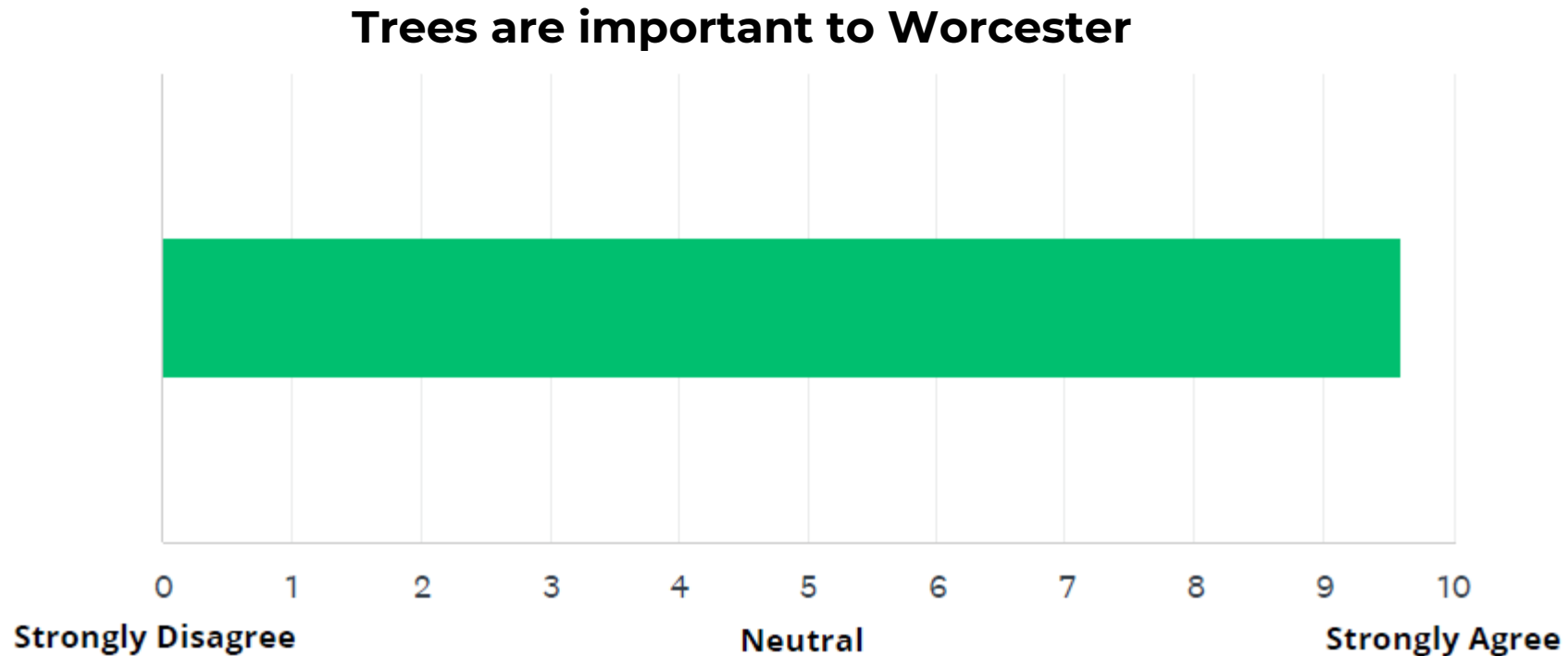
- June 1 and 2, 2022

Community Survey

- Open May 1 – August 19, 2022
- 1,131 Responses

What have we heard so far?

COMMUNITY SURVEY RESULTS



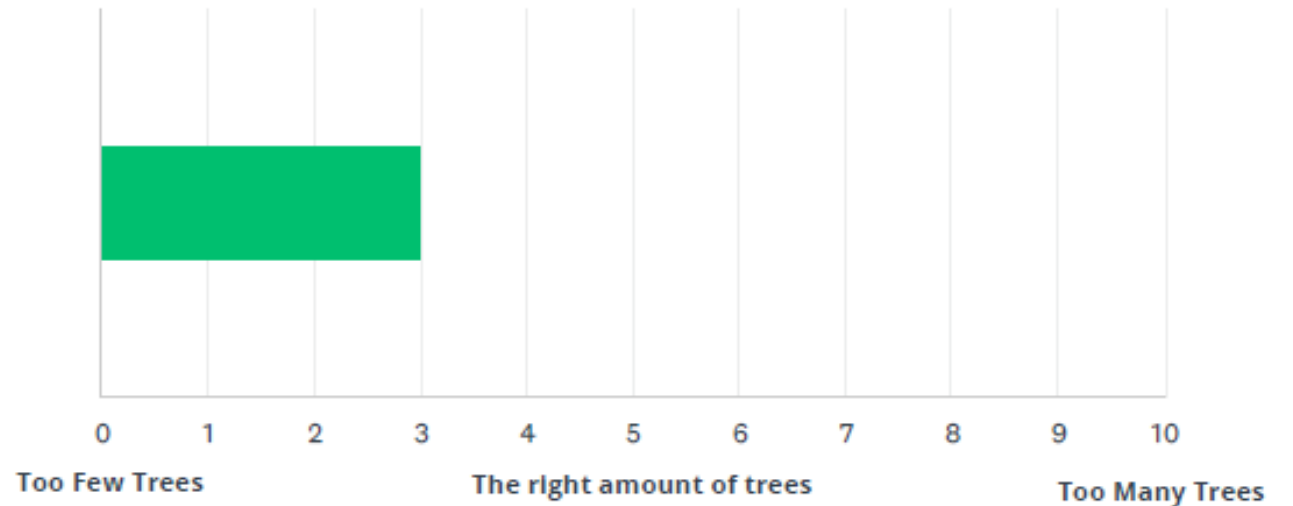
What have we heard so far?

COMMUNITY SURVEY RESULTS

Across the city of Worcester there are...



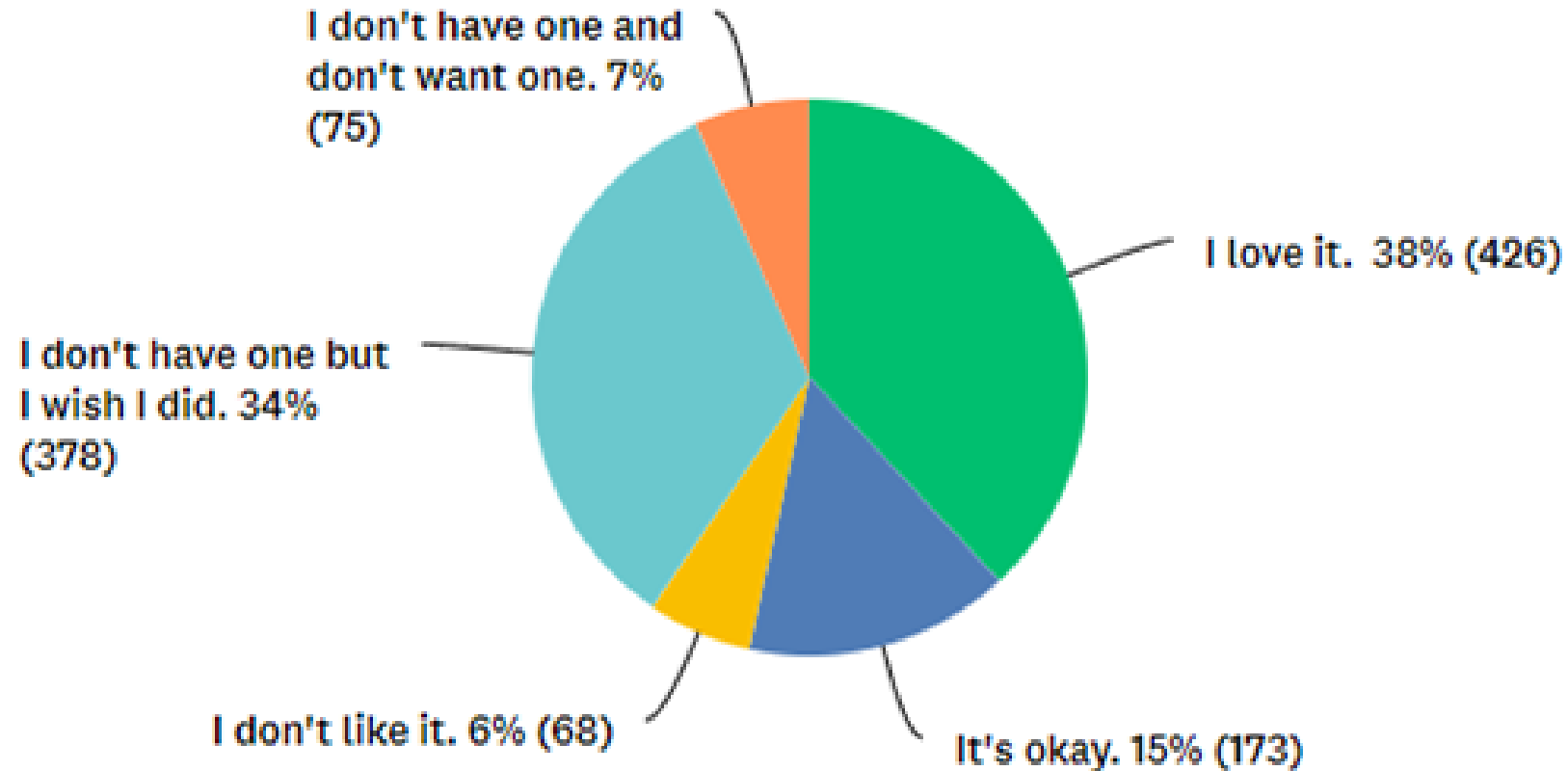
In your neighborhood there are...



