



SMITHGROUP



**URBAN FOREST
MANAGEMENT PLAN**



Update 2022
Recommendations Summary
December 2022

How to Use this Slide Deck

This slide deck shares the **DRAFT Recommendations for the Urban Forest Management Plan**

Slide Deck Organization

- Why Plan & Planning Process
- DRAFT Recommendations



Review the Draft Recommendations in this slide deck and then **complete the survey on [A2 Open City Hall](#)** to provide your feedback on the recommendations.

- Click on [A2 Open City Hall](#) above or scan the QR code to be directed to [A2 Open City Hall](#) – search for Urban Forest Management Plan under Open Topics

Questions? Contact Tiffany Giacobazzi - City of Ann Arbor at tgiacobazzi@a2gov.org or Kerry Gray - Davey Resource Group at kerry.gray@davey.com.

Additional Information

Interested in learning more? At the end of the slide deck there is a series of slides with additional data, information and input that helped inform development of the draft recommendations.



Ann Arbor's Urban Forest

What is the Urban Forest?

It is all the trees that surround us every day in Ann Arbor, like those growing...

- along city streets
- in city Parks
- around homes & businesses
- on school, industrial and commercial properties

Why Plan?

- Set a vision for the future of Ann Arbor's urban forest.
- Determine public (and private) tree needs
- Identify urban forestry investment and resource needs
- Address community and stakeholder priorities
- Maximize the benefits Ann Arbor's urban forest provides to the community.



Why Plan?

The Benefits of Trees

Urban Heat Island

- Trees **reduce peak summer temperatures by 2-9° F.**
- Trees **prevent 1,200 heat-related deaths** each year (U.S.).

Water Quality and Flooding

- By intercepting and allowing rainwater to slowly soak into the ground– can **reduce stormwater runoff and pollutants by 20 to 60 percent.**

Air Pollution

- One 20” diameter **white oak tree can remove nearly 275 pounds of the carbon dioxide** (a greenhouse gas) from the air each year.
- Trees **prevent 430,000 incidents of asthma exacerbations** each year (U.S.).



Why Plan?

The Benefits of Trees

Reduce Energy Bills

- Properly placed trees can reduce an average household's energy costs **by up to \$250 per year.**

Trees Make Communities More Livable

- **10% increase** in tree canopy **reduced crime by 12-15%.**
- **Higher middle school standardized test scores** in reading and math for schools with trees.
- Residents are **3 times more likely to be physically active** when they live in areas with high levels of **trees and vegetation.**

Mental Health

- **Mental health self-reported as “poor” decreased 63%** 18-months **after** vacant lots near homes were **planted with trees** and grass.



Why Plan?

Street & Park Tree Benefits – 2020

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

Stormwater

- Intercept and absorb **5.7 million gallons of rainwater per year**

Air Quality

- Remove **20,000 pounds** of airborne pollutants and particulate matter each year.

Carbon

- Sequester (absorb) **431 tons of carbon** each year.



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

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



What Do We Want? Engagement and Outreach

Themes identified from the engagement and outreach activities can be found in the supplemental information slides at the end of the slide deck.

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
- March 2022 and June 2022 meetings

Community Meeting

- May 17, 2022

Community & Partner Organizations

- Ann Arbor Housing Commission
- Ann Arbor Public Schools
- 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



How Do We Get There?

Recommendations



How Do We Get There?

Draft Recommendations

Recommendation #1:

Support proactive tree maintenance of Ann Arbor's publicly managed trees.

Example actions:

- Continue to support the budget line item for tree pruning
- Develop a young tree maintenance checklist
- Provide tree watering bags for newly planted street trees

Description:

As with other city infrastructure like roads, bridges, and utilities, public trees need proactive planning and routine maintenance. Proactive tree maintenance increases tree longevity (health) and improves public safety (fewer risks), allowing trees to provide maximum benefits to the community.

Number of street trees increased from 2009 to 2020 and the number of vacant planting sites decreased.

89% of trees are in Fair condition or better and average condition is improving over time

An annual street tree pruning program was re-established in 2017.



How Do We Get There?

Draft Recommendations

Recommendation #2:

Develop and implement a comprehensive program to evaluate, monitor, and address risks and threats to Ann Arbor's urban forest.

Example actions:

- Plan for pests
- Create a risk management strategy
- Develop a storm response plan

Description:

Ann Arbor's urban forest is an ever-changing, dynamic system where both living and non-living elements can have a substantial impact on its condition, quality, and health. Factors including insects, diseases, climate change (e.g., high heat, flooding), invasive species, wildlife, and storms threaten the city's trees. Ann Arbor does not currently have a documented program to proactively monitor, identify, and address potential and future threats to the urban forest.

The City has made strides in diversifying its trees since 2009 but **maples** still make up nearly **1/3** of the Ann Arbor's public trees.

Young trees are overrepresented in Ann Arbor's street and park tree population



How Do We Get There?

Draft Recommendations

Opportunities to grow & develop partnerships have been identified.

Recommendation #3:

Ensure regulations, best management practices & partnerships are in place to support the sustainable and equitable growth, protection, & preservation of Ann Arbor's tree canopy.

Example actions:

- Update tree ordinance
- Increase staff for enforcement
- Improve city department communication
- Prioritize space for trees in development

Description: City policies, regulations, and practices communicate and reflect the values and priorities of the community – and the Ann Arbor community values and appreciates trees. Taking an equity and sustainability focused approach to tree preservation, planting and care can help to ensure that trees and the benefits that they provide are available to all Ann Arbor residents.



How Do We Get There?

Draft Recommendations

Recommendation #4:

Develop and implement a strategy to maximize investment and resources to meet Ann Arbor's desired level of service for urban forestry maintenance, management, and programs.

Example actions:

- Investigate carbon financing
- Communicate needs and values

Description: To continue Ann Arbor's progress towards maintaining a sustainable and resilient urban forest will require additional funding and resources. To increase investment a strategy needs to be developed that describes program needs, actions required, consequences of not acting, and funding needed.

Forestry's street tree budget has increased 118% from FY14 to FY22 due to the addition of the street tree pruning cycle

Ann Arbor per street tree budget at \$56.67 below the \$81.48 average for cities with a population of 100,000 – 249,999*



*Hauer R. J. and Peterson W. D. 2016. *Municipal Tree Care and Management in the United States: A 2014 Urban & Community Forestry Census of Tree Activities*. Special Publication 16-1, College of Natural Resources, University of Wisconsin – Stevens Point. 71 pp

How Do We Get There?

Draft Recommendations

Recommendation #5:

Develop an annual city-wide tree planting plan that prioritizes areas with low and aging canopy cover and high equity need.

Example actions:

- Use tree canopy data to help prioritize planting
- Update tree canopy assessment

Description: Trees provide many benefits and are an important tool in helping the City to achieve its sustainability goals and priorities; however, Ann Arbor's tree canopy cover varies across the city. **Which means that neighborhoods with lower tree canopy receive less tree benefits** such as improved air quality and lower temperatures (shading), which impacts public health, property values and overall quality of life. Development of a planting plan that considers social equity priorities (like health, demographics, and economics) can help prioritize tree planting in areas with fewer trees and high equity need.

Tree canopy is not evenly distributed across the city – which means the benefits trees provide are not available to everyone.



How Do We Get There?

Draft Recommendations

Regularly updating data helps measure progress and recalibrate efforts.

Recommendation #6:

Develop and implement a program to regularly update city tree data and review the Urban Forest Management Plan to evaluate and measure progress.

Example actions:

- Analyze data and keep updated
- Regularly update street and park tree inventory and tree canopy assessment
- Create Annual State of the Urban Forest report

Description: For the Urban Forest Management Plan to be an effective tool in continuing Ann Arbor's progress towards maintaining a sustainable and resilient urban forest - it is vital that both its implementation and the state of Ann Arbor's urban forest are regularly monitored and assessed. Updates to tree inventory and canopy assessment data provide key information that can identify urban forestry successes and emerging opportunities and challenges that may need to be incorporated into the plan.



How Do We Get There?

Draft Recommendations

Since 2011 over 165 Ann Arbor Citizen Pruner Volunteers have been trained.

Recommendation #7:

Engage, encourage, and support active participation by residents, neighborhoods, property owners & partner organizations in tree planting & care.

Over 3,600 free trees have been distributed through Ann Arbor's 10,000 Trees Initiative

Example actions:

- Develop outreach and engagement plan
- Expand Citizen Pruner program
- Partner with Office of Sustainability and Innovation and other city departments

Description: An important component in building a resilient, growing, and well-maintained urban forest is engaging the community in its management. With a large amount of available space for tree planting on private property the assistance of residents, community organizations, businesses and rental property owners, in tree planting and care is critical to increasing tree canopy in Ann Arbor.



How Do We Get There?

Draft Recommendations

Recommendation #8:

Develop and implement an urban wood utilization program for the City of Ann Arbor.

Example actions:

- Partner with Urban Ashes
- Pilot a wood utilization program

Description: In the development of a sustainable and resilient urban forest it is important to consider all aspects of a tree's life cycle from tree planting to the disposal of wood waste created in the management of the urban forest. Alternative strategies to extend the usefulness of a tree after it is removed from the landscape - from mulch and compost to picture frames, furniture, flooring, or other wood products created by local artisans should be explored.

Wood turned into furniture, flooring and other wood products, keeps the carbon stored in the tree locked up instead of returning to the atmosphere during the decomposition process

How Do We Get There?

Draft Recommendations

Recommendation #9:

Ensure there is adequate City staff and resources to implement the recommendations and action items of the Urban Forest Management Plan.

Example actions:

- Develop annual work plan to identify needs

Description: Sufficient city staff and resources are needed to implement the plan's recommendations and ensure that Ann Arbor's urban forest is resilient and sustainable. Implementing the Urban Forest Management Plan Update recommendations are also important in helping the City to achieve the goals and priorities outlined in its carbon neutrality plan, A2 Zero.

