

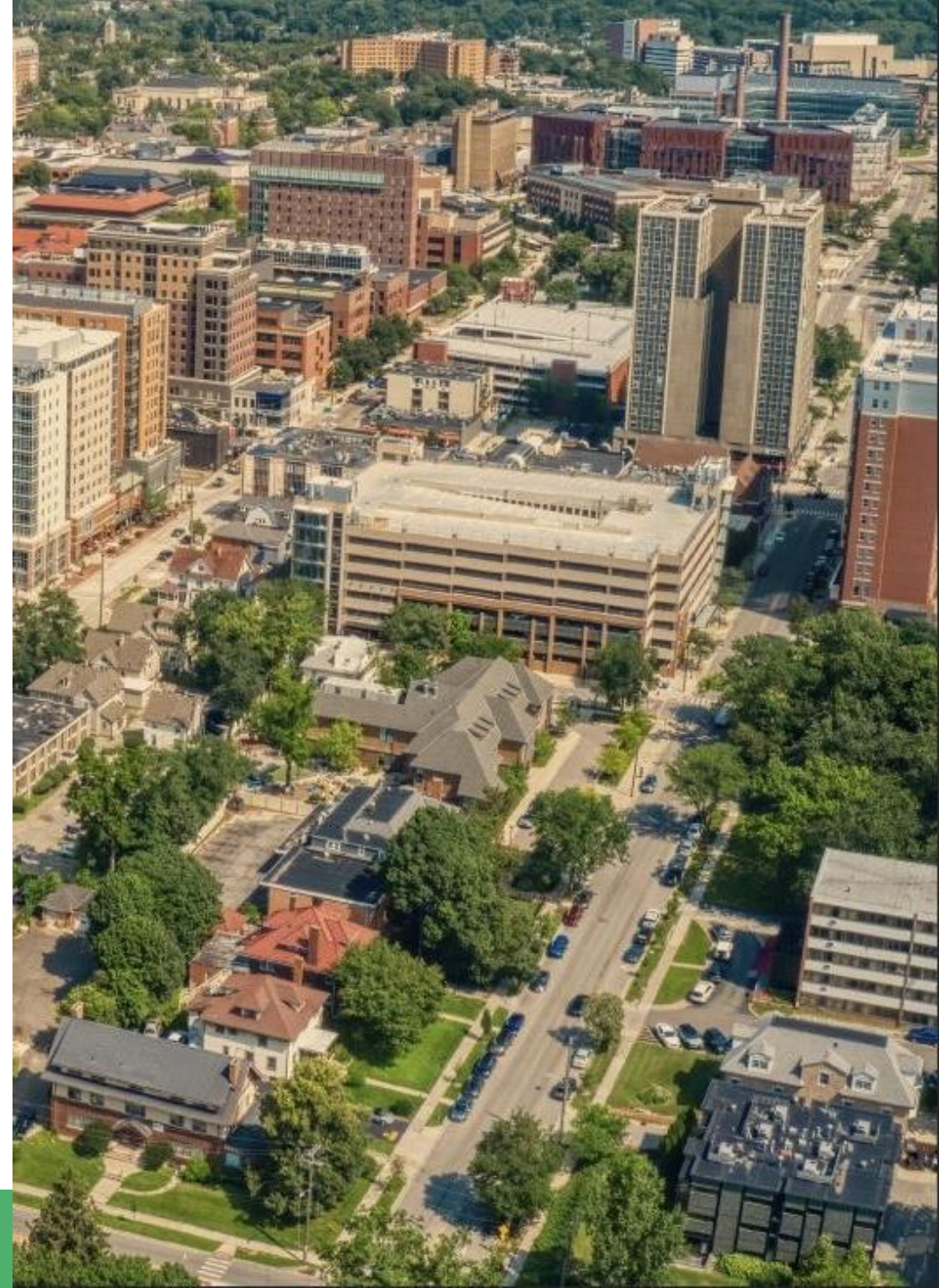


URBAN FOREST MANAGEMENT PLAN Update 2023

**Environmental Commission
July 27, 2023**



SMITHGROUP



Project Team

City of Ann Arbor

- **Tiffany Giacobazzi**, Urban Forestry & Natural Resources Planning Coordinator
- **Molly Maciejewski**, Public Work Manager
- **Nicholas Jacob**, Public Works Supervisor
- **Matt Waldsmith**, Public Works Supervisor
- **Jamie Pauline**, Public Works Intern



Consultant Team

- **Davey Resource Group** (Project Lead)
- **SmithGroup** (Public Engagement)
- **Fair Forests Consulting** (Equity)
- **Urban Ashes** (Wood Utilization)



SMITHGROUP



Project Background

2014 Plan

In 2014, City Council approved Ann Arbor's *first* Urban & Community Forest Management Plan

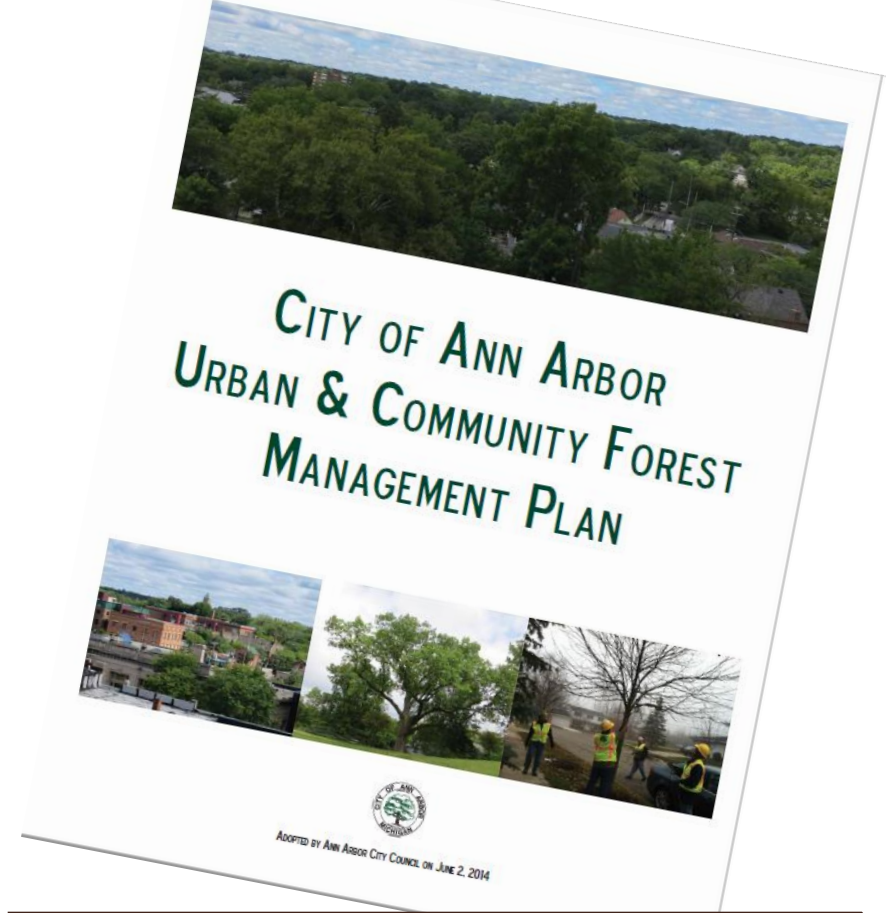
Overarching Goal

"The sustainable protection, preservation, maintenance and expansion of the urban and community forest."

Goals, Targets, and Recommendations

- **Seven** supporting goals
- **Six** measurable targets
- **17** recommendations to meet the Plan's goals and targets

Eight Years of Progress



2023 Plan Update reviewed 2014 plan progress and identified new implementation activities to sustainably protect, preserve, maintain and grow Ann Arbor's urban forest

Planning Process

What Do We Have?

Research, Review & Analysis

- 2014 Plan Progress, Tree Inventory Data, City Plans and Document Review

What Do We Want?

Community & Stakeholder Engagement

- Steering Committee, Focus Groups, Community-wide Engagement

How Do We Get There?

Recommendations & Strategies

- Identification of themes and priorities

How Are We Doing?

Measuring Progress

- Benchmarks and Metrics based on best management practices & community priorities





Engagement & Outreach

Stakeholder and Community Engagement

Engagement and Outreach

Stakeholder Meetings

City of Ann Arbor

- Forestry
- Public Works
- Systems Planning
- Engineering
- Parks
- Office of Sustainability and Innovation
- DDA
- Fire