What have we heard so far?

COMMUNITY SURVEY RESULTS

How do you feel about the street tree in front of your home?



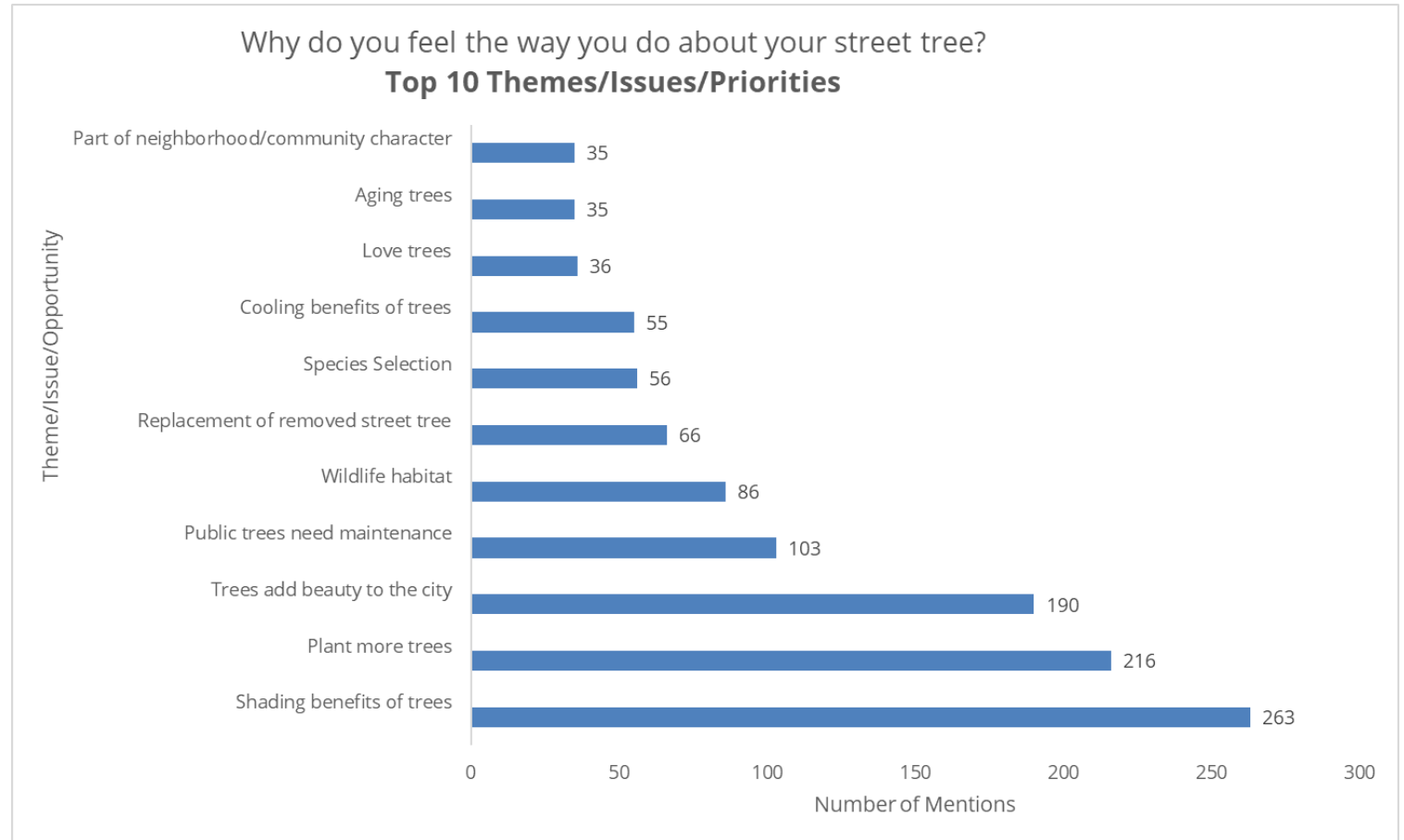
What have we heard so far?

COMMUNITY SURVEY RESULTS

Tell us why you feel the way you do about the street tree in front of your home.

Top Themes Topics

1. Trees provide important benefits
2. Care, maintenance and planting of public trees
3. Importance of Species Selection

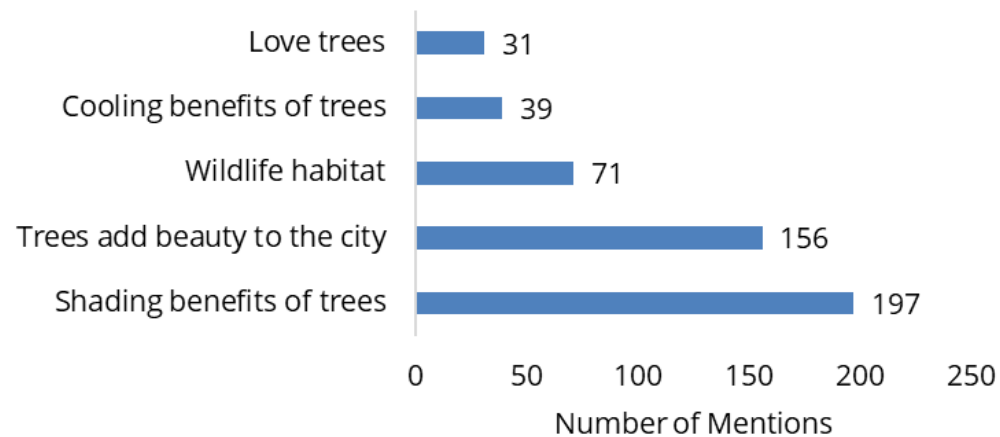


What have we heard so far?