The 2014 UCFMP recommended staffing of 12 full-time employees to move to a proactive program. There are currently 8 budgeted staff in Forestry Public Works Technicians.



2022 Plan Recommendations

1. 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. Ensure regulations, best management practices & partnerships are in place to support the sustainable and equitable growth, protection, & preservation of Ann Arbor's tree canopy.
4. Develop and implement a strategy to maximize investment and resources to meet Ann Arbor's desired level of service for urban forestry maintenance, management, and programs.
5. Develop an annual city-wide tree planting plan that prioritizes areas with low and aging canopy cover and high equity need.
6. Develop and implement a program to regularly update city tree data and review the Urban Forest Management Plan to evaluate and measure progress.
7. Engage, encourage, and support active participation by residents, neighborhoods, property owners & partner organizations in tree planting & care.
8. Develop and implement an urban wood utilization program for the City of Ann Arbor.
9. Ensure there is adequate City staff and resources to implement the recommendations and action items of the Urban Forest Management Plan.



Questions? Contact:

Tiffany Giacobazzi - City of Ann Arbor - tgiacobazzi@a2gov.org

Kerry Gray - Davey Resource Group - kerry.gray@davey.com

[Click here](#) or scan the QR code to be directed to A2 Open City Hall. Search for Urban Forest Management Plan under Open Topics



Interested in learning more?

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SUPPLEMENTAL INFORMATION

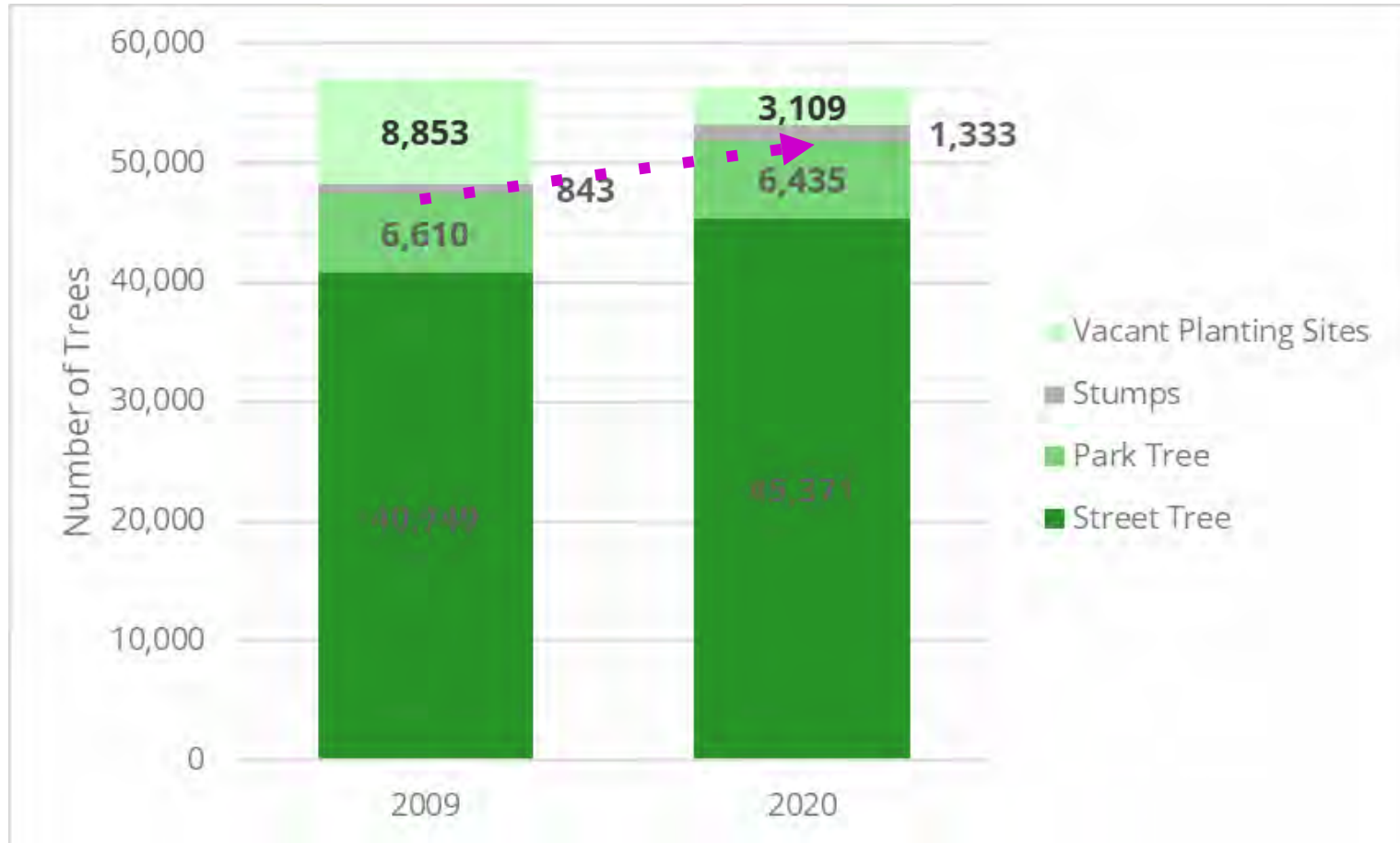
Tree Inventory & Program Data Summary



What Do We Have?

Tree Inventory Summary

Street & Park Trees 2009 to 2020

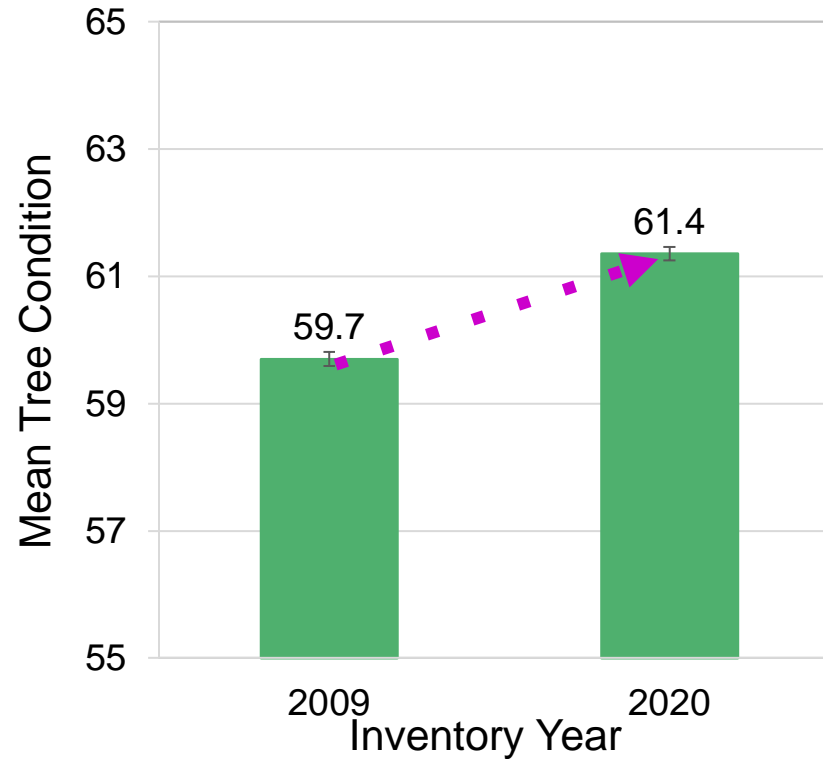
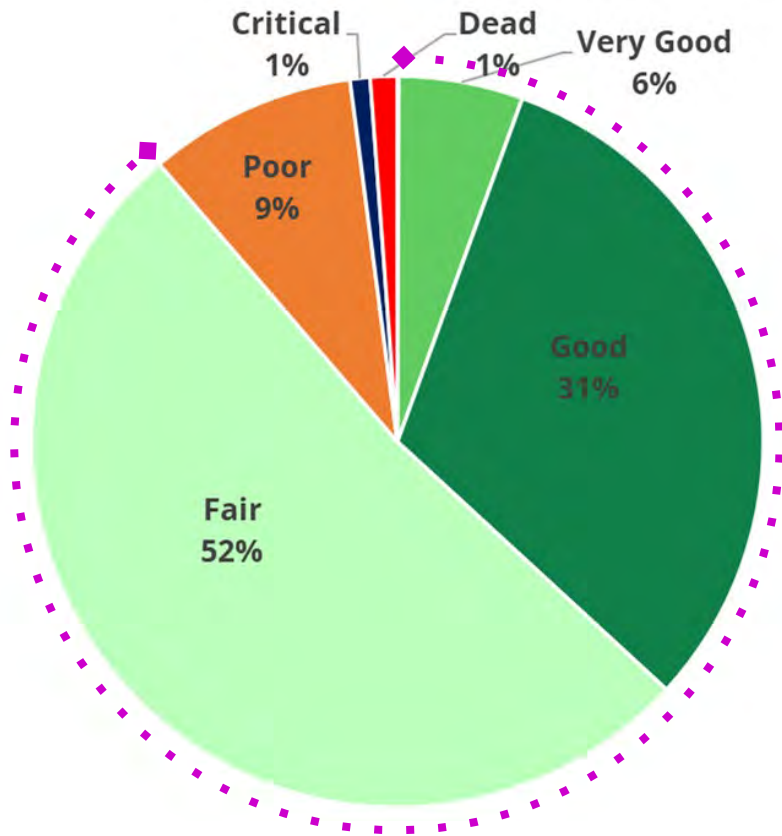


Number of street trees increased from 2009 to 2020 and the number of vacant planting sites decreased.

What Do We Have?