Steering Committee – 15 members

- Ann Arbor residents, partner organizations & City Staff

Community Meeting

- May 17, 2022

Community & Partner Organizations

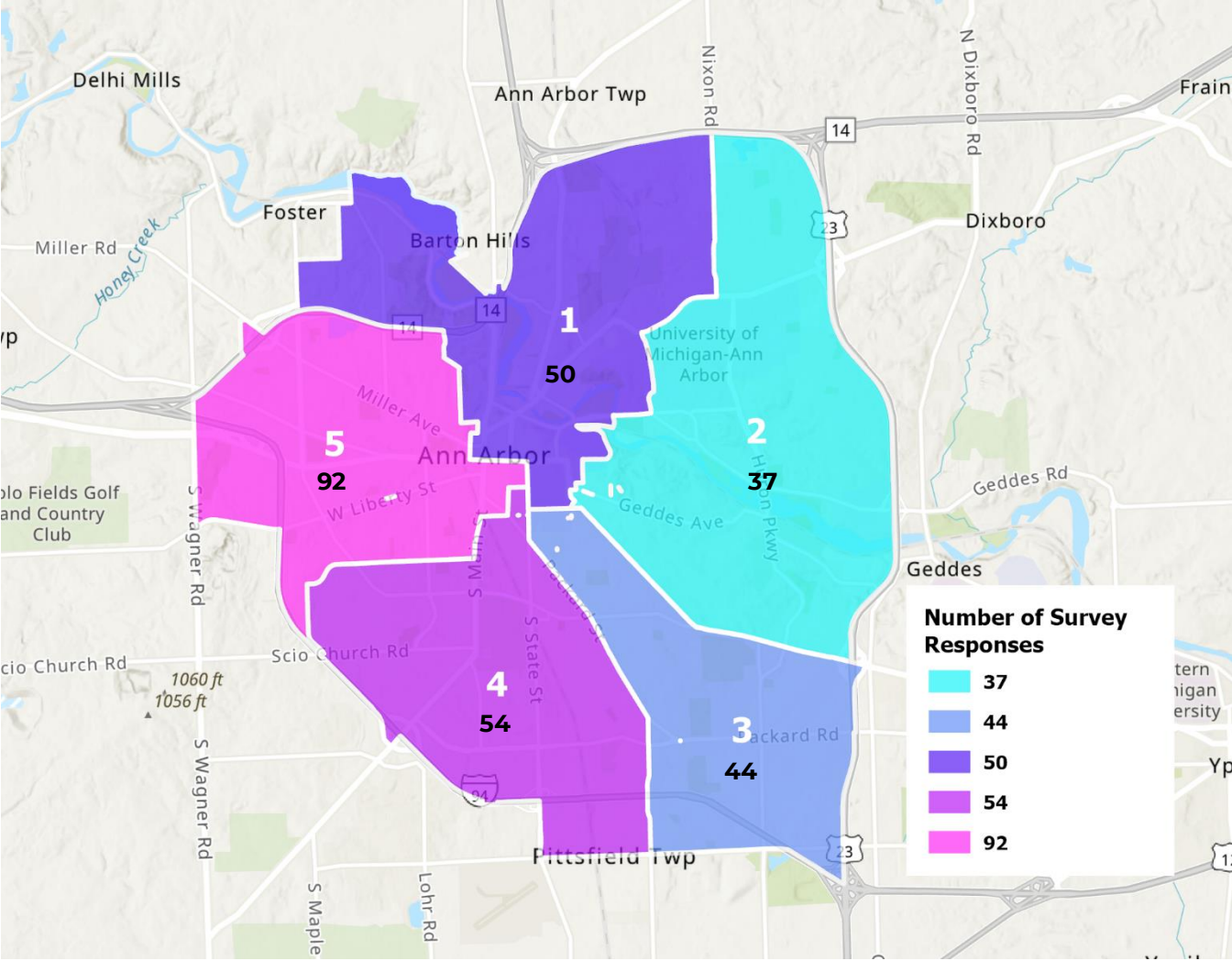
- Ann Arbor Housing Commission
- Center for Independent Living
- DTE Energy
- Huron River Watershed Council
- Mallets Creek Coordinating Committee
- Michigan Department of Natural Resources
- Michigan Department of Transportation
- Tree Line Conservancy
- Washtenaw County Water Resources Commissioner
- Washtenaw Conservation District
- Wild Ones

Community Survey & Tree Ward Walks

- Open May 15 – July 31, 2022
- 327 Responses

Stakeholder and Community Engagement

Community Survey Highlights



Survey Responses by Ward

28 respondents were unsure

8 didn't live in Ann Arbor

14 skipped the questions

Stakeholder and Community Engagement

Community Survey Highlights

- Survey respondents believe in the **value of trees in Ann Arbor.**

95% Agree or strongly agree that trees are an important part of Ann Arbor.

96% Agree or strongly agree that having trees on public property is worth the cost of maintaining them.

- Survey respondents have some concern about the **maintenance of trees in Ann Arbor.**

49% Agree or strongly agree that **park trees** seem well cared for.

65% Agree or strongly agree that **street trees** seem well cared for.

Stakeholder and Community Engagement

Community Survey Highlights

The **benefits of trees** cited as most important are:

- Creating shady canopies to help reduce temperatures
- Providing habitat for wildlife

The **challenges with trees** cited as most important are:

- Causing damage to utilities
- Blocking signs & driving visibility

The biggest reason for **not being able to plant trees** on property is:

- No more room for trees on property

The best way suggested to **increase tree cover on private land** is:

- Start a public education campaign

Stakeholder and Community Engagement Themes

There were 17 recurring themes noted throughout the engagement process.

- **Tree Canopy**
 - How much tree canopy is there today?
 - Need for analyses related to tree canopy and heat, stormwater and socio-economic factors.
- **Tree Planting**
 - Right tree/right place
 - Space for trees
 - Prioritizing low tree canopy areas and parks near affordable housing
- **Equity**
 - Public tree planting and care conducted equitably across the city.
 - Affordability of private tree removal and care



Stakeholder and Community Engagement Themes

- **Public Tree Maintenance**
 - Continue support for routine pruning and proactive maintenance
 - Young tree pruning, establishment and care
 - Funding and investment
- **Species Selection**
 - Consider form, invasive potential, climate resilience and wildlife benefits
 - Right tree, right place
 - Native species (progeny)
- **Storms**
 - Reduce storm damage and impacts to infrastructure



Stakeholder and Community Engagement Themes

- **Composition of city trees**
 - Size and age distribution
 - Species diversity
- **Sidewalks/Infrastructure**
 - Conflicts
 - Damage
 - Accessibility/ADA compliance
 - Tree root damage
- **Tree Protection and Preservation**
 - Increased protection of mature trees during development
 - Incentivize tree preservation
- **Ordinances/Regulations**
 - Public tree ordinance revisions
 - Limited staff to enforce ordinances



Stakeholder and Community Engagement Themes

- **Staffing and resources**
 - Increase staffing & resources for more proactive and responsive service
- **Interdepartmental coordination**
 - Process improvements
- **Communication and Education**
 - Public tree planting and care – city responsibility
 - Tell the story of A2 trees from planting to removal & utilization
 - Incentivize tree planting and preservation
 - Planting and maintenance resources for residents
- **Engagement and Outreach**
 - Promote and expand Citizen Pruner
 - Go to where residents are – host activities like neighborhood tree walks



Stakeholder and Community Engagement Themes

- **Partnerships & Regional Collaboration**
 - Foster and grow partnerships
 - build capacity, collaborate on planning efforts, support regional engagement efforts
 - Serve as a resource to neighboring communities
- **Wood Utilization**
 - Implement program to utilize logs and other wood waste
 - Create a circular economy around wood waste
- **Monitoring Progress**
 - Clear metrics and benchmarks
 - Measure success of initiatives, like 10,000 Trees





Urban Forest Management Plan Vision, Goals & Recommendations

Urban Forest Management Plan

Vision for the future of Ann Arbor's Urban Forest

Ann Arbor's urban forest is a prominent feature of the city, valued by its residents for the positive contributions it makes to the community. The urban forest is a vital part of the city's green infrastructure system and is managed sustainably through sound practices, policies, and community stewardship to provide environmental, social, and economic benefits today and into the future.

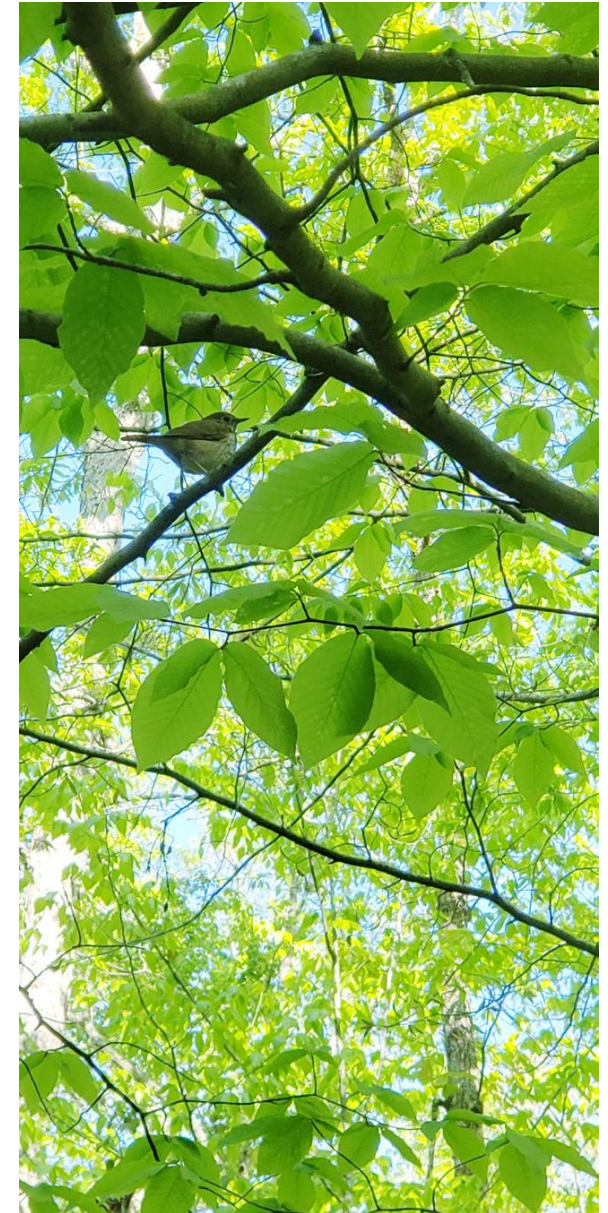
Urban Forest Management Plan

Goals

Proactively manage, grow and maintain Ann Arbor's public street and park trees to create a healthy, equitable, and resilient urban forest that maximizes the environmental, quality of life, and climate mitigation benefits the city's trees provide.

Protect and preserve the urban forest from loss and threats to ensure the long-term sustainability of Ann Arbor's tree canopy.

Connect and engage with the community about Ann Arbor's urban forest and the important role people play in its growth and care.



Urban Forest Management Plan

Action Plan

Each recommendation includes a set of action steps, time frame for implementation, implementation notes.

RECOMMENDATION 1: Continue to support proactive tree maintenance of Ann Arbor’s publicly managed trees.		
ACTION STEPS	TIME FRAME	IMPLEMENTATION NOTES
1.1. Continue to fund and implement the 10-year routine pruning cycle.	On-going	Funding. No budget implications—program funded through current Public Works budget. Staff. Public Works. Contractors. Conduct tree pruning.
1.1.1. After the first 10-year cycle is complete—evaluate the feasibility of shortening the cycle to 7 years, as originally recommended in the 2014 Plan.	Mid-Term (4-6 Years)	Funding. Additional annual funding (to be determined) may be needed because more trees will be pruned per year. Staff. Public Works. Contractors. Conduct tree pruning.
1.2. Review and revise the Tree Risk Management Program and formally adopt it as a Public Works Forestry policy.	Immediate (0-1 Years)	Funding. No budget implications. Staff. Public Works.
1.2.1. Prioritize completion of maintenance tasks for high and moderate priority trees identified in the updated street tree inventory.	Immediate (0-1 Years)	Funding. No budget implications. Staff. Public Works.
1.2.2. Implement an annual survey program to proactively identify risks.	Immediate (0-1 Years)	Funding. No budget implications. Staff. Public Works.

Urban Forest Management Plan

Targets

There are 6 Targets

Target 1: Achieve canopy cover goals based on each land use category by 2044.