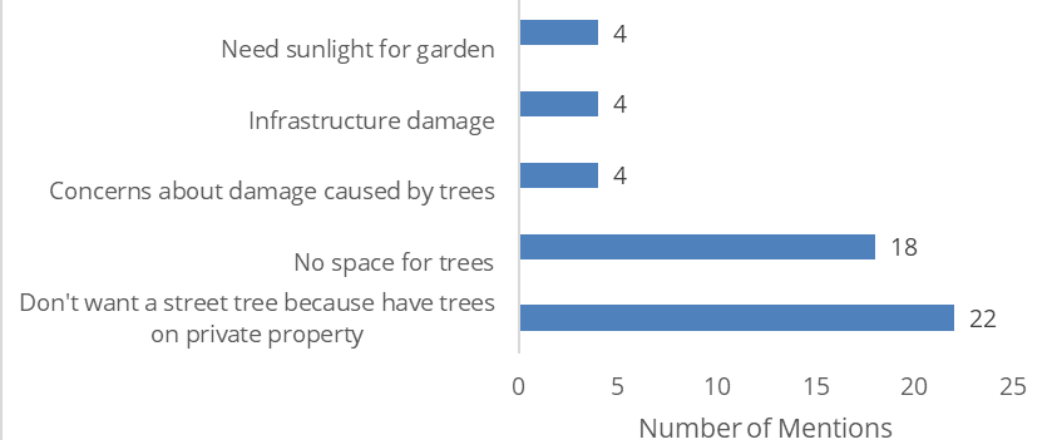
COMMUNITY SURVEY RESULTS

Tell us why you feel the way you do about the street tree in front of your home.

I have a street tree and I love it
Top 5 Themes/Issues/Priorities



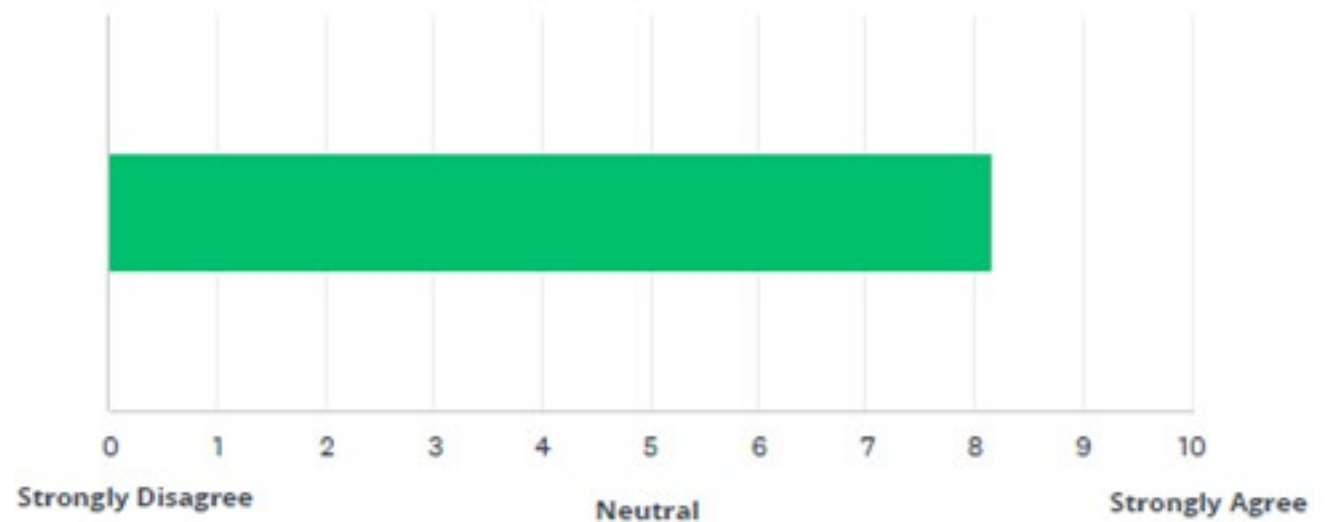
I don't have a street tree and I don't want one
Top 5 Themes/Issues/Priorities



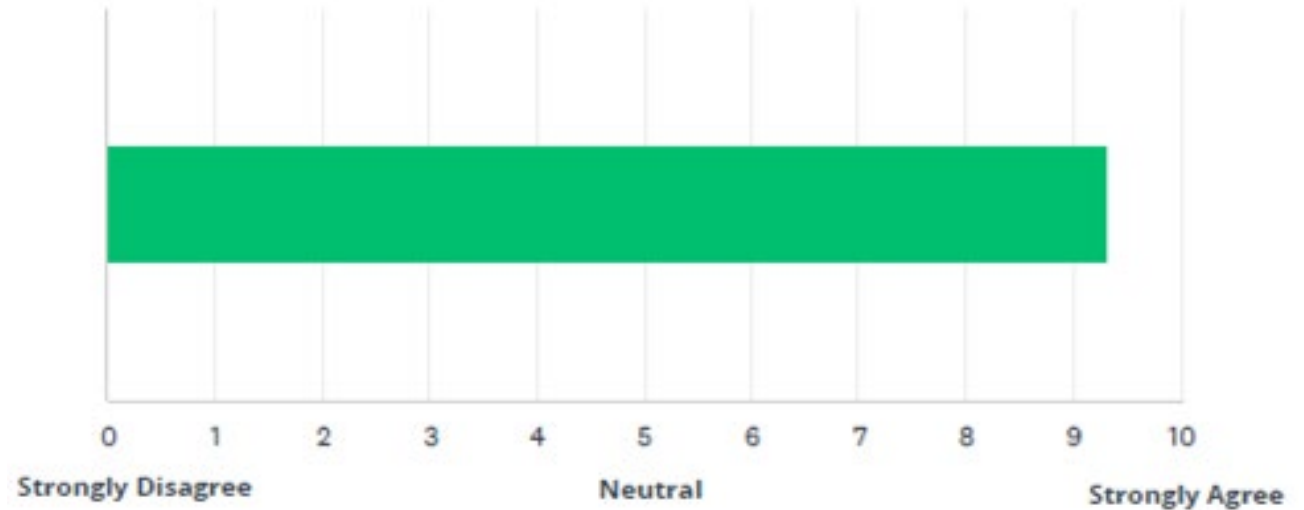
What have we heard so far?

COMMUNITY SURVEY RESULTS

Planting new trees on private property in Worcester is important



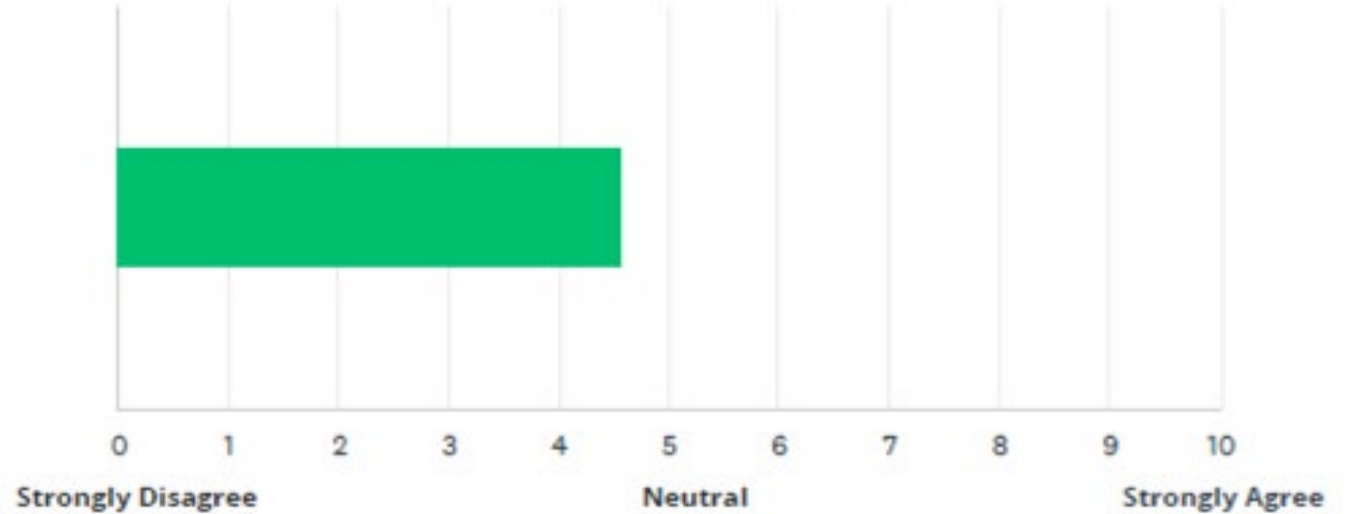
Planting new trees in parks and along streets in Worcester is important