Tree Inventory Summary

Street & Park Trees 2009 to 2020



89% of trees are in Fair condition or better

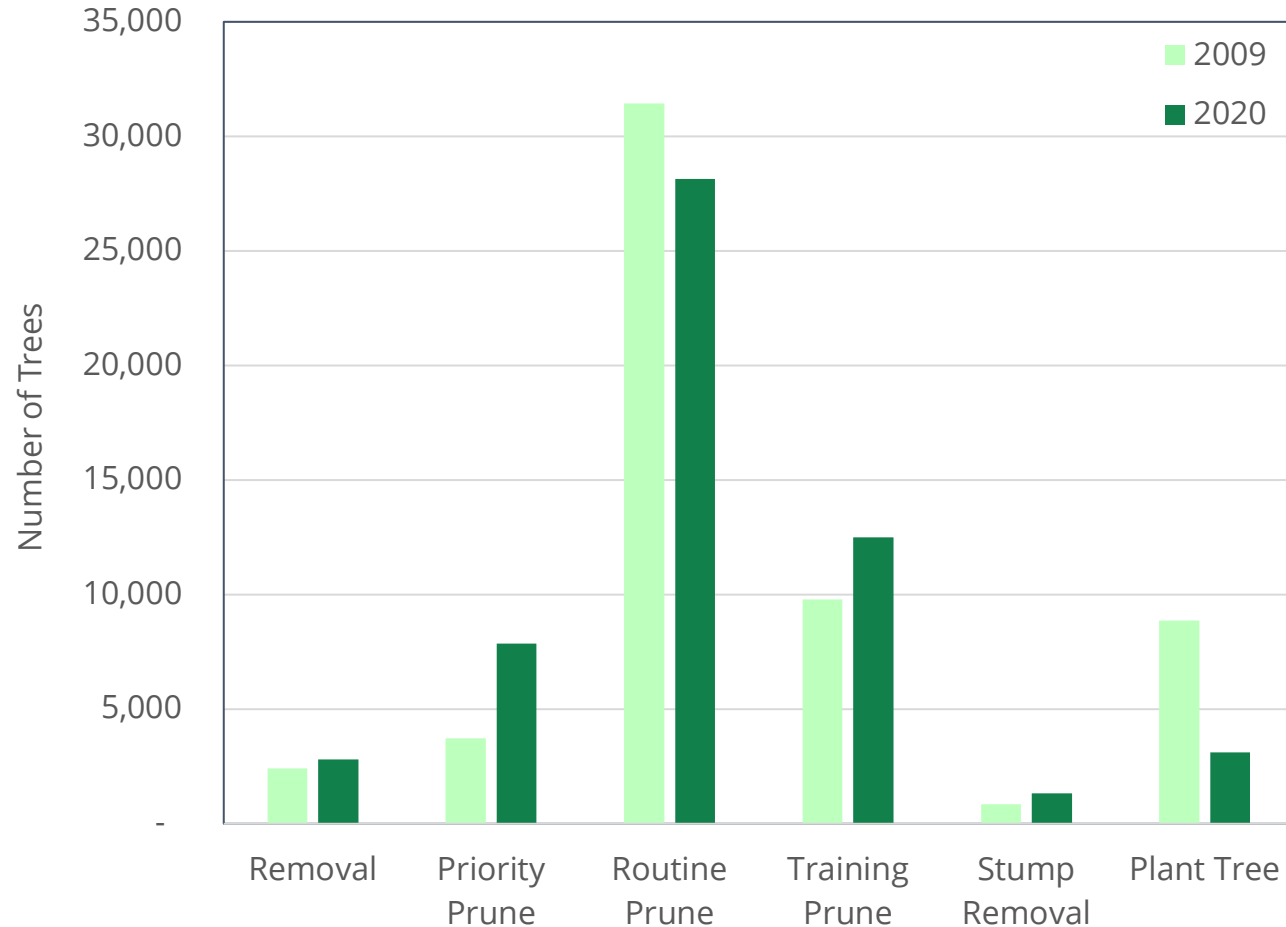
and

Average condition is improving over time

What Do We Have?

Tree Inventory Summary

Street & Park Trees 2009 to 2020

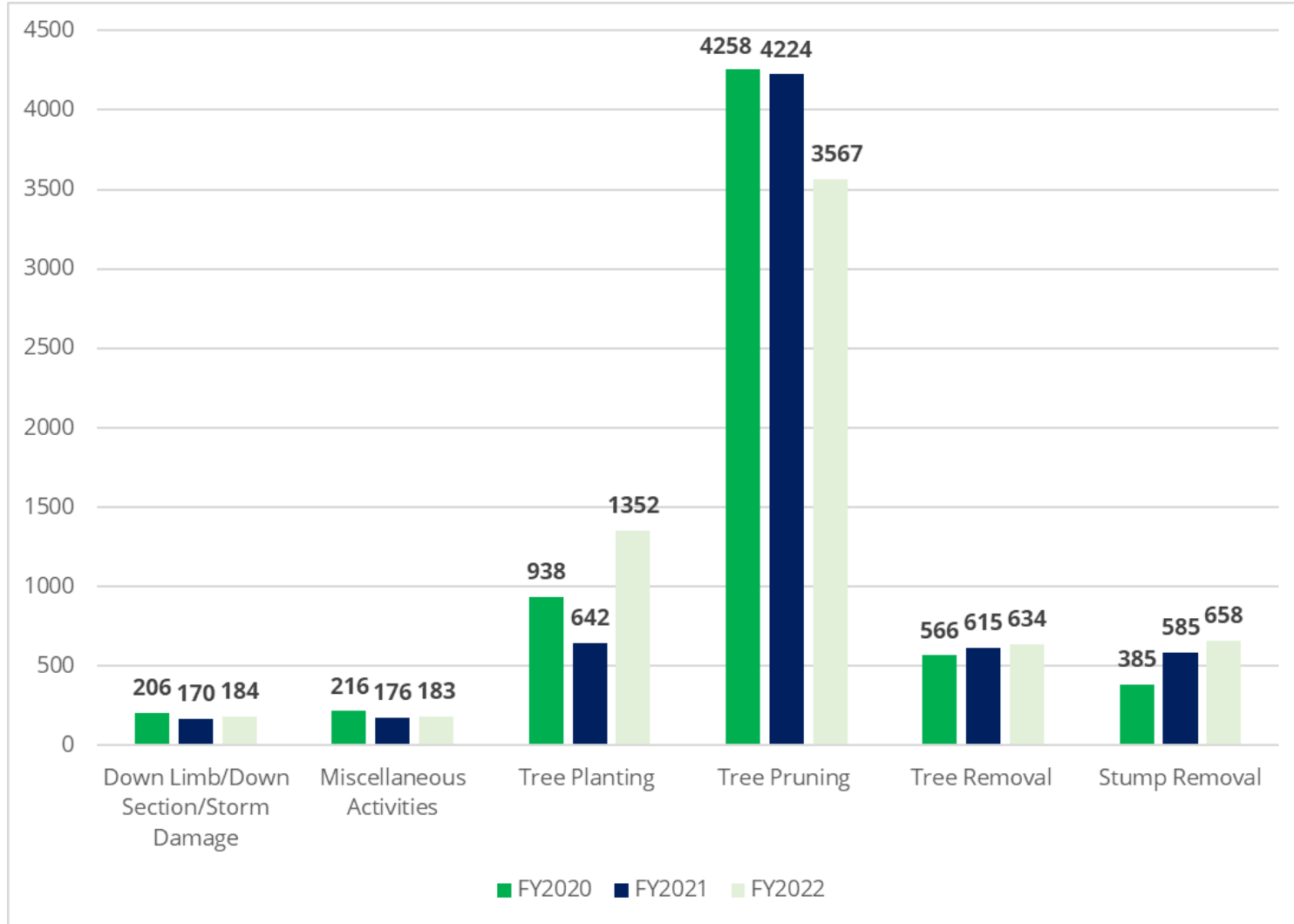


But even healthy trees need maintenance to improve structure, longevity and maximize tree benefits.

The most common maintenance need noted for inventoried public trees is pruning.

What Do We Have?

Tree Maintenance Activities by Fiscal Year (2020-22)