Target 2: Increase the percentage of inventoried street and park trees in fair condition or better to 93% by 2034.

Target 3: Complete a full routine tree pruning cycle for all city-managed street and park trees by 2028 and maintain a 7-year pruning cycle thereafter.

LAND USE CATEGORY	2010 TREE CANOPY COVER	CANOPY COVER GOAL
Commercial	10%	15%
Industrial	14%	25%
Mixed Use	9%	15%
Office	19%	30%
Residential	28%	40%
Public/ Institutional/ Transportation/ Utility	24%	30%
Public Right-of-Way	48%	50%
Recreation/ Open Space	37%	60%

Urban Forest Management Plan

Targets

Target 4: Reduce the number of maple (Acer) to 15% of the street and park tree population by 2044.

Target 5: Increase and sustain the number of active volunteers assisting with tree care and planting across all City of Ann Arbor programs to 150 people per year by 2028.

Target 6: Reduce the number of non-storm and emergency related tree requests by 25% (from 2022 numbers) by 2028.



Urban Forest Management Plan

Recommendations

There are 8 Recommendations

1. Continue to support proactive tree maintenance of Ann Arbor's publicly managed trees.
2. Develop and implement a comprehensive program to evaluate, monitor, and address risks and threats to Ann Arbor's urban forest.
3. Prioritize areas with low and aging canopy cover and high social need for tree planting, care, protection, and engagement.



Urban Forest Management Plan

Recommendations

4. Engage, educate, encourage, and support active participation by residents, neighborhoods, property owners, & partner organizations in tree planting & care.
5. Provide sustainable funding and resources to support the current and future needs of Ann Arbor's public tree maintenance and management programs.
6. Ensure regulations, best management practices, & partnerships are in place to support the sustainable and equitable growth, protection, & preservation of Ann Arbor's tree canopy.



Urban Forest Management Plan

Recommendations

7. Develop and implement an urban wood utilization program for the City of Ann Arbor.
8. Develop and implement a program to regularly update city tree data and review the Urban Forest Management Plan to evaluate and measure progress.



Practice of Equity - Example Action Items

- Hire a full time "Youth Tree Team" coordinator and focus on low-income neighborhoods where there is a desire for more career pathways opportunities for residents.
- Secure state and federal funding to provide reduced cost or free tree care services for dead and dying trees on private land, especially those affected by invasive pests.
- Partner with local groups like the Watershed Council to care for trees on private property.
- Modify the City's tree ordinance to re-purposes funds from tree removals and permits to use for tree planting and programming in disadvantaged and/or low-income neighborhoods.



Urban Forest Management Plan

Measuring Progress

Progress Assessment	Description
Periodic review and update the Urban Forest Management Plan	Review and update the plan every 3-5 years to address changing needs of Ann Arbor's trees, community priorities, and successes in plan implementation.
Tree inventory updates	As trees are inventoried and re-inventoried (every 7- 10 years) monitor changes in species composition, number of trees, size, condition, and maintenance needs.
Tree canopy analysis	Conduct periodic(every 5-10 years) re-assessments of Ann Arbor's tree canopy to monitor changes over time.
Changes in tree benefits	Use updated tree inventory and canopy analysis data to measure changes in tree benefits using iTree.
Indicators of a Sustainable Urban Forest	Re-assess Ann Arbor on the Indicators of a Sustainable Urban Forest every 5 years and compare to the baseline assessment conducted as part of the UFMP development.
Using an equity and environmental justice lens to measure progress in planting and care	Track tree planting, survival, health and volunteers in environmental justice areas with metrics that measure progress towards achieving tree equity.

Thank You!

Questions?

Tiffany Giacobazzi
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**The following slides are
informational reference slides.**

Street Tree Benefits* – 2020

The 51,806 street and park trees provide the following benefits each year:

Stormwater

- Intercept and absorb **5.87 million gallons of rainwater per year**

Air Quality

- **Remove over 27,000 pounds** of airborne pollutants and particulate matter each year.

Carbon

- Sequester (absorb) **439 tons of carbon** each year.



The value of benefits provided by Ann Arbor's street trees increased 44% from 2009 to 2020.

*Calculated using i-Tree Eco

Ann Arbor's Urban Forest

Urban Forest

All publicly and privately-owned growing within Ann Arbor.

Public Trees

- Parks and Natural Areas
- Public Right of Ways/Streets
- Trees on City-owned and other Public Property

Private Trees

- Residential
- Commercial
- Industrial



Benefits of Ann Arbor's Urban Forest

- Reduce and filter **stormwater**
- Mitigate the effects of climate change
- Improve **air quality** & absorb **carbon**
- Provide **wildlife habitat**
- **Shade and cool** the city during summer
- Increase **property values**
- **Reduce energy** usage and costs
- Add to the community's **character and beauty**
- Improve **human health**





The State of Ann Arbor's Urban Forest

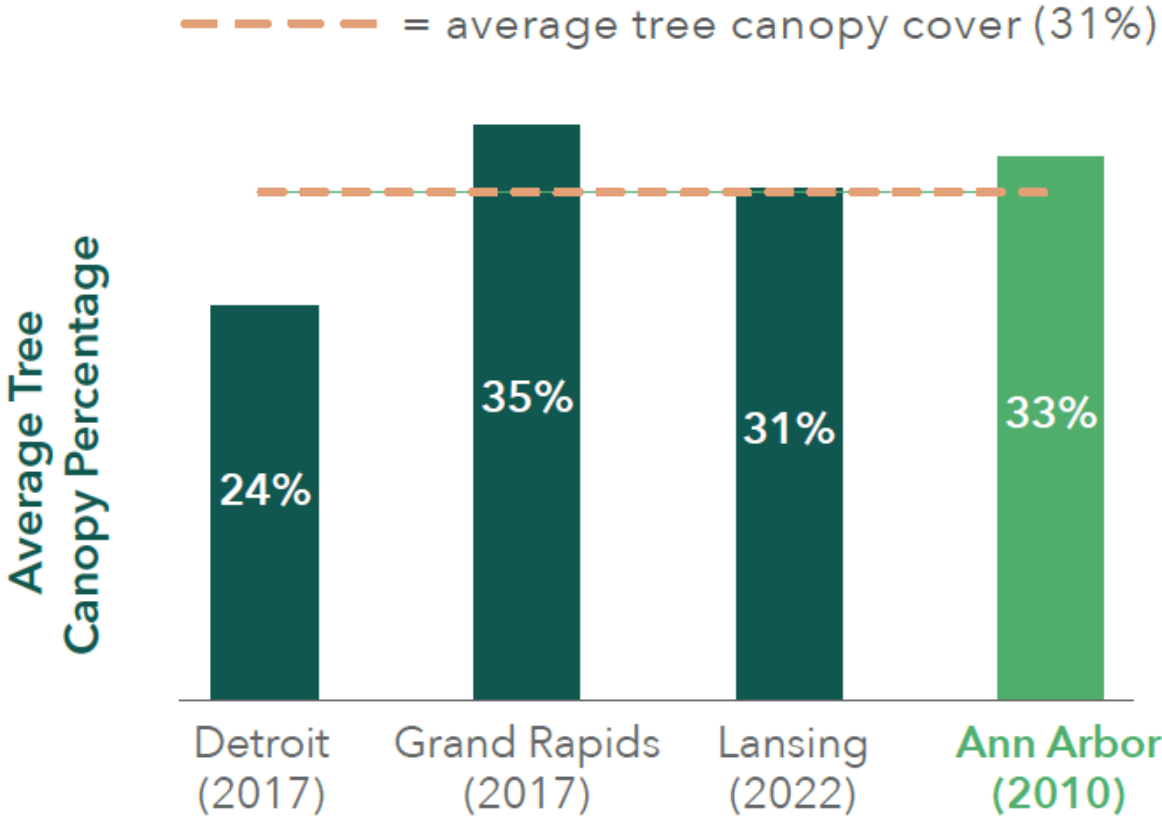


Tree Canopy Cover

2009 Ann Arbor Tree Canopy: 33%*

Land Use	Existing Urban Tree Canopy (%)
Commercial	10%
Industrial	14%
Mixed Use	9%
Office	19%
Public/Institutional/Transportation/Utility	28%
Public Right-of-Way	24%
Recreation/Open Space	48%
Residential	37%
Total City-Wide Urban Tree Canopy	33%