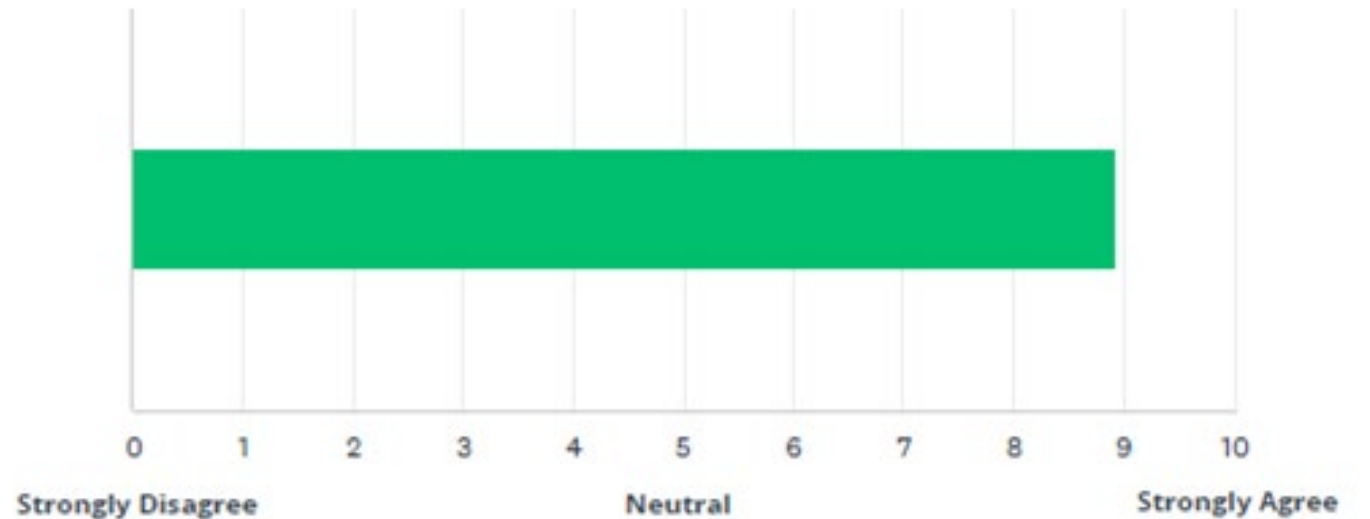
What have we heard so far?

COMMUNITY SURVEY RESULTS

Public street and park trees seem well cared for in Worcester.



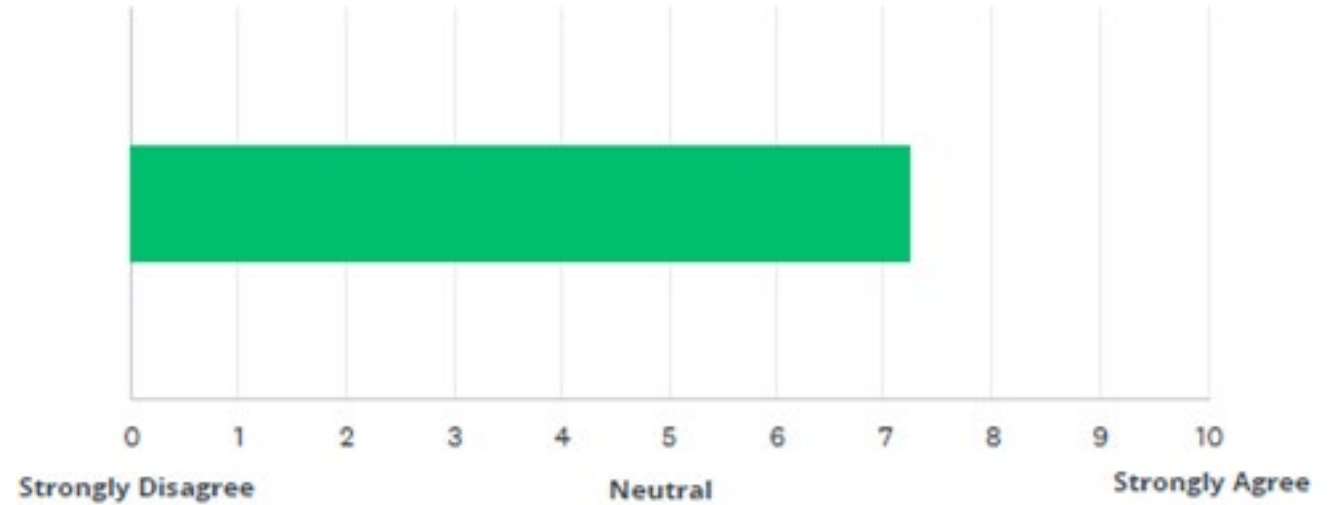
Having trees is worth the financial cost of maintaining them.



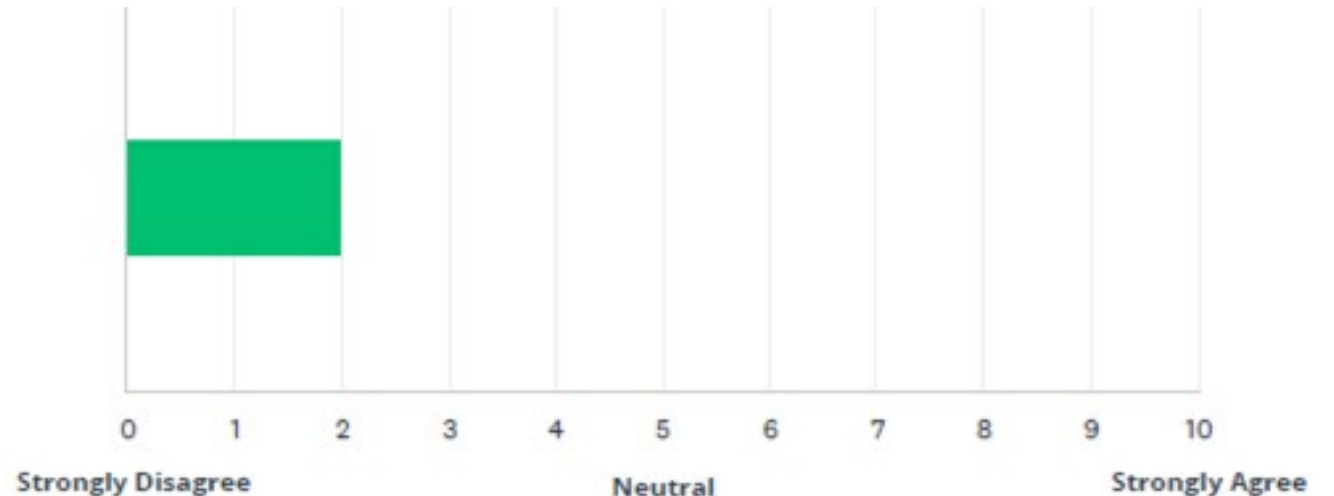
What have we heard so far?

COMMUNITY SURVEY RESULTS

The City of Worcester does not spend enough money on trees.