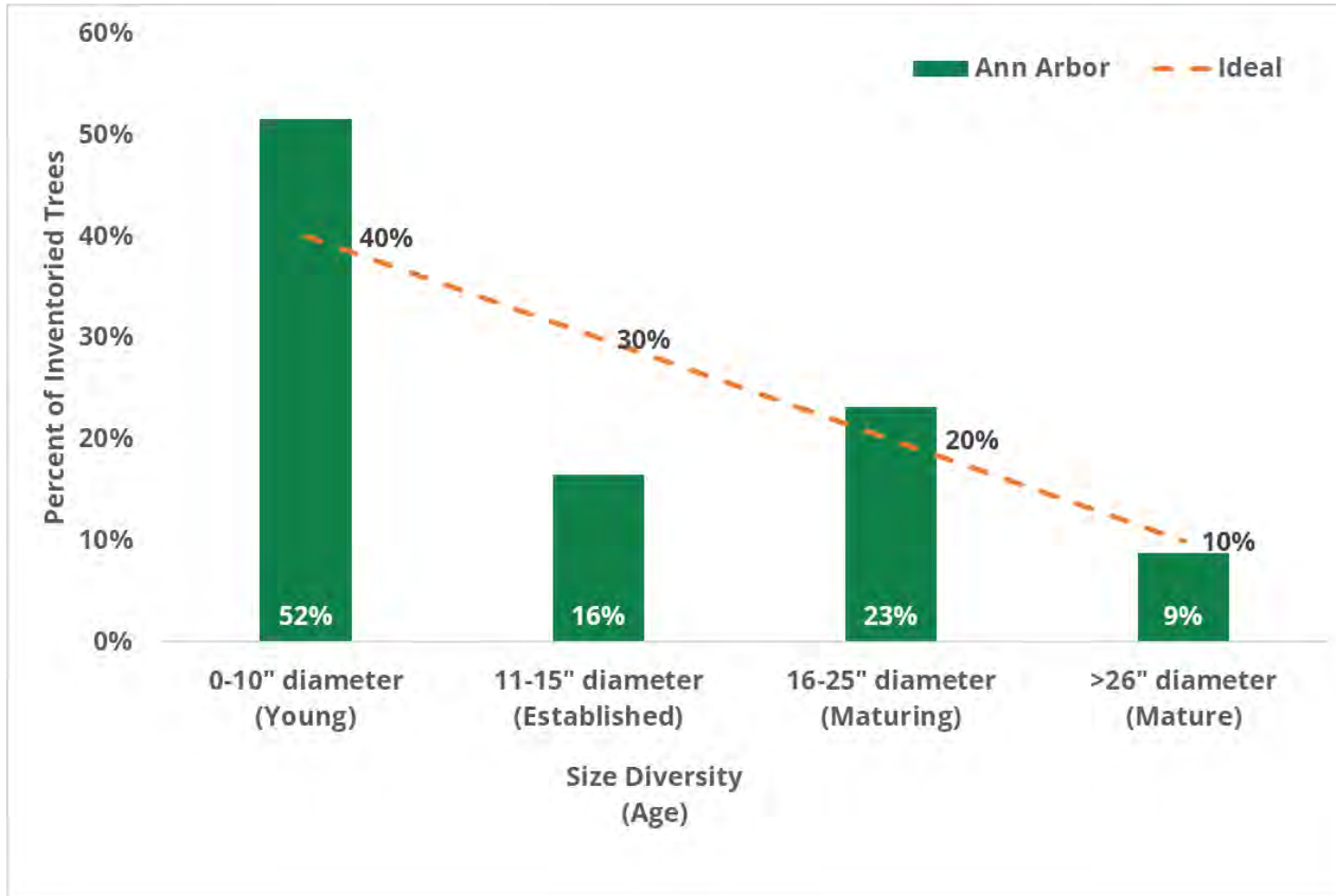


To transition to a proactive program and address tree pruning needs – an annual street tree pruning program was re-established in 2017.

What Do We Have?

Tree Inventory Summary

Street & Park Trees 2020

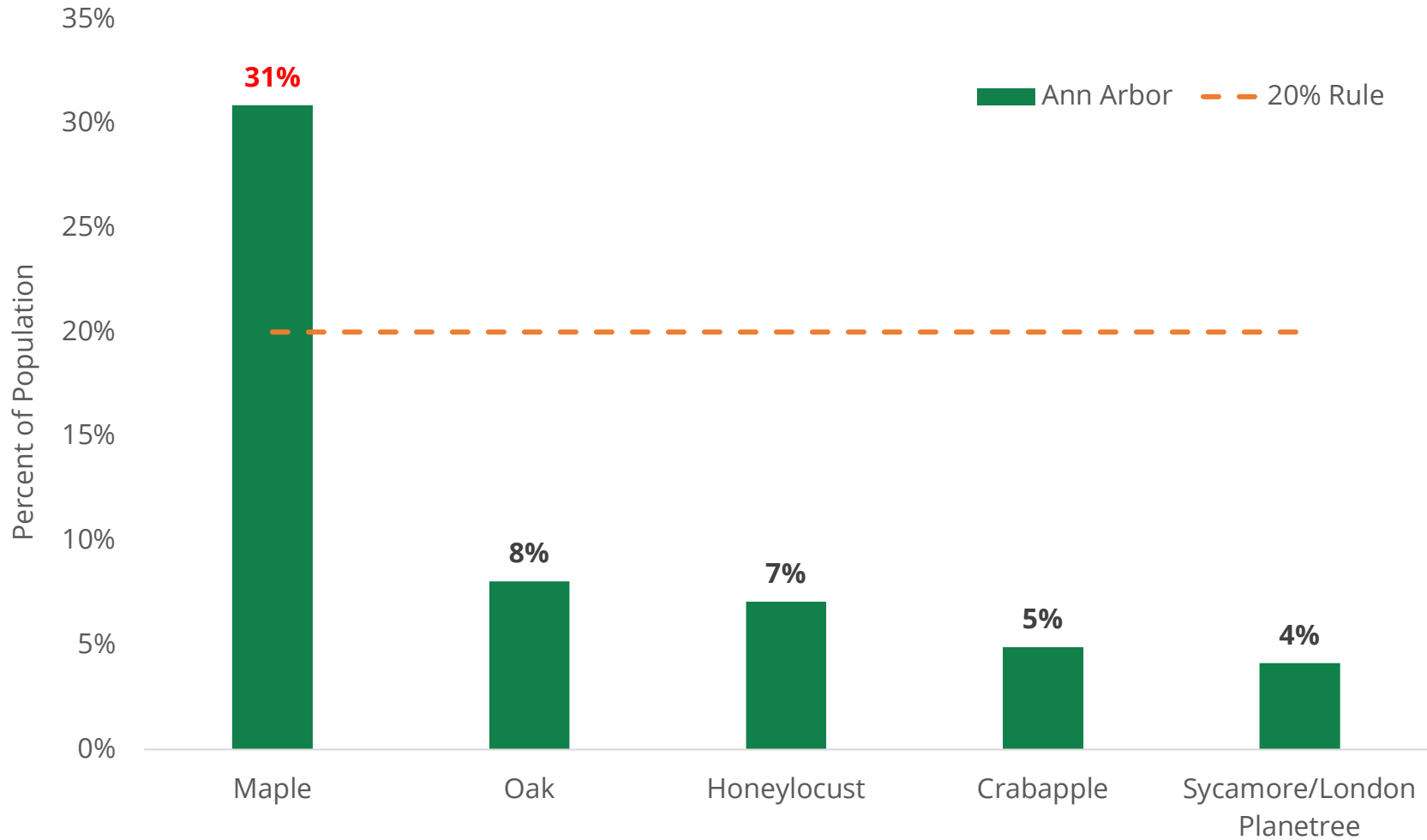


Young trees are overrepresented in Ann Arbor's street and park tree population

What Do We Have?

Tree Inventory Summary

Street & Park Trees 2020



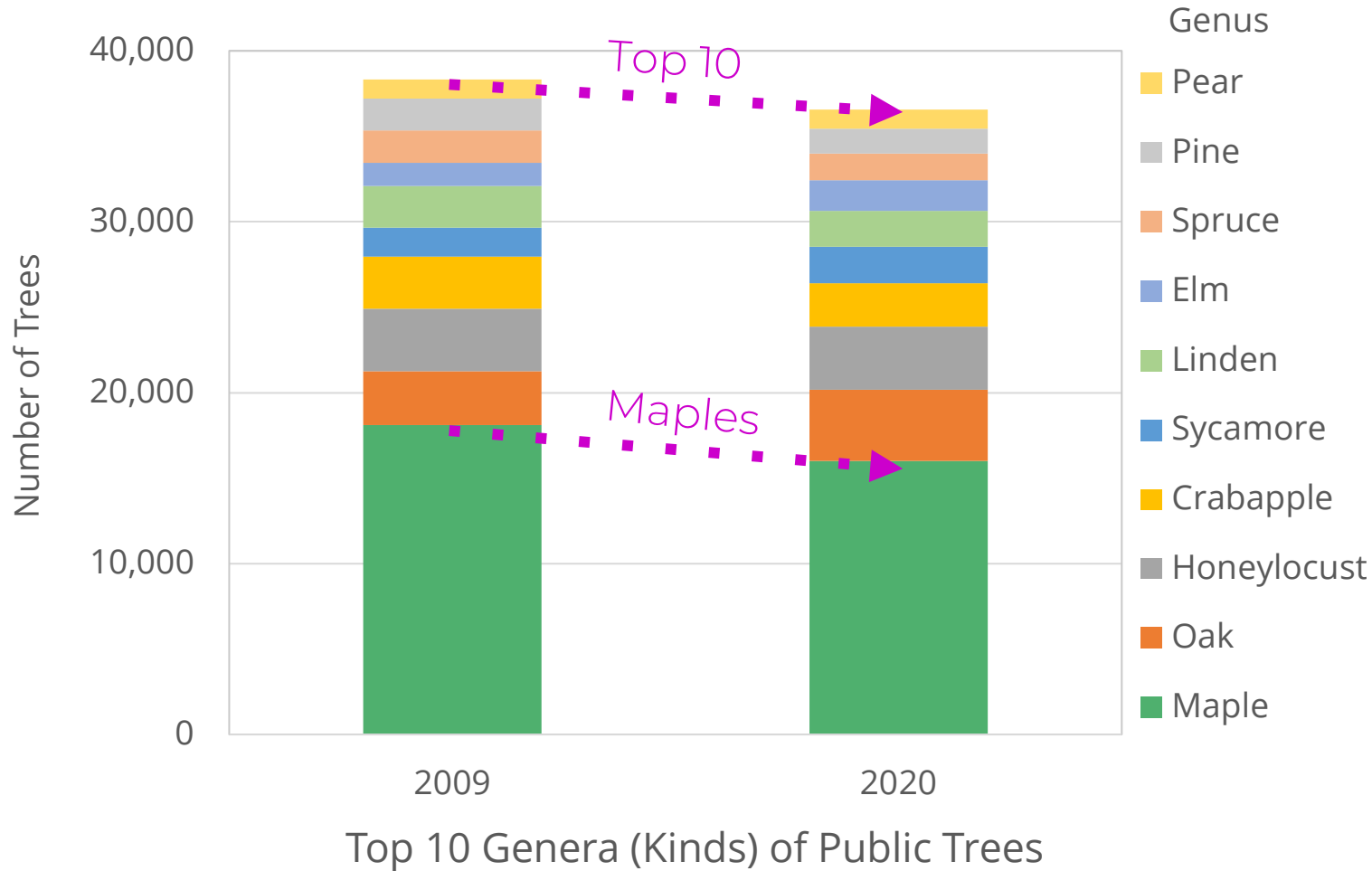
Nearly 1/3 of Ann Arbor's public trees are maples



What Do We Have?

Tree Inventory Summary

Street & Park Trees 2009 to 2020



The City has made strides in diversifying its trees since 2009

What Do We Have?