*Based on 2009 Aerial Imagery

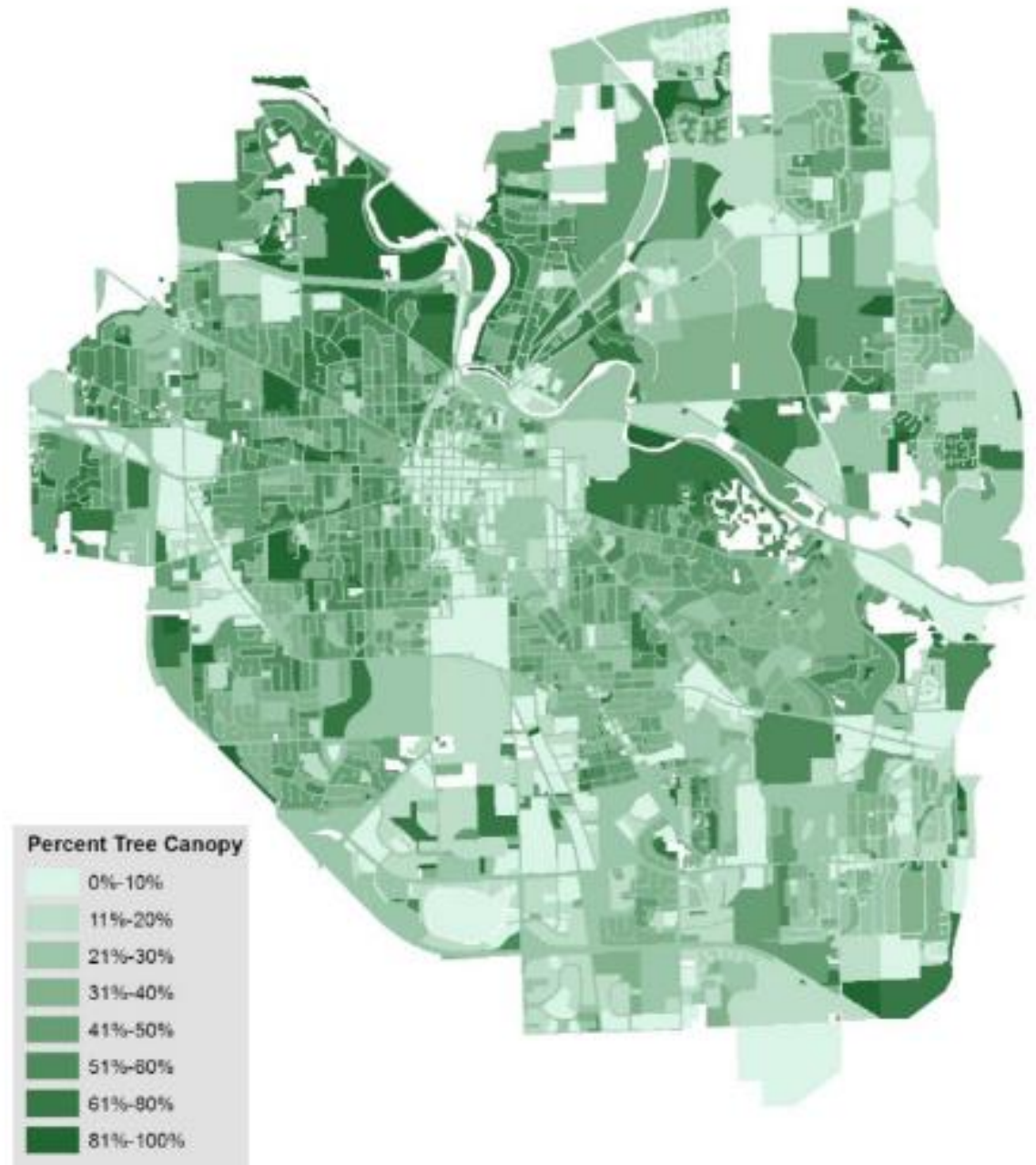


Note: This is for general comparison purposes only. The methodologies used to calculate tree canopy cover may differ between communities referenced and/or the information may be outdated.

Tree Canopy Cover

Tree Canopy is not evenly distributed across Ann Arbor*

*Based on 2009 Aerial Imagery



Tree Inventory Summary

Street & Park Trees 2009 to 2020

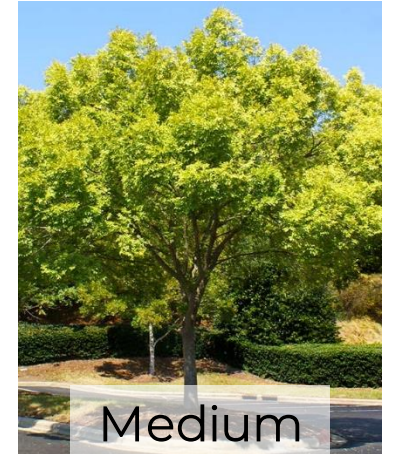
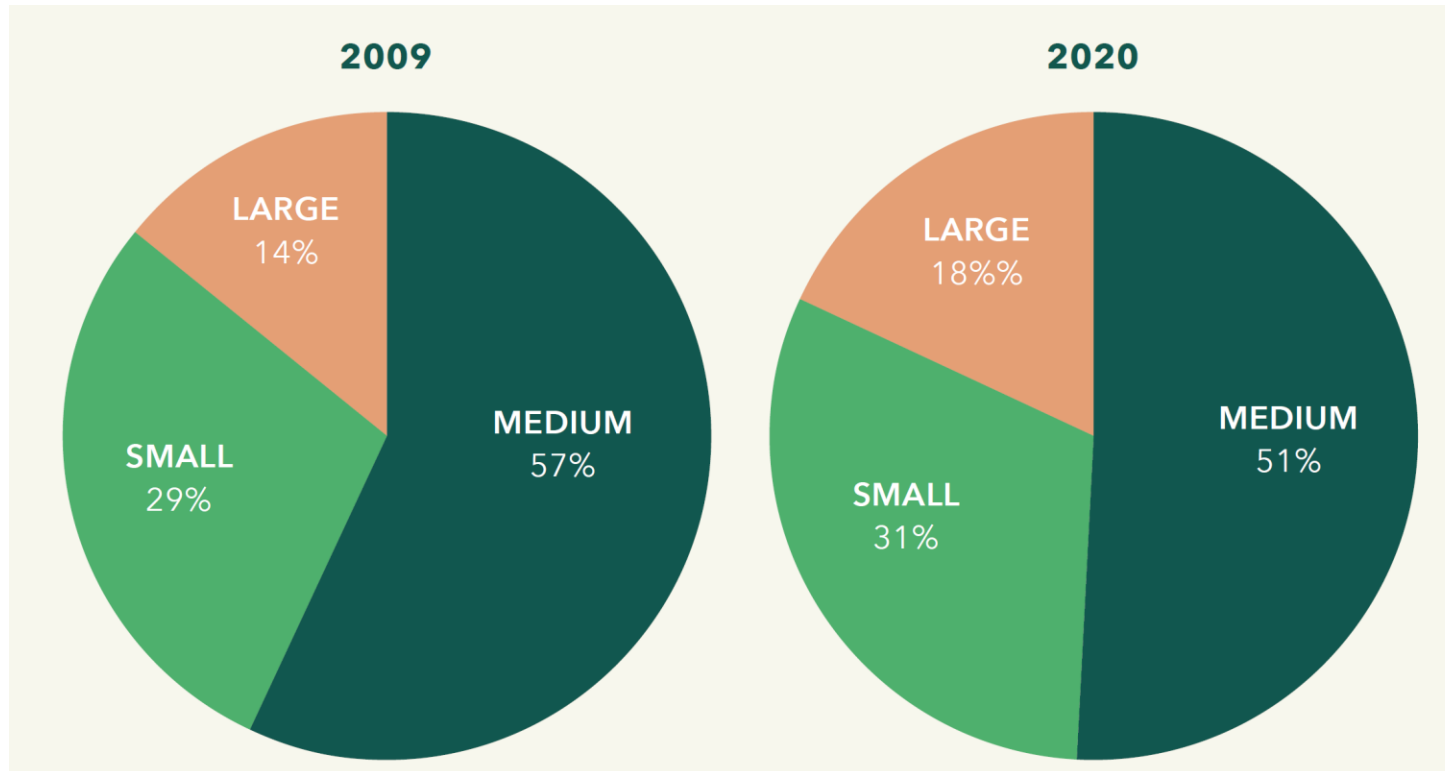
SITE	2009		2020	
	# OF SITES	% OF TOTAL	# OF SITES	% OF TOTAL
Street Tree	40,749	71%	45,371	81%
Park Tree	6,610	12%	6,435	11%
Stump (Street)	822	1%	1,165	2%
Stump (Park)	21	0%	168	0.3%
Vacant Planting Sites (Streets)	8,853	16%	2,922	5%
Vacant Planting Sites (Parks)	-	-	187	0.3%

2020:
More Trees,
Fewer Vacant
Planting Sites

Tree Inventory Summary

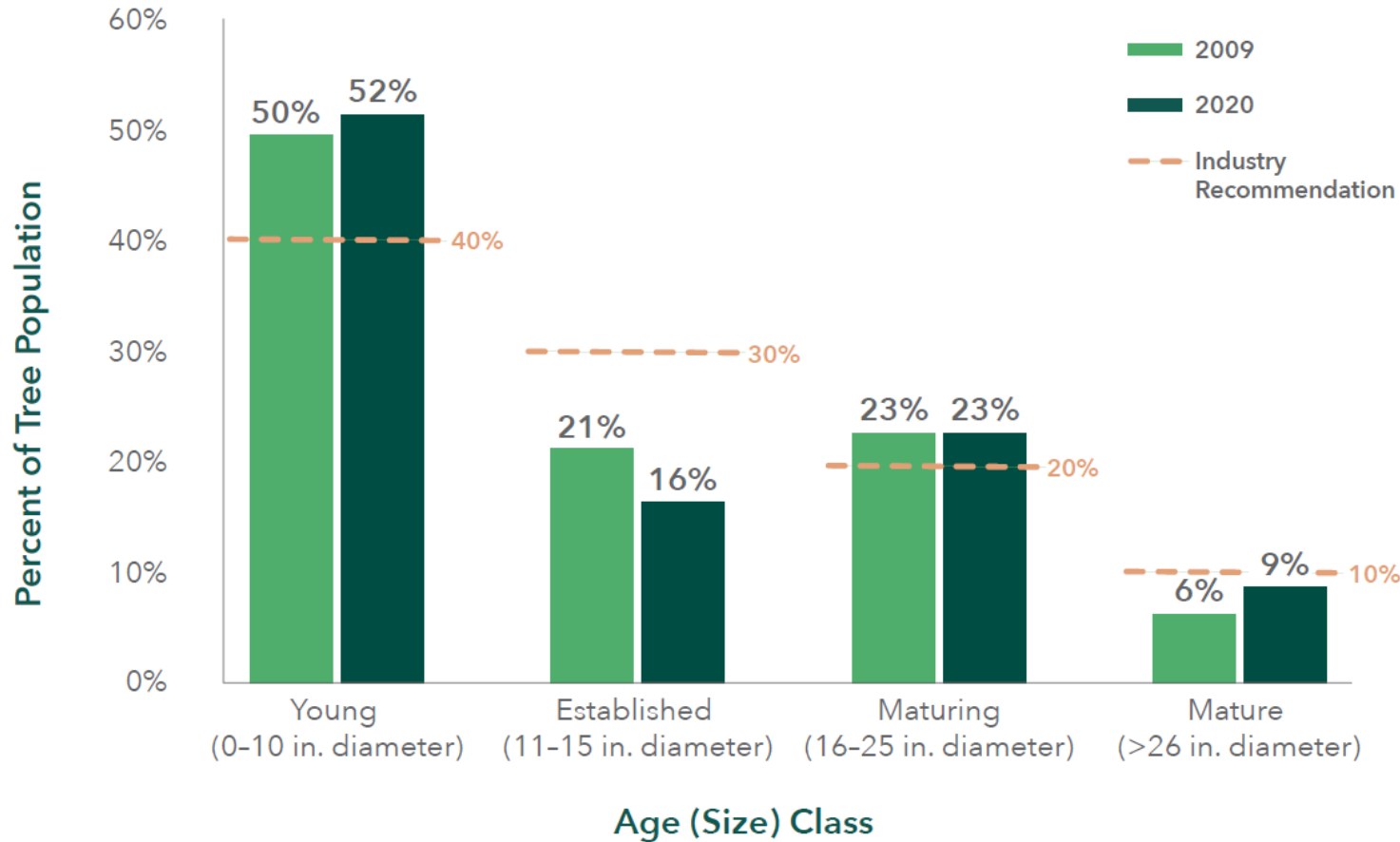
Street & Park Trees 2009 to 2020

Increasing size diversity



Tree Inventory Summary

Street & Park Trees 2009 to 2020



Ann Arbor's public trees are trending young

"Ideal" Size Distribution
40% 0-10" diameter (Young)
30% 11-15" diameter (Established)
20% 16-25" diameter (Maturing)
10% >26" diameter (Mature)