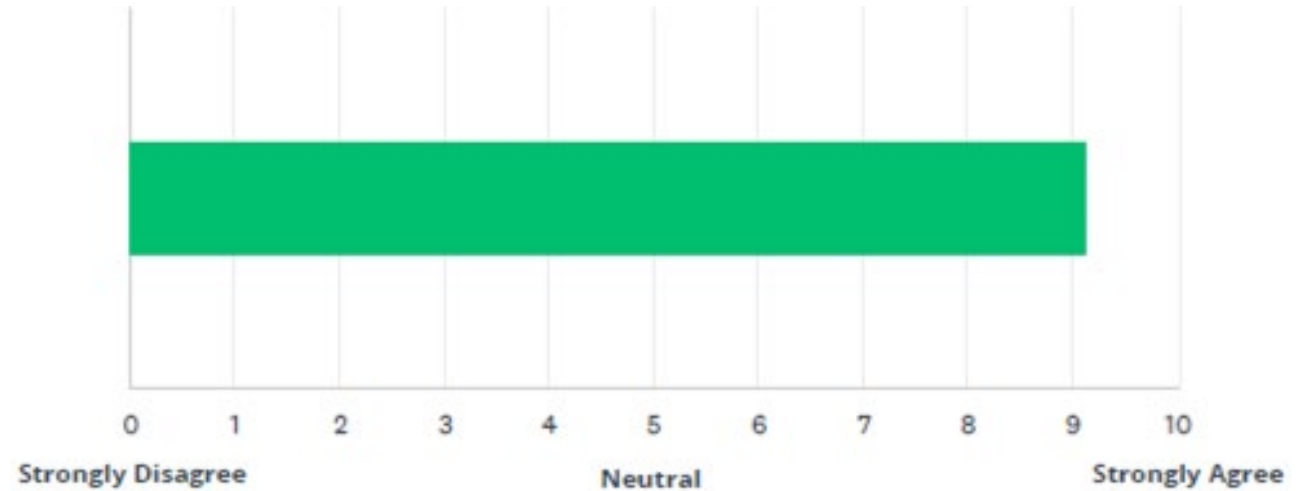
The City of Worcester spends too much money on trees.



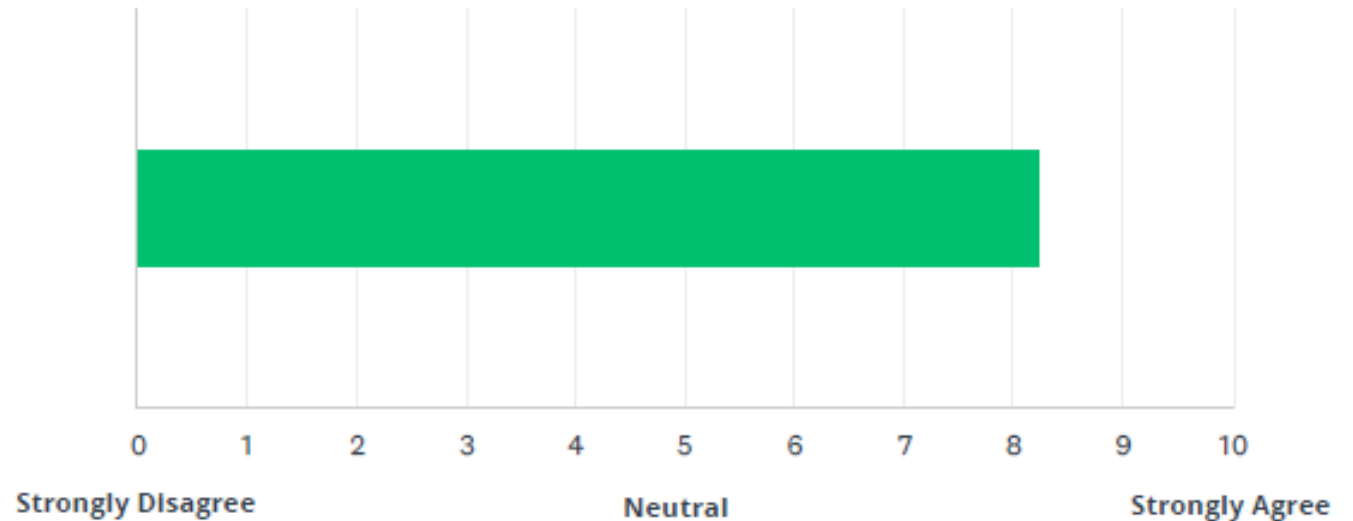
What have we heard so far?

COMMUNITY SURVEY RESULTS

Large, mature trees should be preserved on public property in Worcester.



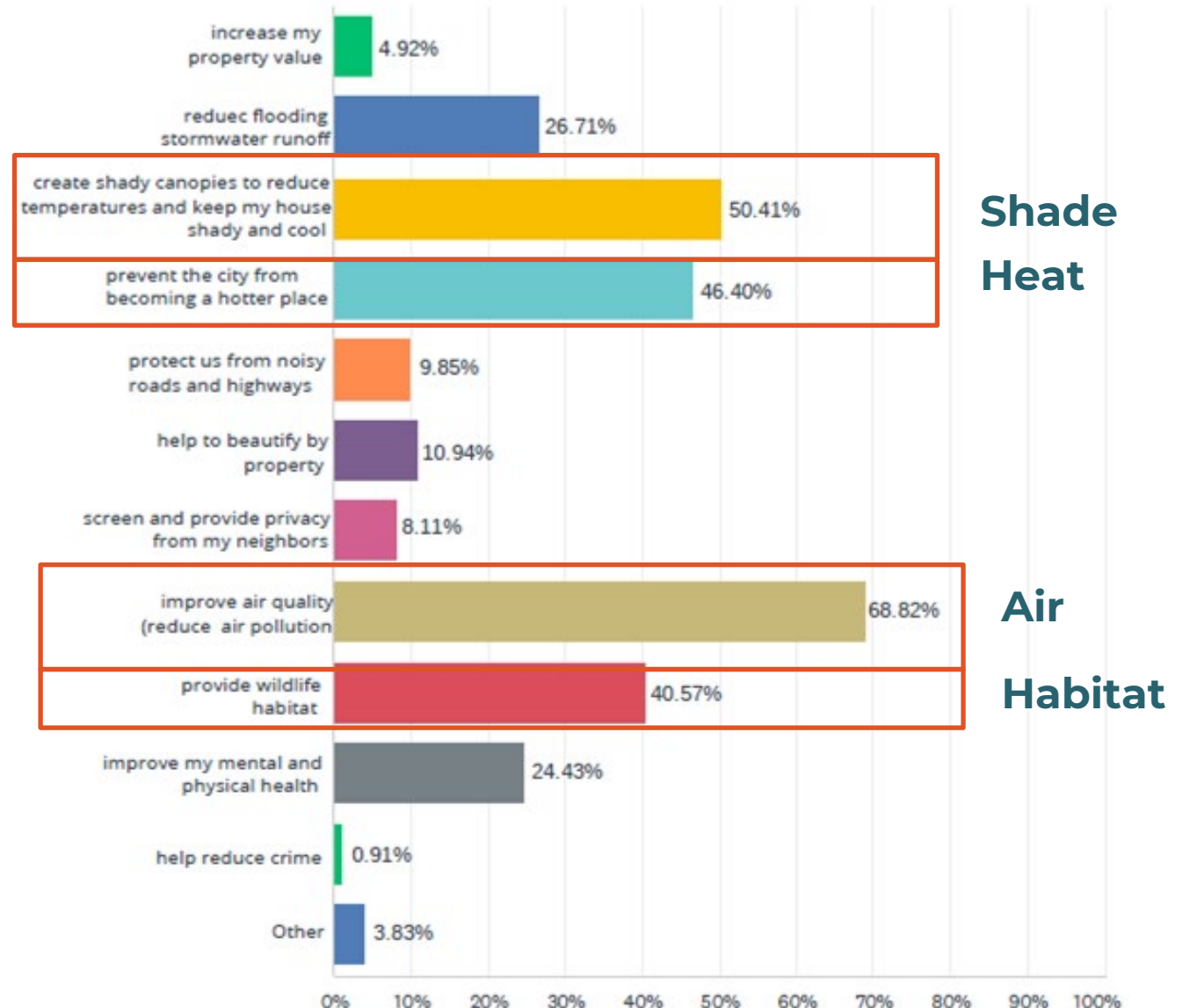
Large, mature trees should be preserved on private property in Worcester.