Tree Inventory Summary

Biodiversity makes the urban forest more resilient to threats

Photos courtesy of USDA APHIS



Emerald ash borer



Spotted lanternfly



Asian longhorned beetle

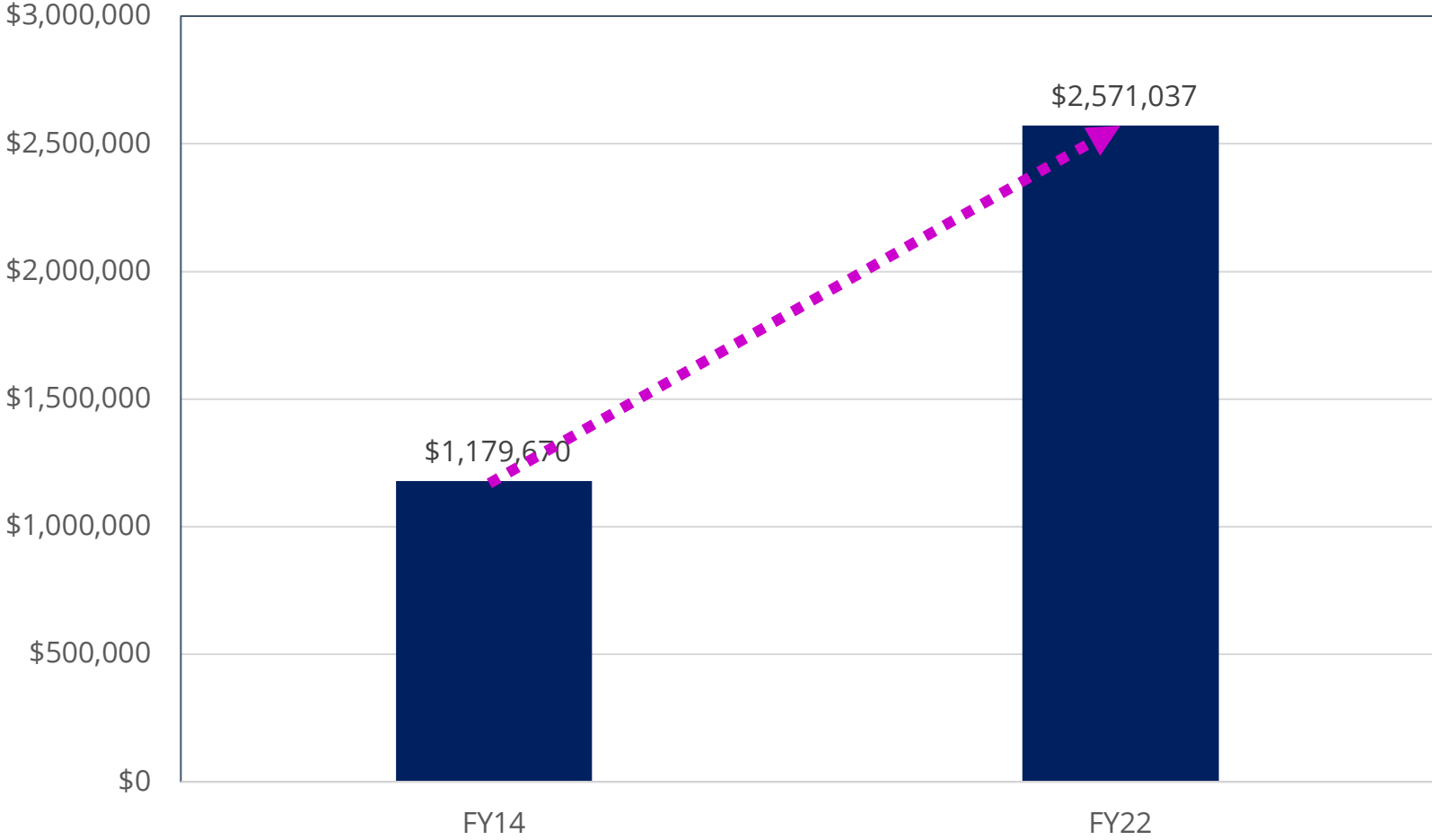


Spongy moth

What Do We Have?

Budget

Forestry Street Tree Budget
FY14 & FY22

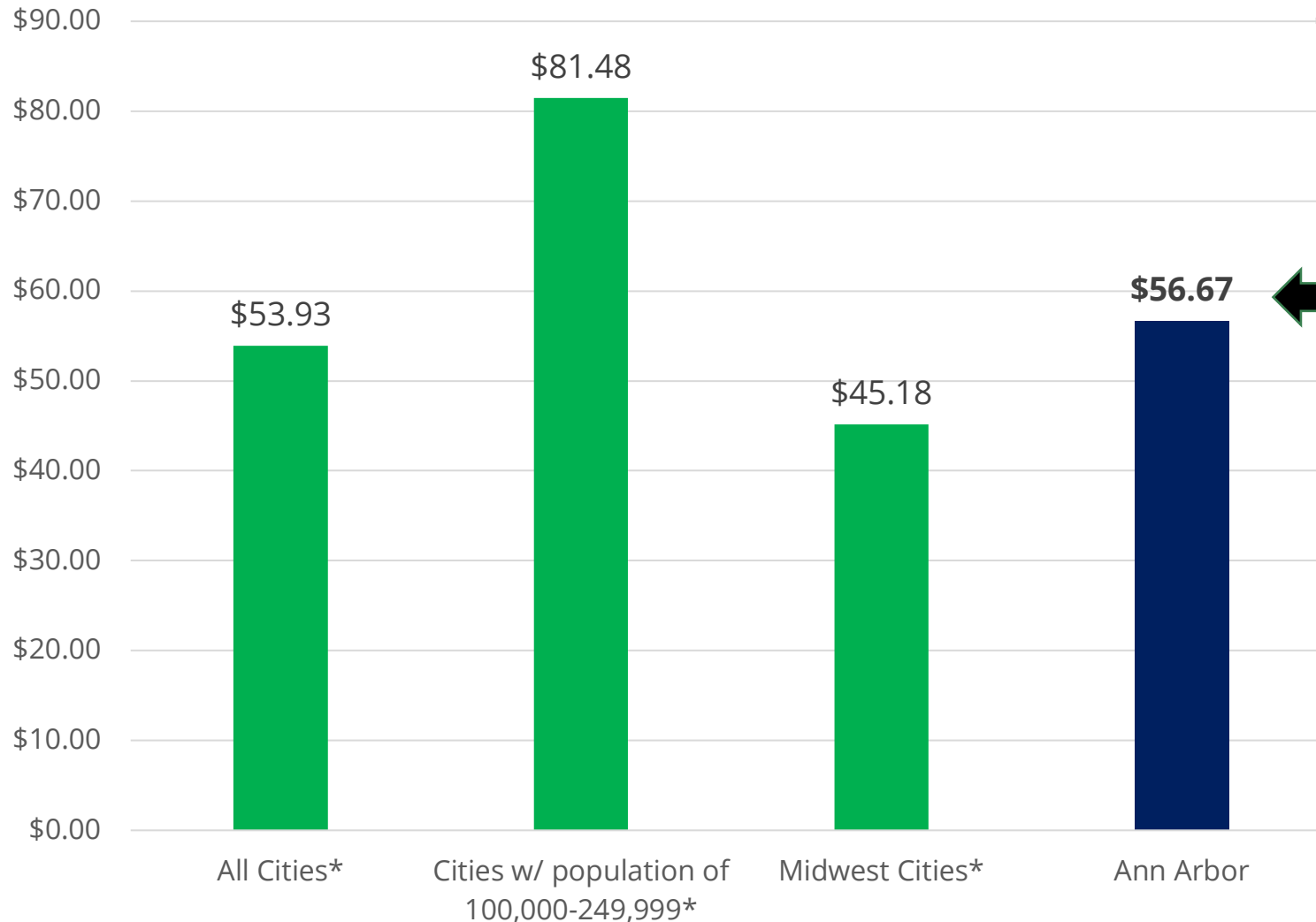


Forestry's street tree budget has increased 118% from FY14 to FY22 due to the addition of the street tree pruning cycle

What Do We Have?

Budget

Comparison: Budget Per Street Tree



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

Recommendation #4

*Hauer R. J. and Peterson W. D. 2016. *Municipal Tree Care and Management in the United States: A 2014 Urban & Community Forestry Census of Tree Activities*. Special Publication 16-1, College of Natural Resources, University of Wisconsin – Stevens Point. 71 pp

What Do We Have?

Program Assessment

Overall, Ann Arbor ranks Moderate-to-High on indicators of a sustainable urban forest