Tree Inventory Summary

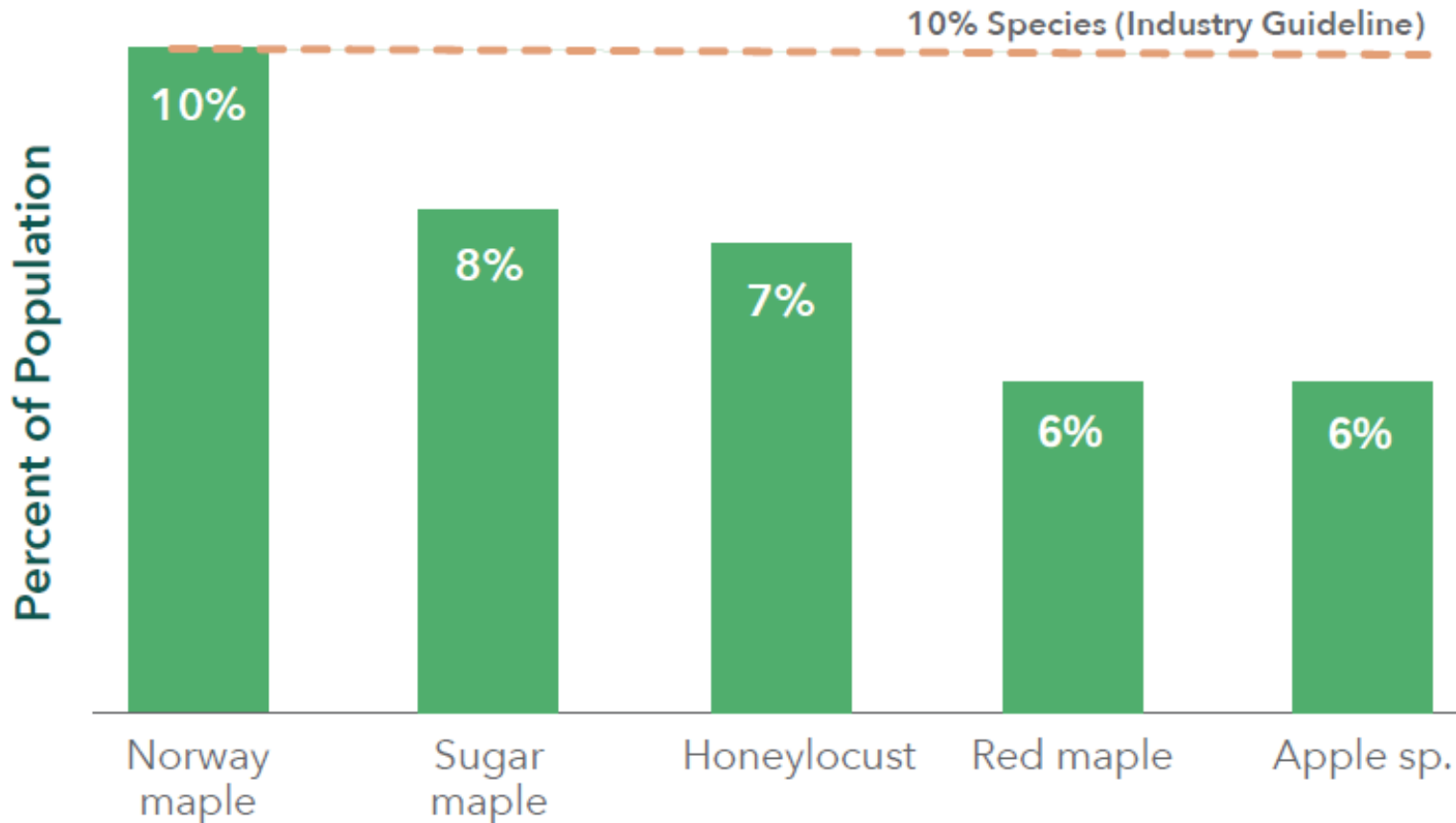
Street & Park Trees 2009 to 2020

Increasing species diversity

Rank 2020	Species (Botanical)	Species (Common)	2009 Number of Trees	2020 Number of Trees	Percent Change by Species 2009 to 2020	
1	<i>Acer platanoides</i>	Norway maple	6,264	5,164	* -18%	↓
2	<i>Acer saccharum</i>	sugar maple	5,359	3,921	* -27%	↓
3	<i>Gleditsia triacanthos inermis</i>	thornless honeylocust	3,670	3,674	0.1%	↑
4	<i>Malus species</i>	crabapple	2,997	2,582	-14%	↓
5	<i>Acer rubrum</i>	red maple	3,273	2,476	* -24%	↓
6	<i>Platanus x acerifolia</i>	london planetree	1,541	1,920	25%	↑
7	<i>Acer saccharinum</i>	silver maple	2,194	1,782	* -19%	↓
8	<i>Tilia cordata</i>	littleleaf linden	1,959	1,744	-11%	↓
9	<i>Quercus rubra</i>	northern red oak	1,125	1,318	17%	↑
10	<i>Pyrus calleryana</i>	Callery pear	1,114	1,097	-2%	↑
-	Other		17,863	26,128	46%	↑

Tree Inventory Summary

Street & Park Trees 2020



10% Rule: A species should make up no more than 10% of a City's public tree population

Norway maple is at the 10% threshold for population.

Tree Inventory Summary

Street & Park Trees 2009 to 2020

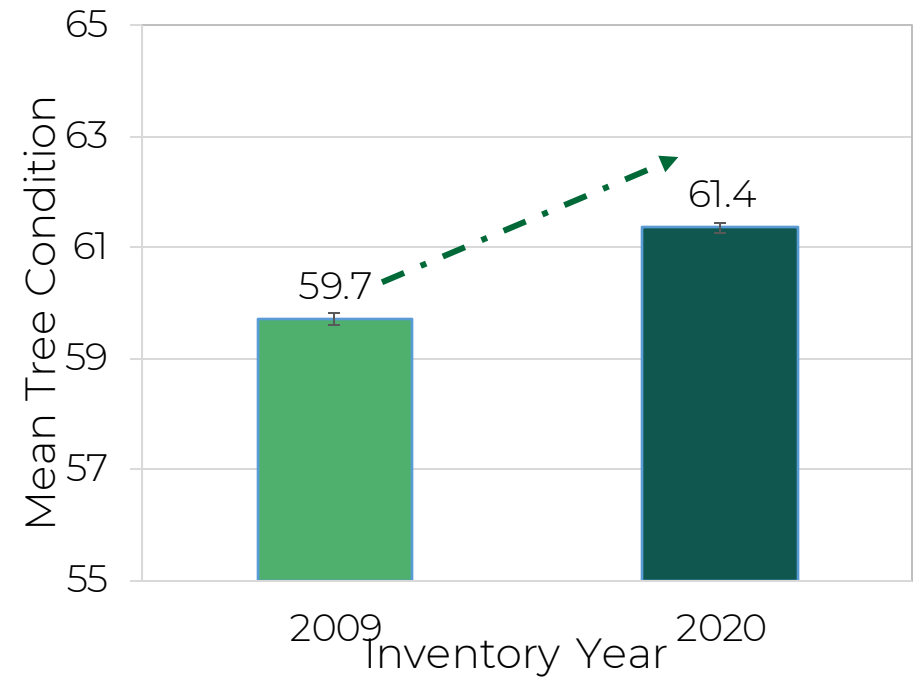
RANK 2020	GENUS (BOTANICAL)	GENUS (COMMON)	2009 NUMBER OF TREES	2020 NUMBER OF TREES	% CHANGE BY SPECIES (2009-2020)	
1	<i>Acer</i>	Maple	18,102	16,736	-8%	▼
2	<i>Quercus</i>	Oak	3,140	4,505	43%	▲
3	<i>Gleditsia</i>	Honeylocust	3,670	3,756	2%	▲
4	<i>Malus</i>	Crabapple	3,050	2,941	-4%	▼
5	<i>Platanus</i>	Sycamore	1,696	2,223	31%	▲
6	<i>Tilia</i>	Linden	2,439	2,157	-12%	▼
7	<i>Picea</i>	Spruce	1,899	1,843	-3%	▼
8	<i>Pinus</i>	Pine	1,868	1,702	-9%	▼
9	<i>Pyrus</i>	Pear	1,126	1,161	3%	▲
10	<i>Prunus</i>	Cherry	668	1,145	71%	▼
-	Other		9,701	15,201	57%	▲