What have we heard so far?

COMMUNITY SURVEY RESULTS

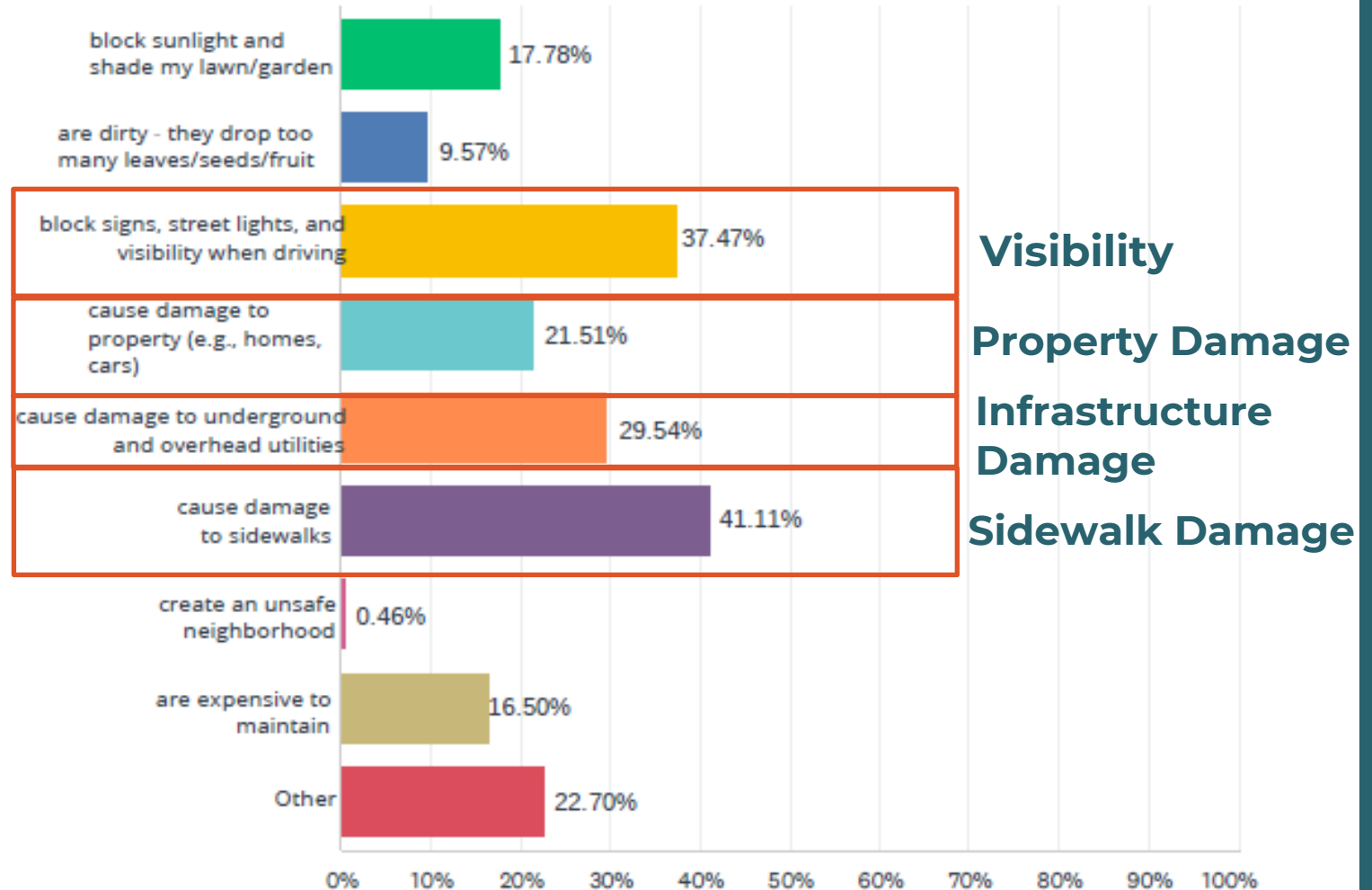
Benefits of Trees. I want the trees in Worcester to...



What have we heard so far?

COMMUNITY SURVEY RESULTS

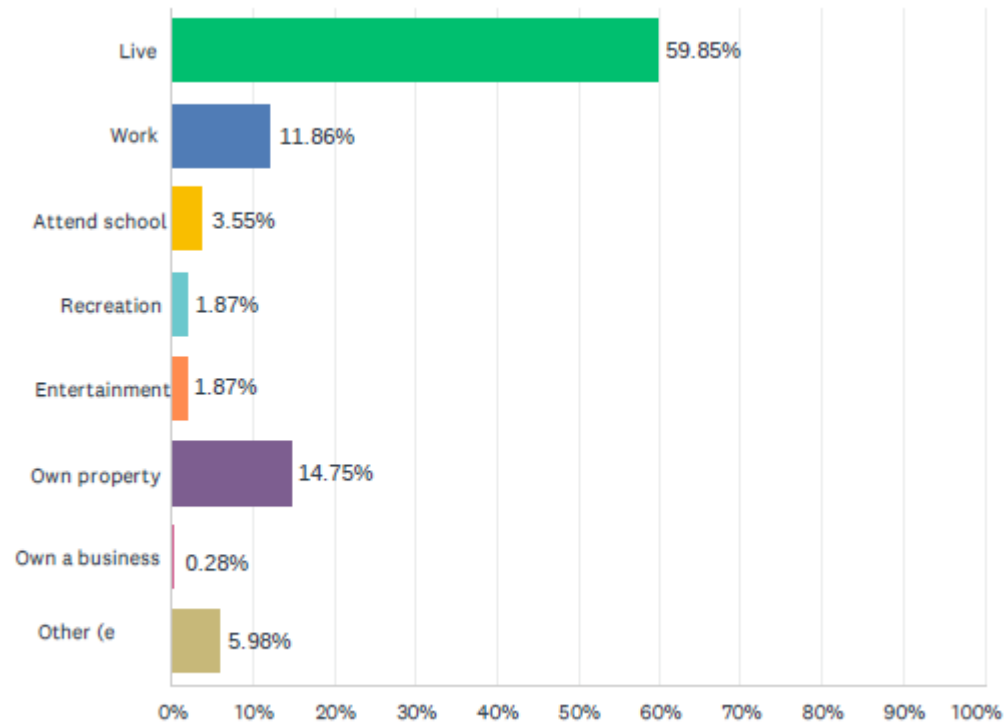
Challenges of Trees. Trees...