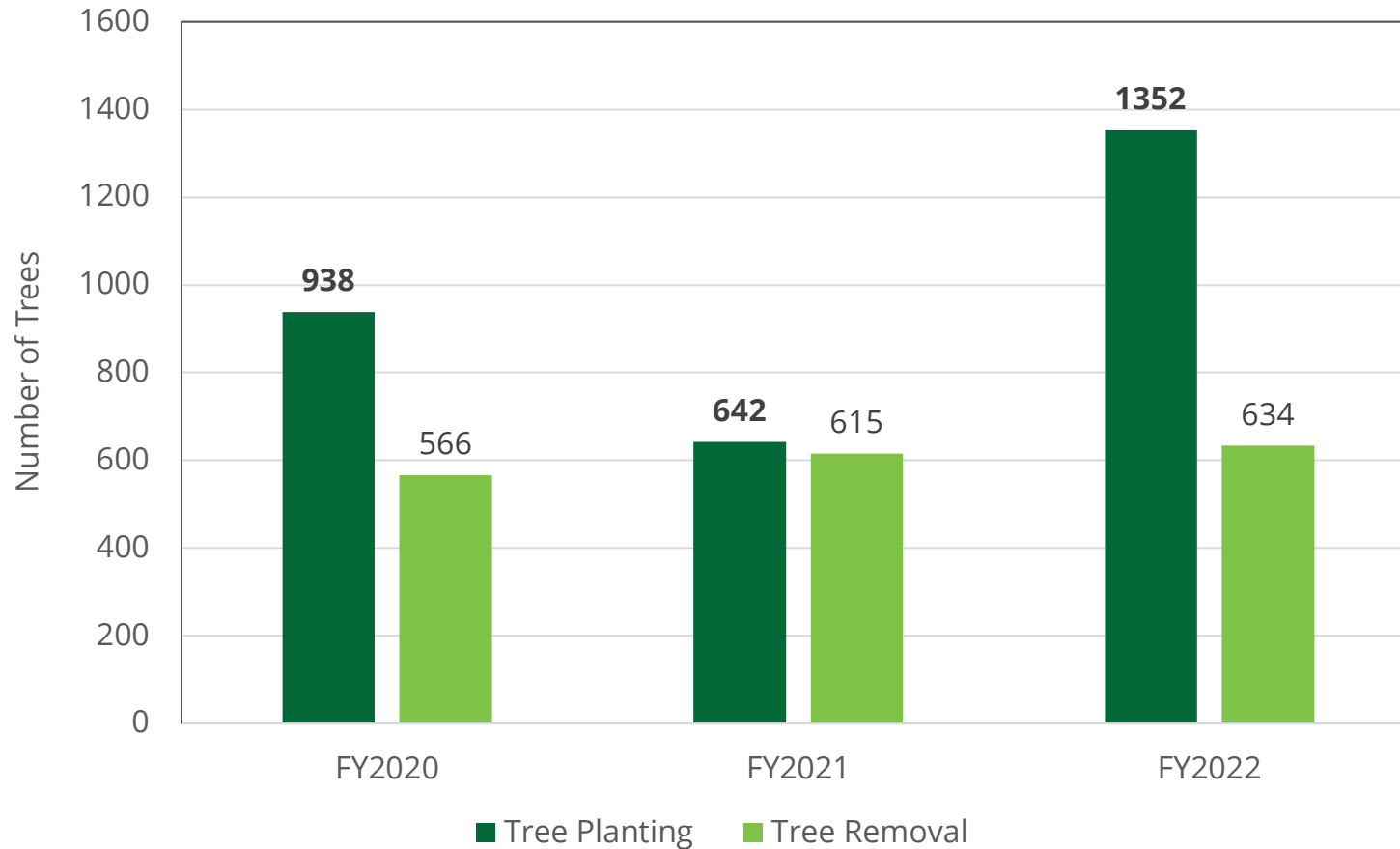
Low and Moderate indicators that relate to PARTNERS and POLICY suggest target areas for improvement

Indicators of a Sustainable Urban Forest		City of Ann Arbor Assessed Performance Level		
		Low	Moderate	High
The Trees	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 Players	Neighborhood Action	■		
	Large Private & Institutional Landholder	■		
	Green Industry Involvement	■		
	City Department/Agency Cooperation	■		
	Funder Engagement	■		
	Utility Engagement	■		
	State Departments/Agencies	■		
	Developer Engagement	■		
	Public Awareness	■		
	Regional Collaboration	■		
The Management Approach	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 and Equipment	■ ■ ■ ■ ■	■ ■ ■ ■ ■	■
	Funding			
	Disaster Preparedness & Response			
	Communications			

What Do We Have?

Tree Planting

Tree Planting vs. Tree Removals
by Fiscal Year



**To grow canopy citywide,
tree planting across
sectors needs to
compensate for tree
removal**

What Do We Have?

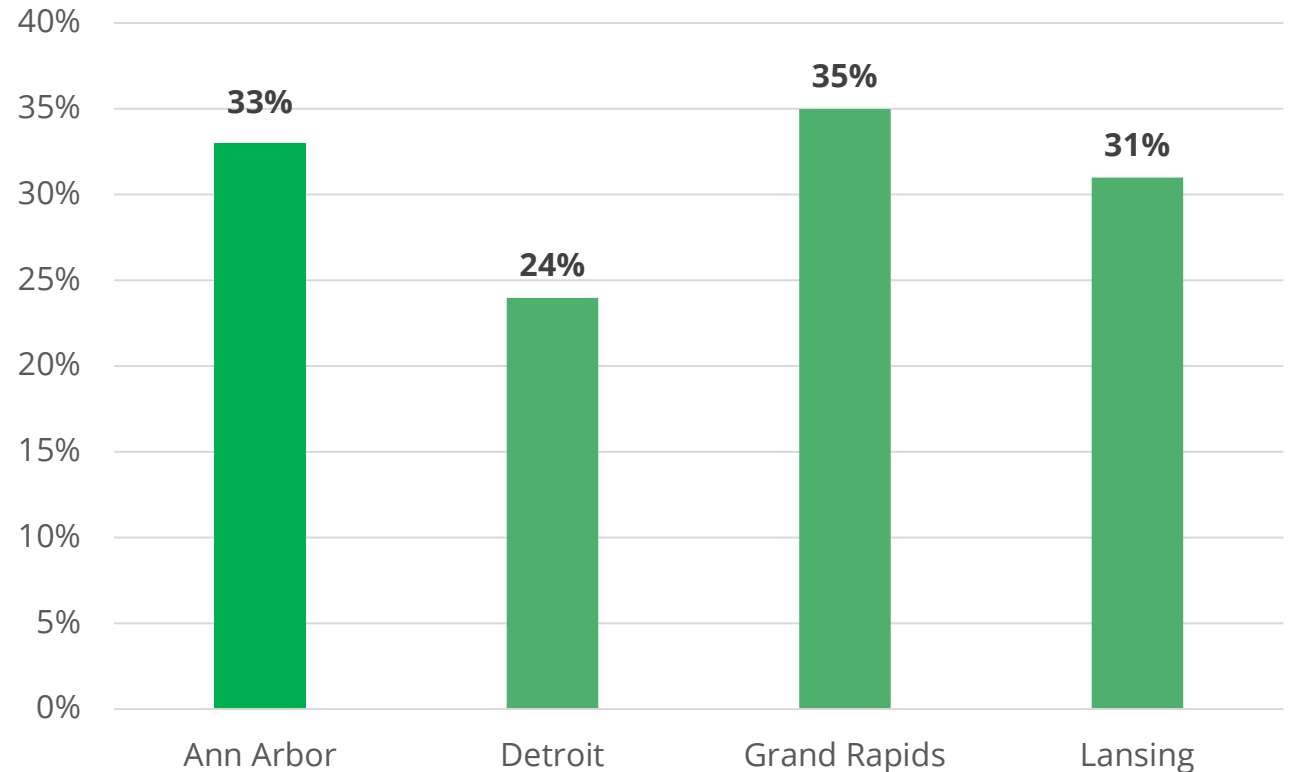
Tree Canopy

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

Tree Canopy Cover Michigan Cities

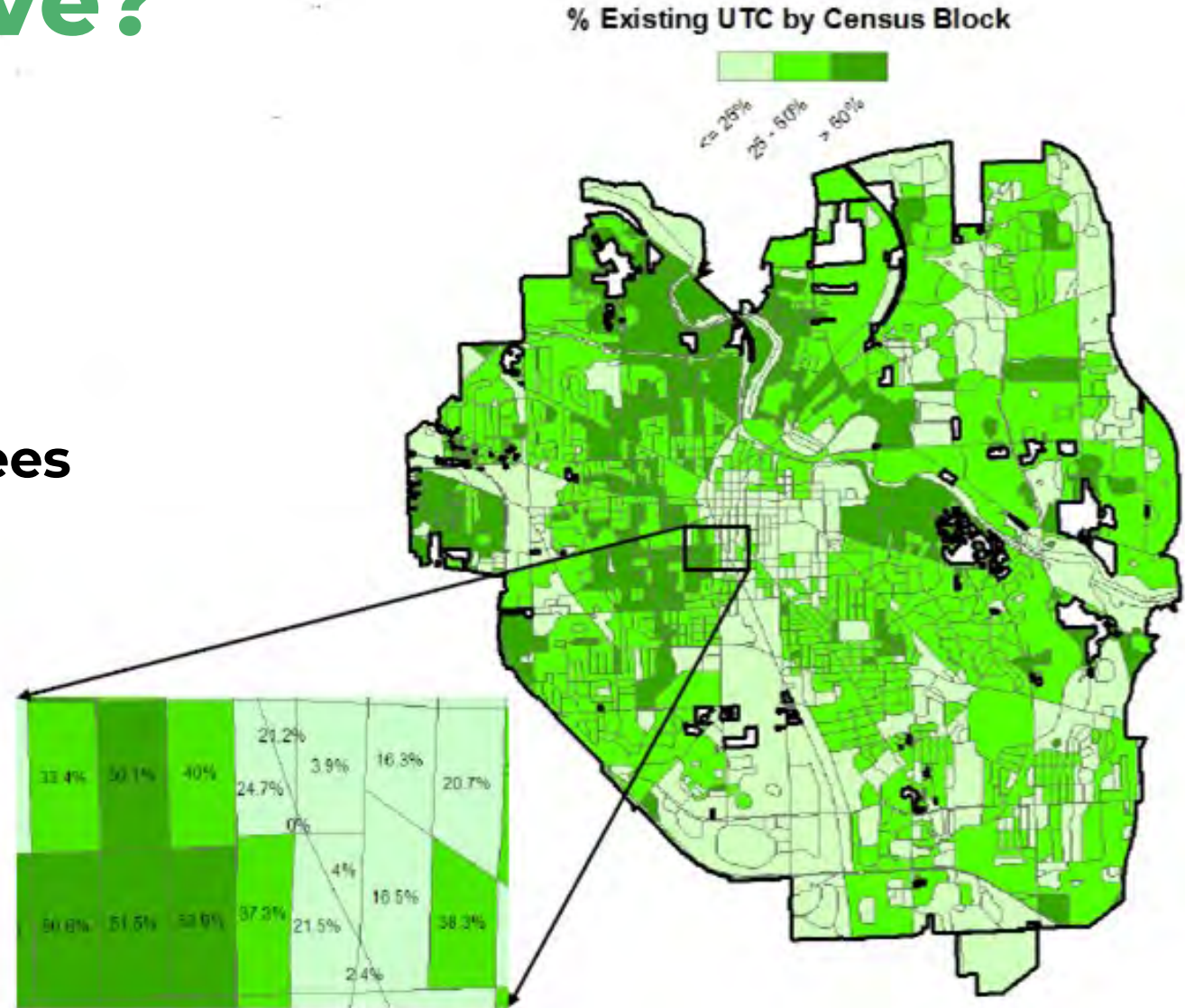


Note: This is for general comparison purposes only. The methodologies used to calculate tree canopy cover may differ between communities referenced and/or the information may be outdated.