Increasing tree diversity

**8% reduction in Maple
between 2009 and 2020**

Tree Inventory Summary

Street & Park Trees 2009 to 2020



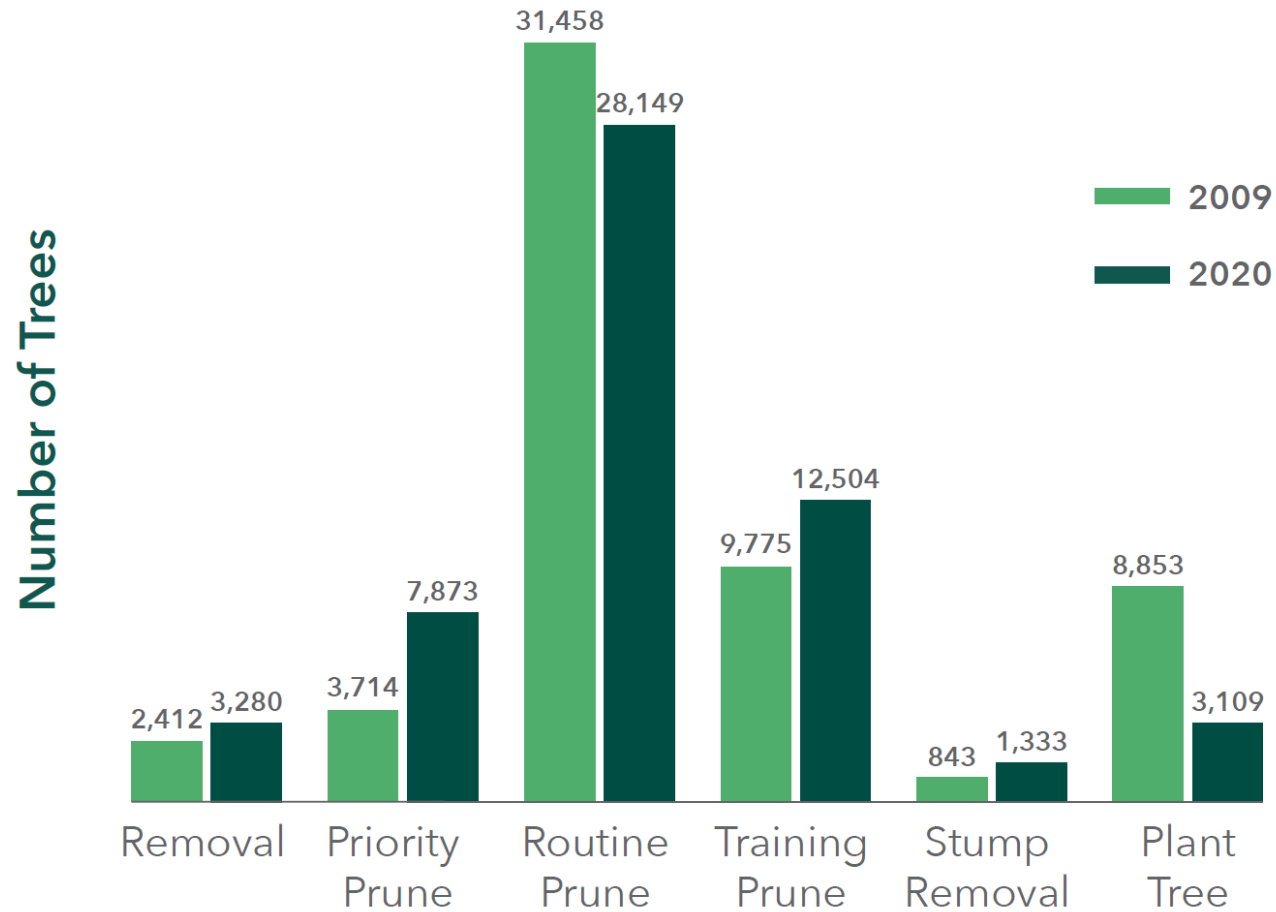
Average Tree Condition Improving

89% of street and park trees in Very Good to Fair condition



Tree Inventory Summary

Street & Park Trees 2009 to 2020



**Top Maintenance Need
Remains Tree Pruning**



The Urban Forestry Program



Urban Forestry Program

Program Assessment

Indicators of a Sustainable Urban Forest

Indicators of a Sustainable Urban Forest



The Trees



The Players



The Management

INDICATORS OF A SUSTAINABLE URBAN FOREST		CITY OF ANN ARBOR ASSESSED PERFORMANCE LEVEL		
		Low	Moderate	High
The Trees & Urban Forest	Urban Tree Canopy			
	Equitable Distribution			
	Size/Age Distribution			
	Condition of Public Trees—Streets, Parks			
	Condition of Public Trees—Natural Areas			
	Trees on Private Property			
	Species Diversity			
	Suitability			
The Community & Stakeholders	Neighborhood Action			
	Large Private & Institutional Landholder Involvement			
	Green Industry Involvement			
	City Department/Agency Cooperation			
	Funder Engagement			
	Utility Engagement			
	State Engagement			
	Developer Engagement			
	Public Awareness			
	Regional Collaboration			
	Tree Inventory			
	Canopy Assessment			
	Management Plan			
	Risk Management Program			
	Maintenance of Publicly Owned Trees			

		Performance Levels		
Indicators of a Sustainable Urban Forest	Overall Objective or Industry Standard	Low	Moderate	High
Tree Inventory	Comprehensive, GIS-based, current inventory of all intensively-managed public trees to guide management, with mechanisms in place to keep data current and available for use. Data allows for analysis of age distribution, condition, risk, diversity, and suitability.	No inventory or out-of-date inventory of publicly-owned trees.	Partial or sample-based inventory of publicly-owned trees, inconsistently updated.	Complete, GIS-based inventory of publicly-owned trees, updated on a regular, systematic basis.

Urban Forestry Program

Program Assessment

Indicators of a Sustainable Urban Forest

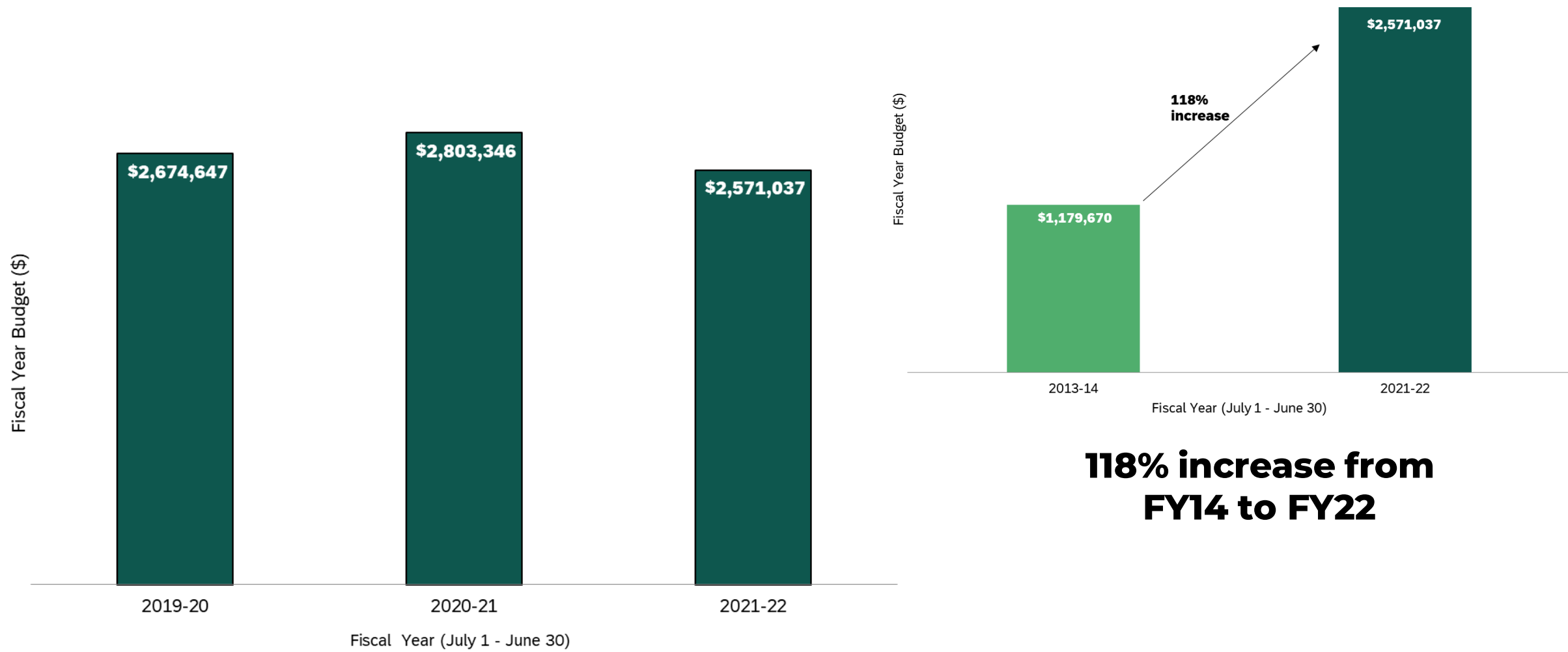
Ann Arbor’s Overall Assessment

MODERATE-HIGH

INDICATORS OF A SUSTAINABLE URBAN FOREST		CITY OF ANN ARBOR ASSESSED PERFORMANCE LEVEL		
		Low	Moderate	High
The Trees & Urban Forest	Urban Tree Canopy			
	Equitable Distribution			
	Size/Age Distribution			
	Condition of Public Trees—Streets, Parks			
	Condition of Public Trees—Natural Areas			
	Trees on Private Property			
	Species Diversity			
	Suitability			
The Community & Stakeholders	Neighborhood Action			
	Large Private & Institutional Landholder Involvement			
	Green Industry Involvement			
	City Department/Agency Cooperation			
	Funder Engagement			
	Utility Engagement			
	State Engagement			
	Developer Engagement			
	Public Awareness			
The Management Approach	Regional Collaboration			
	Tree Inventory			
	Canopy Assessment			
	Management Plan			
	Risk Management Program			
	Maintenance of Publicly Owned Trees (ROWs)			
	Maintenance of Publicly Owned Natural Areas			
	Planting Program			
	Tree Protection Policy			
	City Staffing & Equipment			
	Funding			
	Disaster Preparedness & Response			
	Communications			