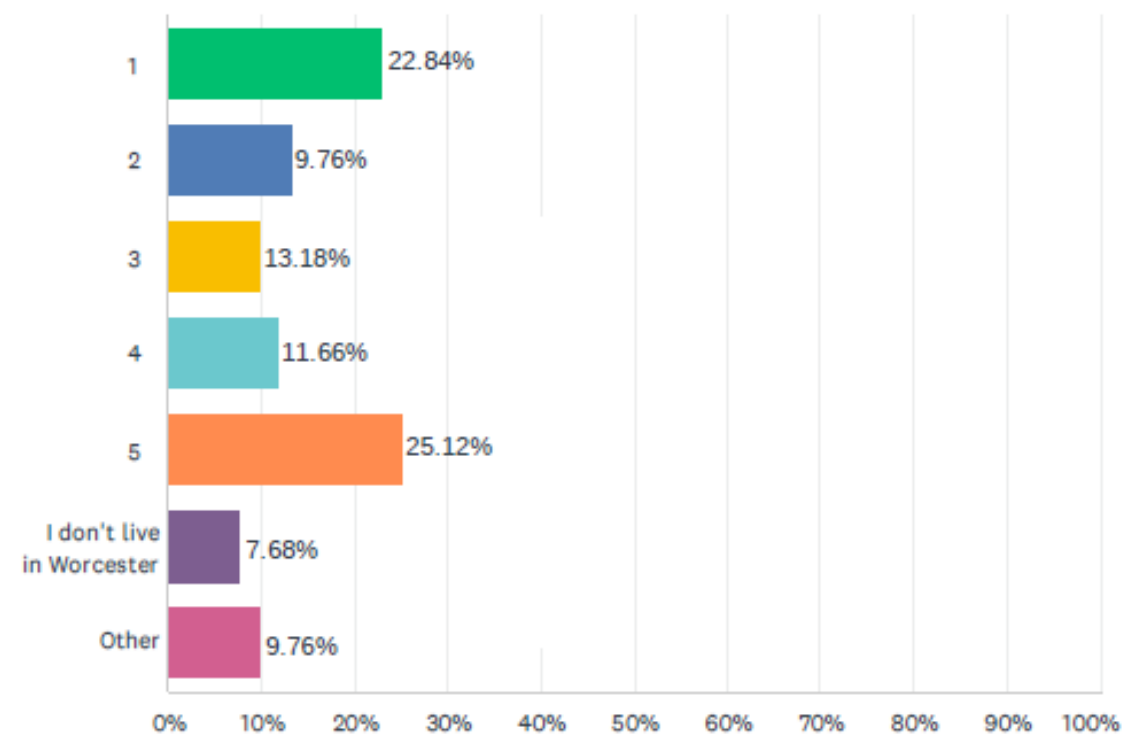
What have we heard so far?

COMMUNITY SURVEY RESULTS

What draws you to Worcester?



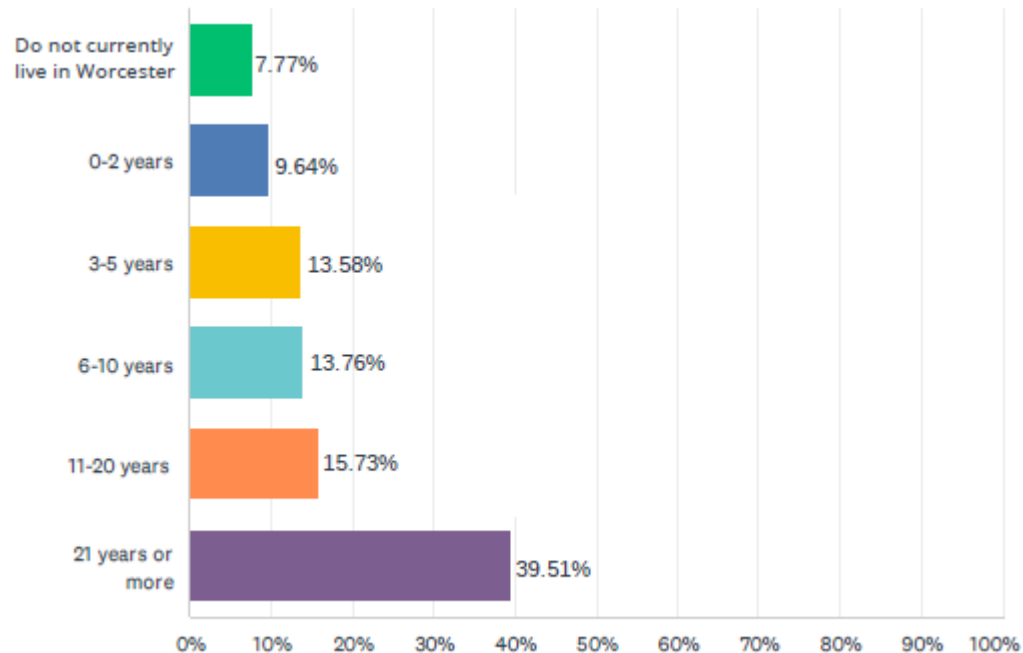
What Council District do you live in?



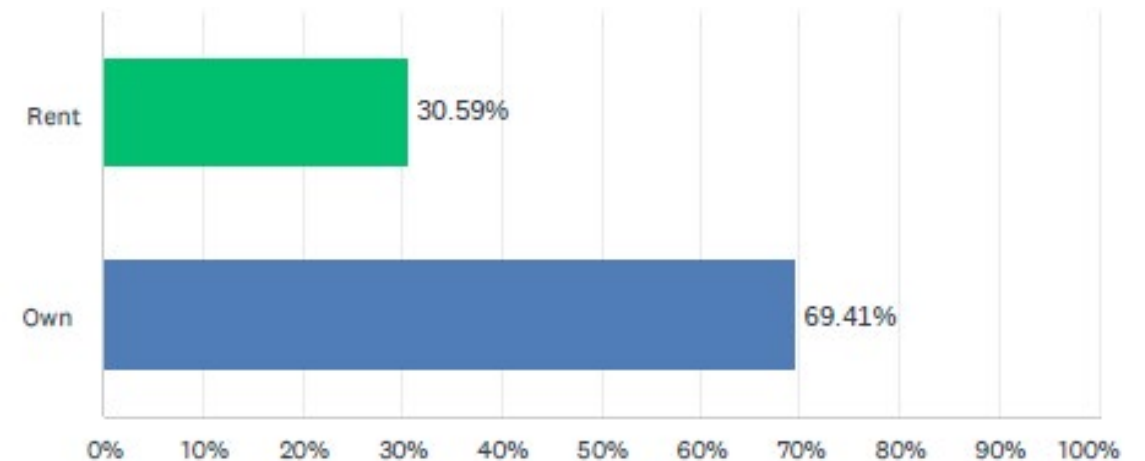
What have we heard so far?

COMMUNITY SURVEY RESULTS

If you live in Worcester, how many years have you lived in the city?



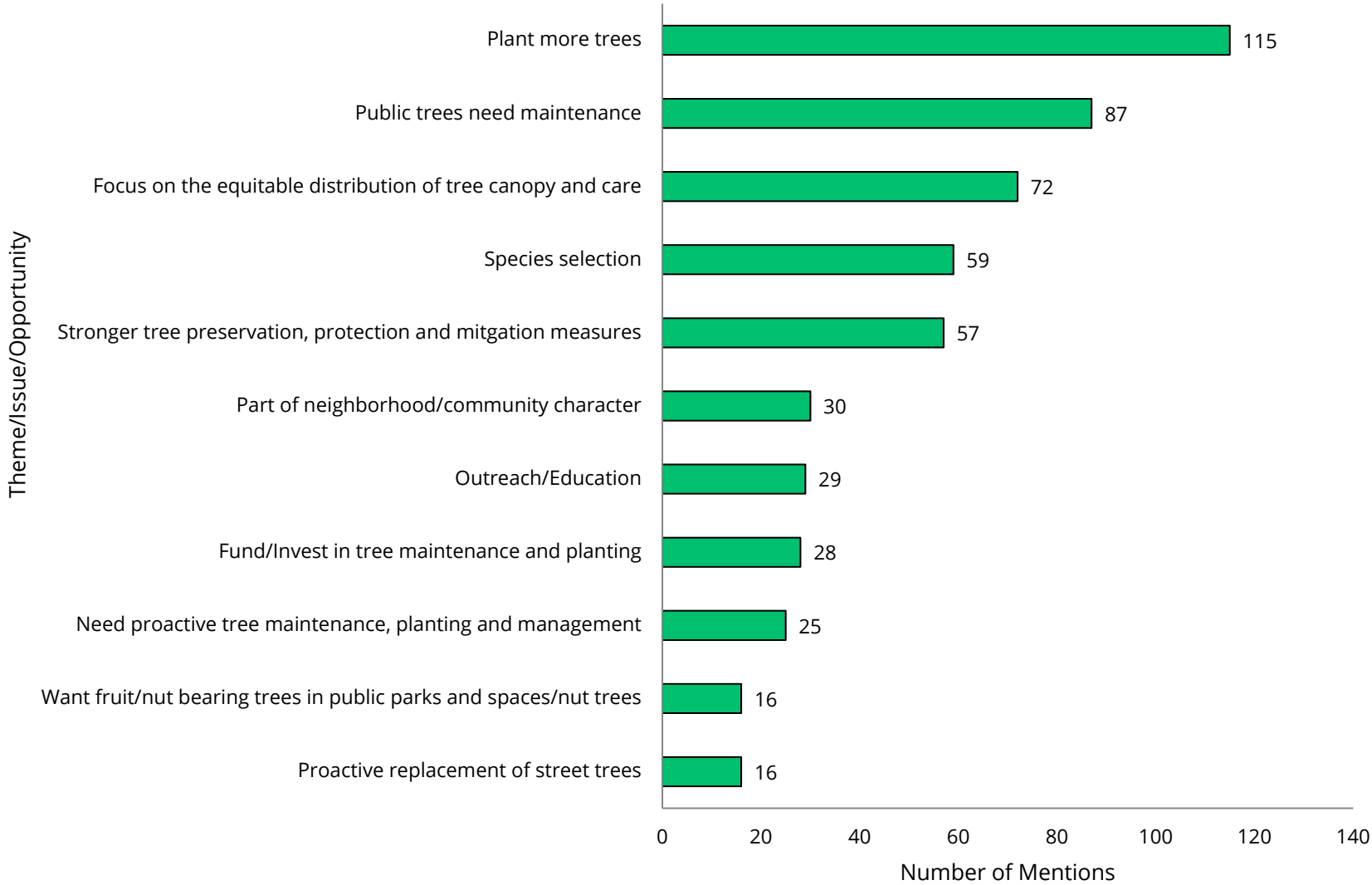
If you currently live in Worcester, do you...