What Do We Have?

Tree Canopy

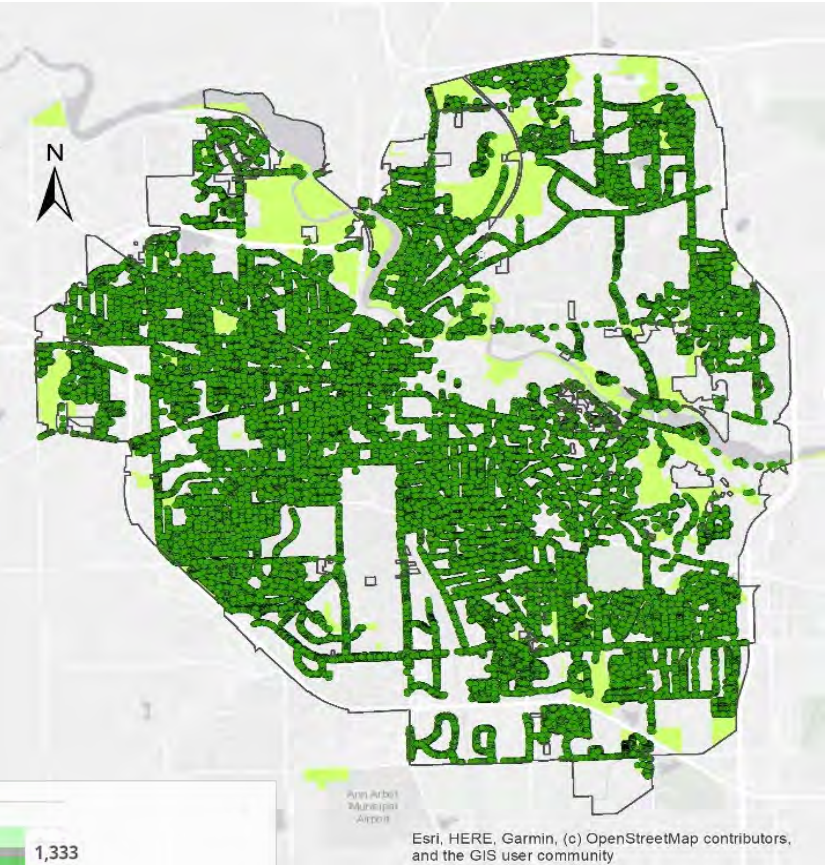
Tree canopy is not evenly distributed across the city – which means the benefits trees provide are not available to everyone.



*Based on 2009 Aerial Imagery

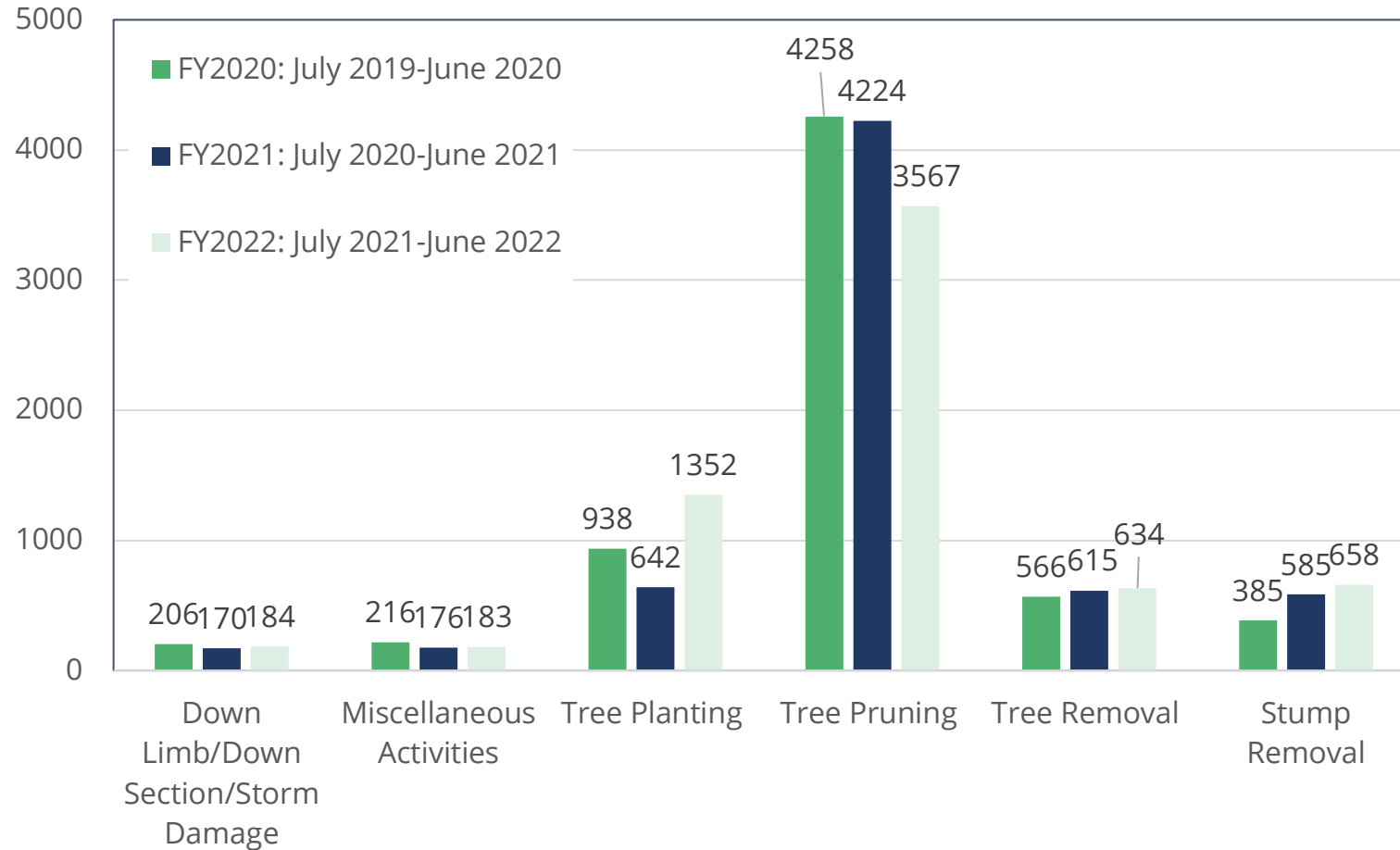
Planning Process

Regularly repeating data collection helps measure progress and recalibrate efforts



What Do We Have?

Tree Maintenance Activities



Pruning and tree removals generates wood waste that is currently chipped.

What Do We Have?

Citizen Pruner Program

- Established in 2011
- Trained 169 Citizen Pruner volunteers to help maintain Ann Arbor's street and park trees

10,000 Trees Initiative

- City initiative overseen by the Office of Sustainability and Innovation to plant 10,000 trees on private property by 2030
- Over 3,600 trees have been distributed by the City through free tree giveaways in the spring and fall.

Resident Street Tree Planting Program

- City program for residents who want to plant a street tree

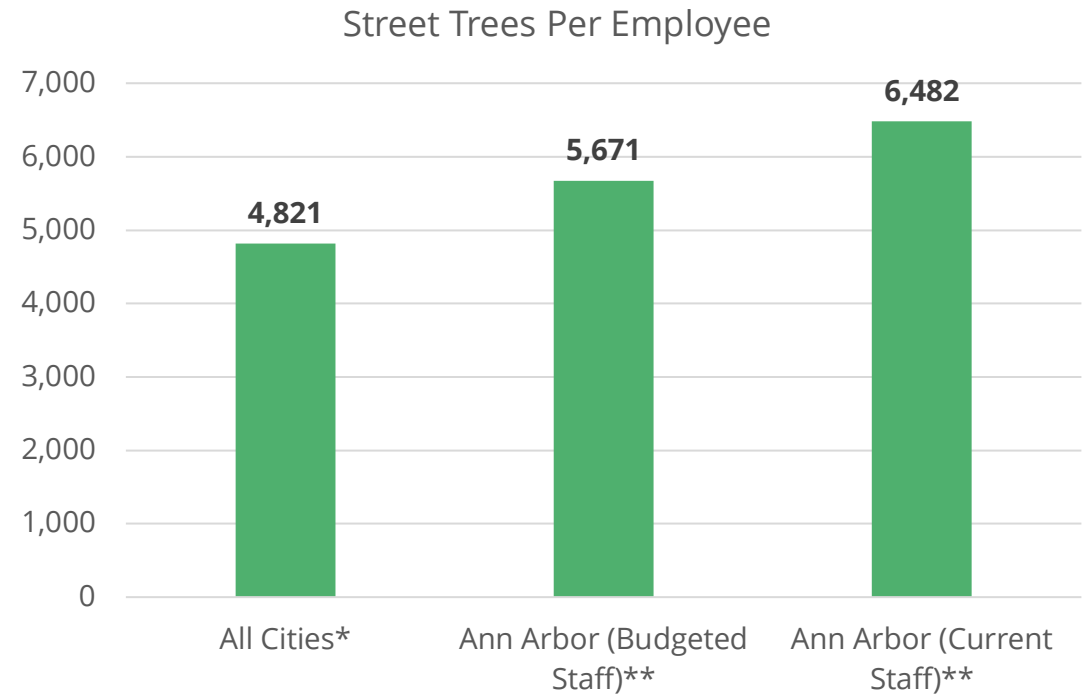


What Do We Have?