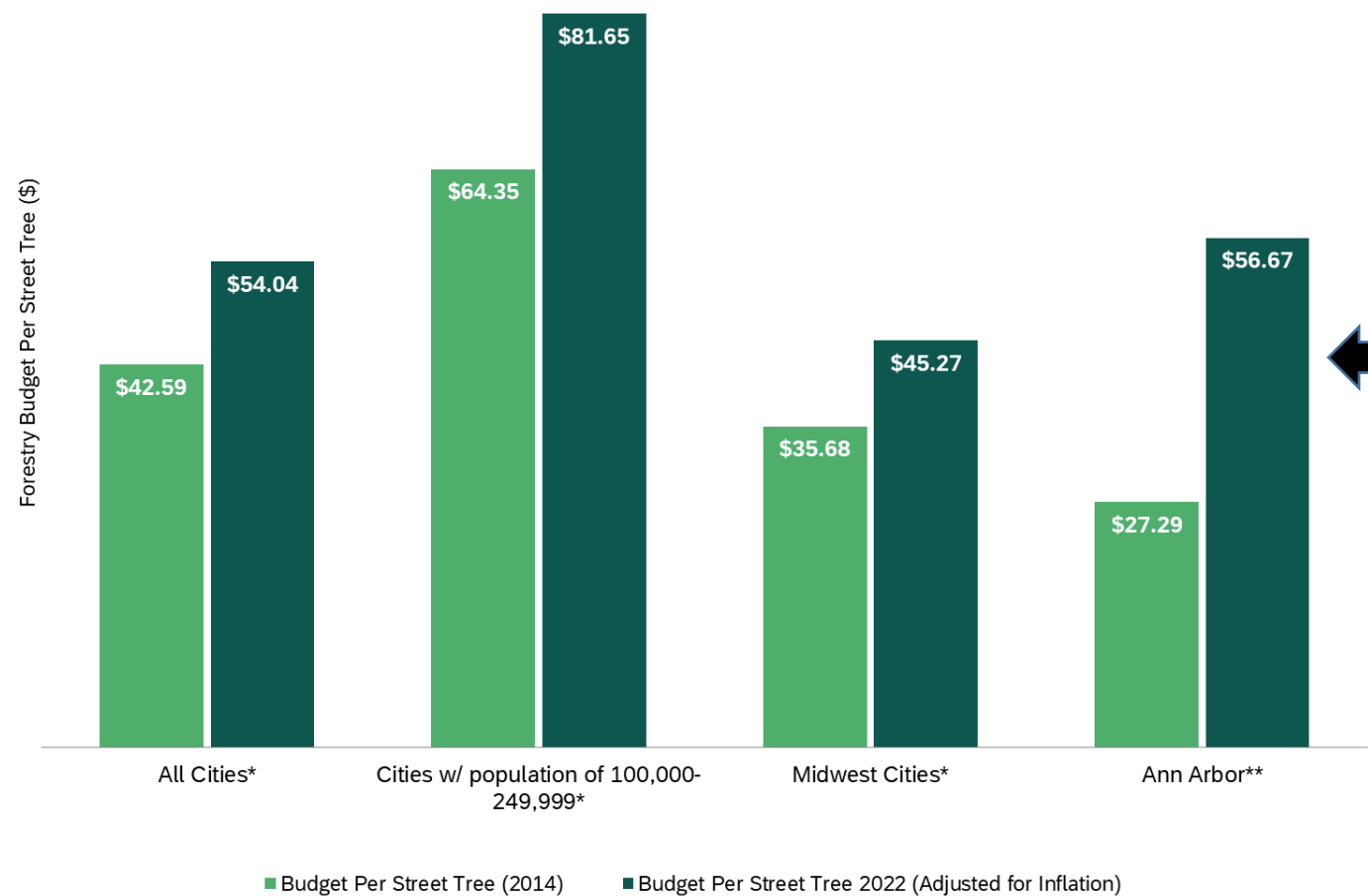
Urban Forestry Program

Budget



Urban Forestry Program

Budget



Ann Arbor is above the average budget per street tree for All Cities and Midwest cities but below Cities with a population of 100,000 – 249,999



*2014 Municipal Urban Forest Census per street tree spending has been adjusted for inflation, based on the December 2022 U.S. Consumer Price Index
**Based on 45,371 street trees and Ann Arbors FY22 budget

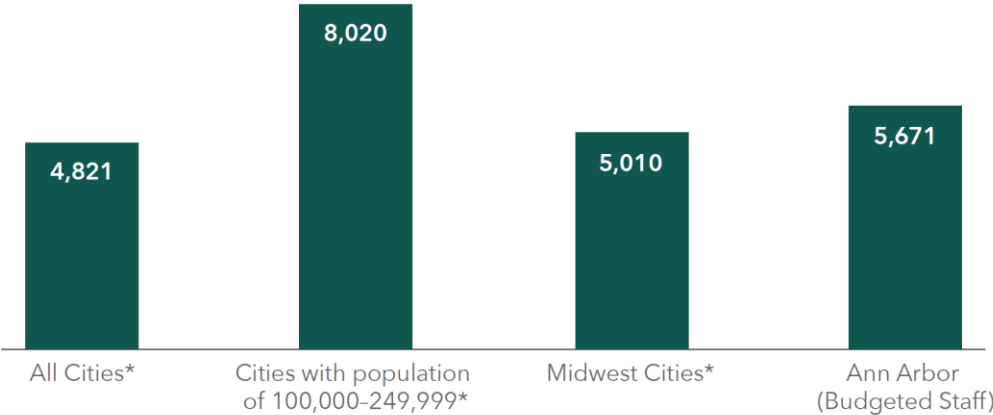
Urban Forestry Program

Staffing

Ann Arbor is above the street trees per employee average which means that Forestry staff are responsible for more street trees per employee.

FULL TIME POSITIONS	NUMBER OF BUDGETED POSITIONS	CURRENT NUMBER OF STAFF	CURRENT DUTIES
Public Works Supervisor–Forestry	1	1	Oversees crews, creates, and delegates work assignments, conducts tree inspections.
Public Works Technicians–Levels 1-5	8	7	Depending on Level duties include operating chipper; assisting/conducting pruning, tree removals, stump grinding and tree planting; equipment operation; truck driving; ensuring work is completed and updated in asset management work order system.
Urban Forestry & Natural Resources Planning Coordinator	1	1	Plans Ann Arbor's urban forestry program; conducts outreach/education; performs forestry and natural features reviews for private development site plan projects; oversees tree pruning and planting contractors.

Number of Street Trees Per Employee

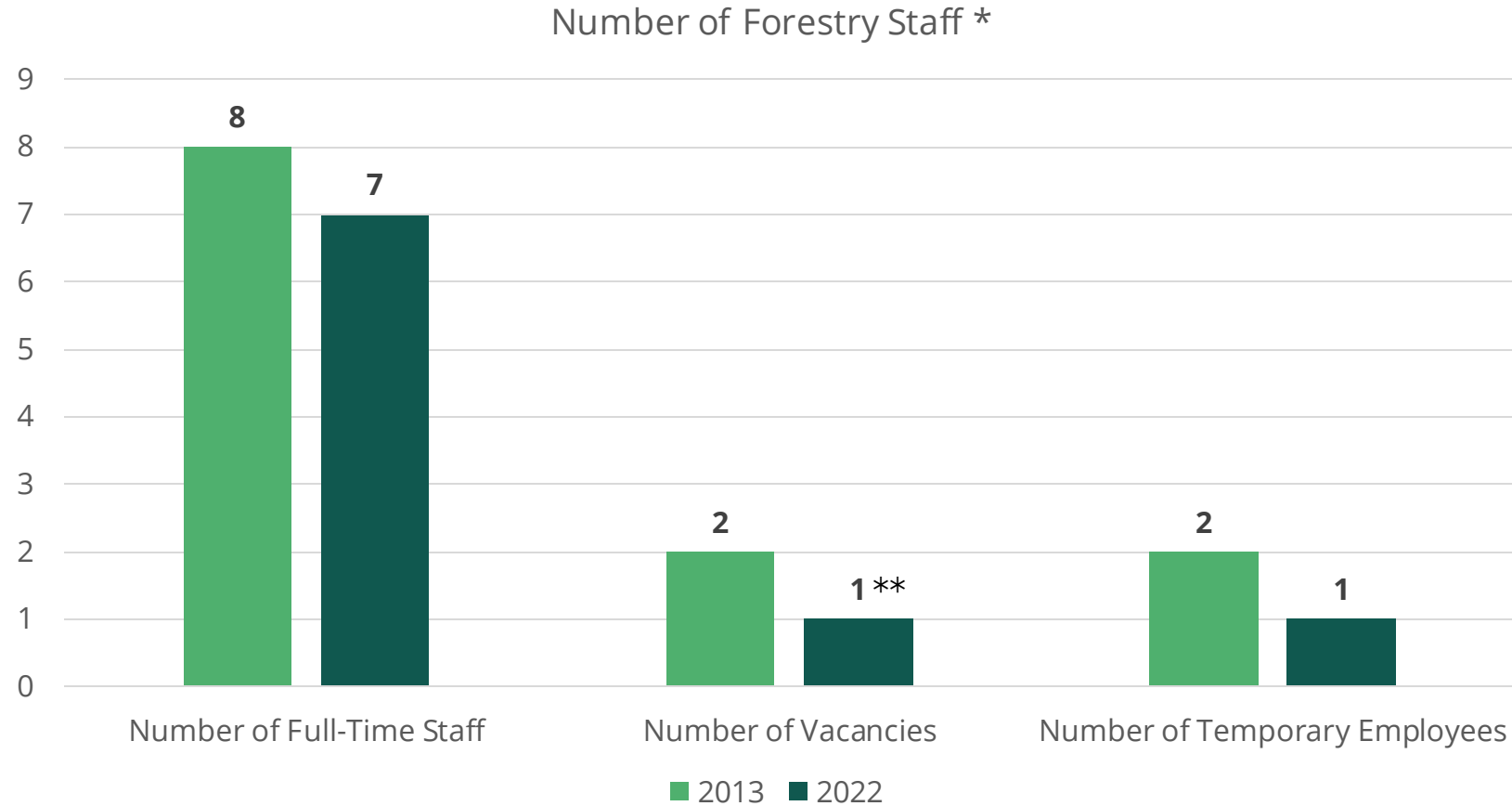


*2016 Municipal Tree Care Survey
**Public Works Technicians

The Street Trees per Employee calculation does not take into consideration city's that contract out all or part of their street tree maintenance operations.