What have we heard so far?

COMMUNITY SURVEY RESULTS

Anything else you would like to tell us about Worcester’s trees and urban forest?



What have we heard so far?

COMMUNITY SURVEY RESULTS

Anything else you would like to tell us about Worcester's trees and urban forest?

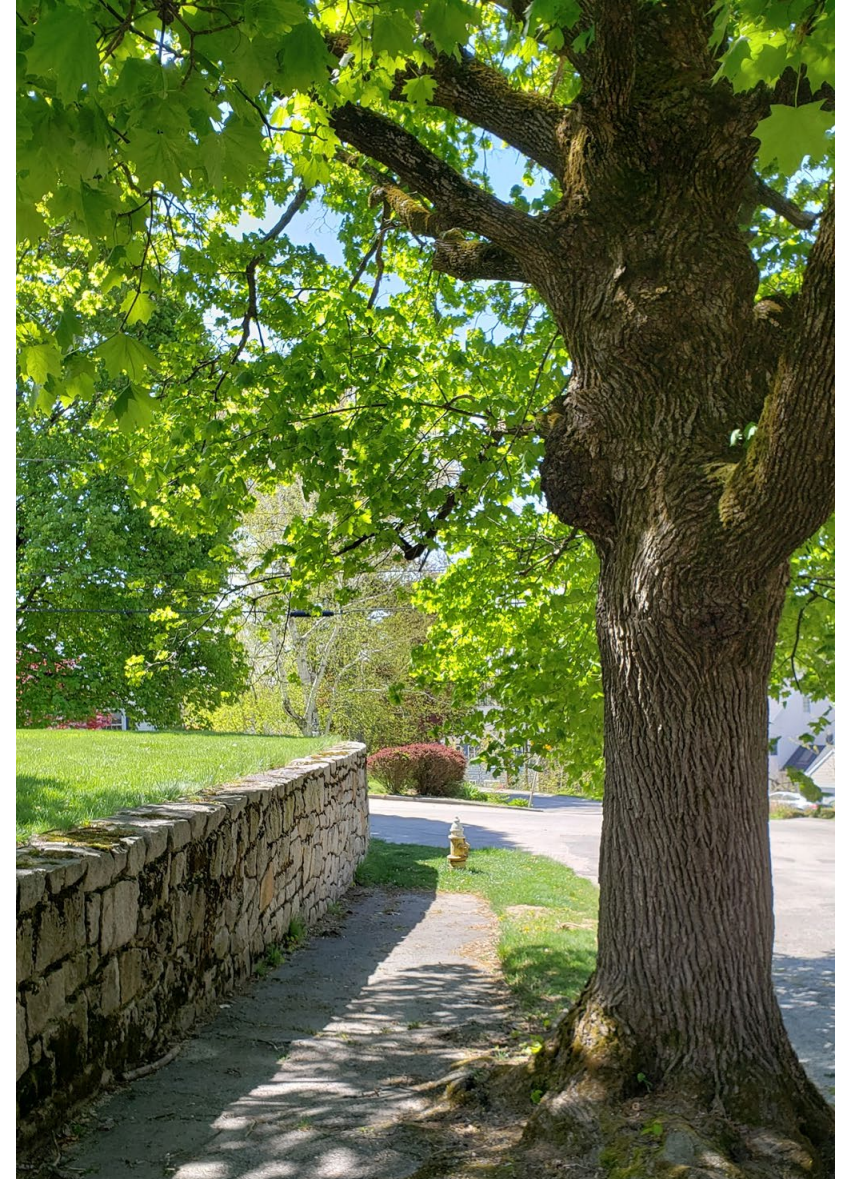
Top Themes Topics

1. Public Tree Planting And Care
2. Equitable tree canopy
3. Importance of Species Selection
4. Tree Preservation and Protection

What have we heard so far?

THEMES

- **Diverse community opinions around trees**
 - Value benefits particularly shading, beauty and cooling
 - Concerns about large trees
- **Tree Planting**
 - Increase street tree planting
 - Equity considerations
 - Right tree/right place
 - Space for trees
- **Public Tree Maintenance**
 - Need for proactive tree maintenance
 - Funding and Investment
 - Young tree establishment and care
- **Proactive Management**
 - No net loss in public tree canopy
 - Planning



What have we heard so far?

THEMES

- **Sidewalks/Infrastructure**
 - Damage
 - Accessibility
 - ADA compliance
- **Standards**
 - Need for the development of urban forestry best management practices and standards
- **Tree Preservation and Protection**
 - Stronger regulations to preserve large trees
 - Requiring tree replacements for removal of trees
- **Ordinances/Regulations**
 - Revise ordinances
 - Increase tree planting requirements in/around parking lots
 - Limited staff to enforce ordinances



What have we heard so far?

THEMES

- **Species Selection**
 - Promote use of native species
 - Consider a variety of factors during species selection, including form, invasive potential, climate resilience and wildlife benefits
- **Composition of city trees**
 - Aging tree canopy
 - Species diversity
- **Legacy of Asian longhorned beetle (ALB)**
 - Tree loss and replacement
 - Species selection



What have we heard so far?

THEMES

- **Staffing and resources**
 - Increase staffing & resources for more proactive and responsive service
- **Interdepartmental coordination**
 - Process improvements
- **Communication, education and outreach**
 - Improved City communication around trees, forestry and decision-making around tree activities
 - Outreach and education on topics including
 - Proper tree care
 - Benefits of trees
 - Rental property owner engagement
- **Partnerships**
 - Fostering and growing partnerships
 - Capacity building



What have we heard so far?

THEMES

- Diverse community opinions around trees
- Tree Planting
- Public Tree Maintenance
- Proactive Management
- Sidewalk/Infrastructure
- Standards
- Tree Preservation and Protection
- Ordinances/Regulations
- Species Selection
- Composition of City trees
- Legacy of Asian longhorned beetle (ALB)
- Staffing and resources
- Interdepartmental coordination
- Communication, education and outreach
- Partnerships



**Are we
missing any?**



Next Steps



**Community Engagement –
District Meetings (Sept – Oct 2022)**



**Develop Draft Plan
Recommendations (Late Fall 2022)**



**Create Urban Forest Master Plan
(Late Fall 2022/Winter 2023)**



Thank You!