Staffing

Full-Time Positions	Number of Budgeted Positions	Current Number Staff	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, grounds person, operating chipper, assisting/conducting pruning, tree removals, stump grinding and tree planting, drives trucks and operates large equipment and ensures work is completed and updated in 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.

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



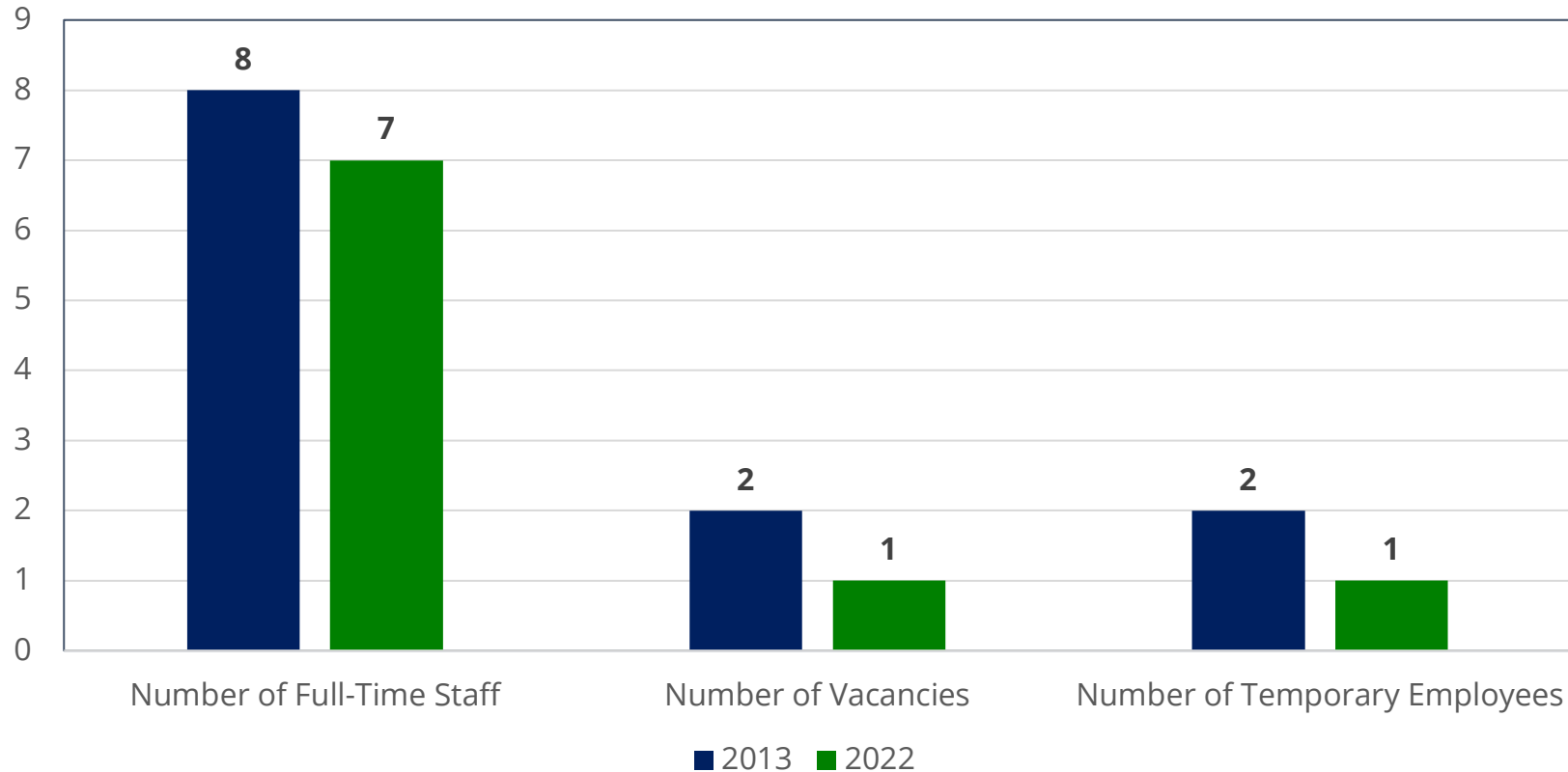
*2016 Municipal Tree Care Survey
**Public Works Technicians

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.

What Do We Have?

Staffing

Number of Forestry Staff *



The 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. Vacancies are in the process of being filled.

SUPPLEMENTAL INFORMATION

What Do We Want?
Engagement & Outreach Themes



What Did We Hear?

Themes

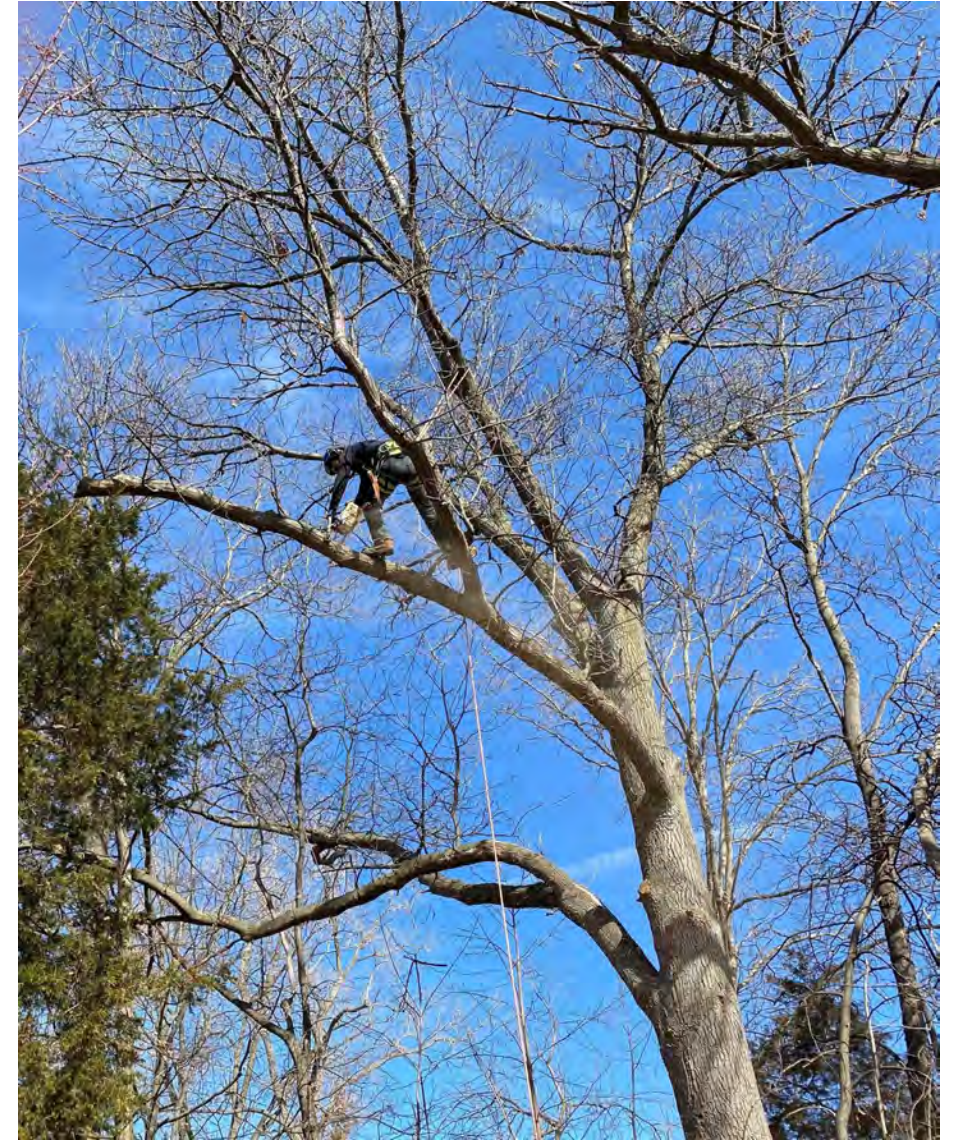
- **Tree Canopy**
 - How much tree canopy is there today?
 - Tree canopy analyses related to urban heat island, stormwater and socio-economic factors.
- **Tree Planting**
 - Equity considerations
 - Right tree/right place
 - Space for trees
 - Adding trees in low canopy areas
 - Tree planting in parks near affordable housing
- **Equity**
 - Public tree planting and care
 - Affordability of private tree removal and care



What Did We Hear?

Themes

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



What Did We Hear?

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



What Did We Hear?

Community Survey Highlights

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

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

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

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

- Causing damage to utilities
- Blocking signs & driving visibility

What Did We Hear?

Themes

- **Staffing and resources**
 - Increase staffing & resources for more proactive and responsive service
- **Interdepartmental coordination**
 - Process improvements
- **Communication and Education**
 - City responsibilities for public tree planting and care
 - Telling the full story of A2 trees (from planting to removal to utilization)
 - Incentivizing tree planting and preservation
 - Resident access to planting and maintenance support
 - Seasonal “letter” to residents about tree maintenance activities for season
- **Engagement and Outreach**
 - Promote and expand Citizen Pruner
 - Go to where residents are – neighborhood tree walks, etc.



What Did We Hear?

Themes

- **Partnerships & Regional Collaboration**
 - Fostering and growing partnerships
 - Capacity building
 - Ann Arbor as resource for neighboring communities
 - Collaborate & partner on planning efforts (ex: Source Water Protection Planning)
 - Wood utilization
 - Support City outreach, education and engagement efforts
- **Wood Utilization**
 - Implement program to utilize logs and other wood waste
 - Circular economy
- **Monitoring Progress**
 - Clear metrics and benchmarks
 - Measuring success of initiatives, like 10,000 Trees