Urban Forestry Program

Staffing



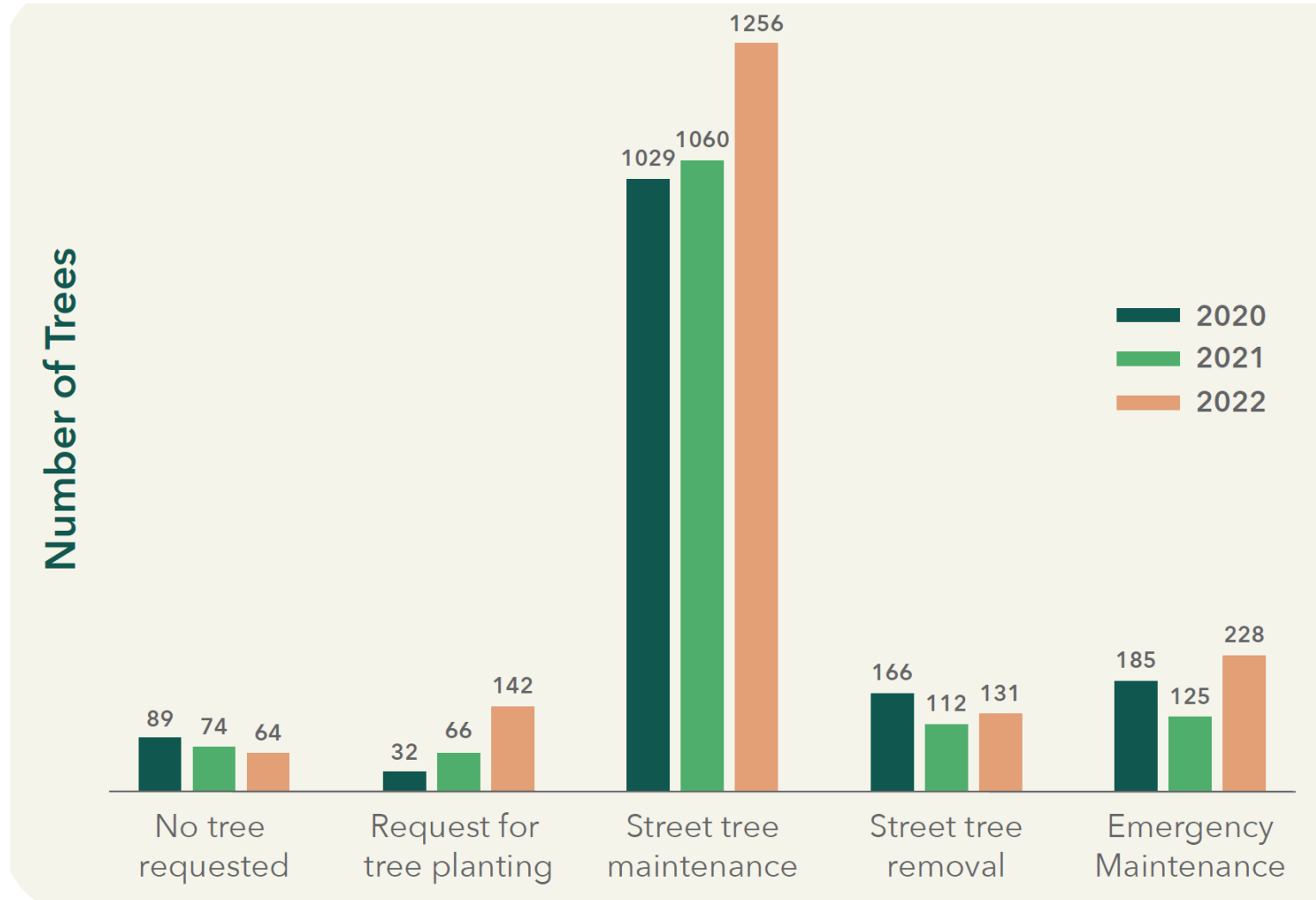
**2014 UCFMP
recommended
staffing of 12 FTEs
to move to a
proactive program**

*Number of full-time staff only includes employees that make up Forestry Public Works Crews.

**Currently working on filling this vacancy

Urban Forestry Program

Service Requests



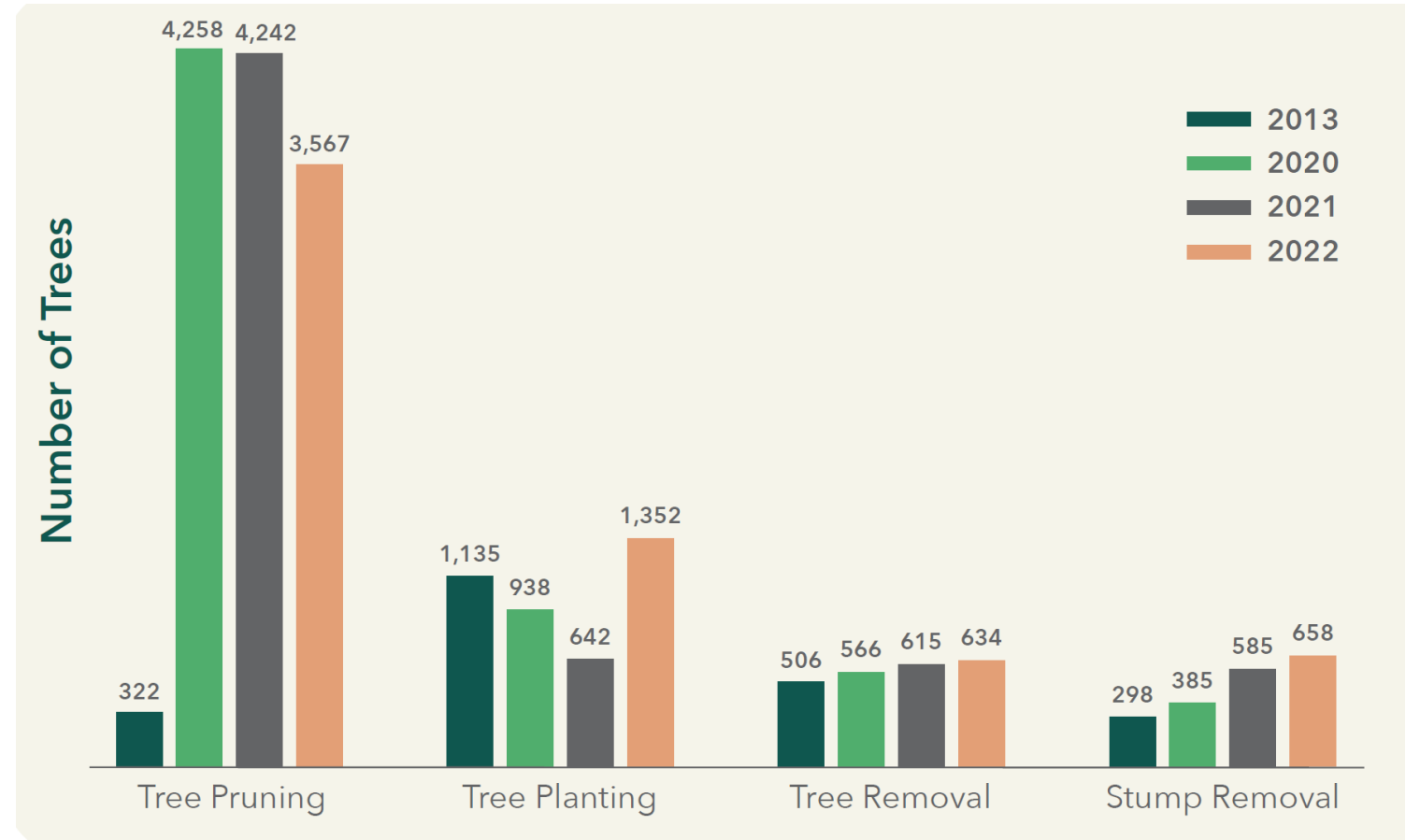
Tree pruning is the #1 requested activity

Urban Forestry Program

Tree Maintenance Activities

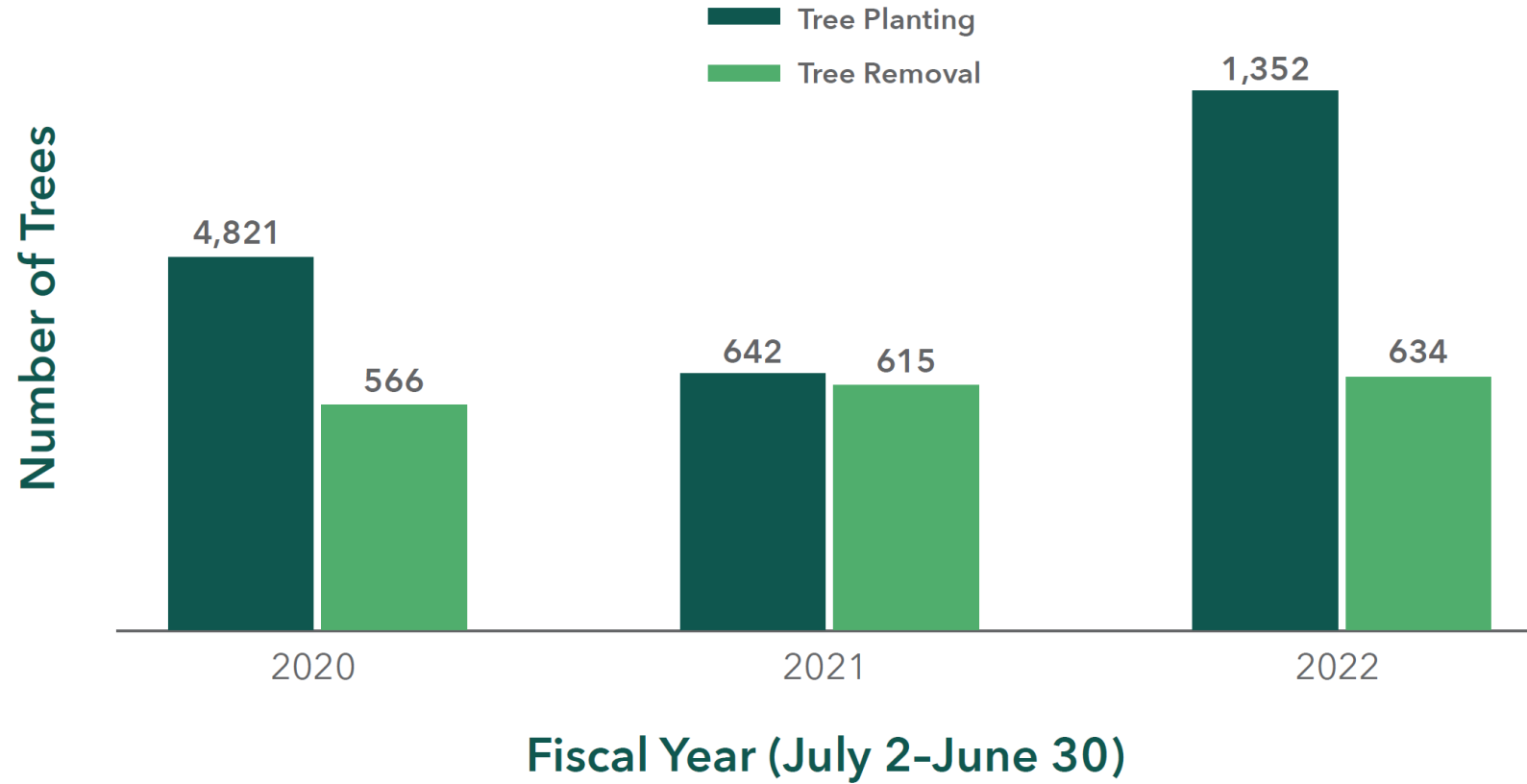
Forestry crews focus on tree removal, stump removal, storm/emergency work and miscellaneous activities.

Contractors conduct tree planting and routine tree pruning.



Urban Forestry Program

Tree Maintenance Activities Completed





Measuring Progress