NORMAN PARKS & RECREATION

NORMAN, OKLAHOMA

URBAN FOREST MASTER PLAN

2025

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ONLY
ONLY

SECTION ONE

INTRODUCTION


NORMAN

INTRODUCTION

A WORD FROM THE DIRECTOR

Hello, My Norman Neighbors!

After over 20 years working in Parks and Recreation here in Norman, I feel incredibly grateful to serve a community that values its natural beauty and shared spaces. As Norman's Parks and Recreation Director, I've had the honor of supporting programs, parks, and public spaces that bring people together and enhance our quality of life. One essential program that we oversee that not much of the Norman public is aware of is our Urban Forestry program.

Trees are more than just part of the scenery. They clean our air, cool our neighborhoods, reduce stormwater runoff, provide critical wildlife habitat, and add beauty and character to every corner of our city. Whether it's a shaded trail in a neighborhood park or a towering oak along a busy street, our urban canopy is vital in making Norman a healthy, sustainable, and livable place for all.

That's why I'm excited to introduce the Urban Forestry Master Plan—a long-term, community-driven vision to grow, preserve, and manage Norman's urban forest for generations to come. Over the past year, we've worked closely with residents, experts, and stakeholders to create a plan reflecting our current needs and future goals.

This plan will guide how we:

- Plant and care for trees in parks, streetscapes, and public spaces
- Preserve mature trees and natural wooded areas
- Engage the community in education and stewardship
- Ensure equity, so all neighborhoods benefit from tree cover and green space

From legacy trees that have stood for decades to the saplings we plant today, our urban forest is a shared resource that requires thoughtful investment and active care.

As with all our Parks and Recreation efforts, we believe that these trees, spaces, and natural assets belong to the people of Norman. The Urban Forestry Master Plan is a promise: to protect what we have, grow smarter for the future, and ensure that every resident can enjoy the benefits of a greener, healthier city.

With appreciation,

Jason Olsen
Director of Parks and Recreation
City of Norman

WHAT IS AN URBAN FOREST MASTER PLAN?

PURPOSE

The City of Norman created this Urban Forest Master Plan to understand the current state of Norman's public trees, promote the expansion of the city's urban forest, and sustainably grow the Forestry Division. Implementation of this Plan will help to maintain tree canopy that contributes to Norman's unique character and builds a more sustainable, equitable, and resilient future for its residents.

PROCESS

The development of this Urban Forest Master Plan is based on the principles of adaptive management (figure 1), a common approach to natural resource planning and management. This framework encourages Norman to regularly assess the state of the urban forest and the effectiveness of its management by cycling through a process of evaluation, visioning, planning, and implementation. In this plan, the process is illustrated by four questions:

1. **What do we have?** Key findings from Norman's tree inventory and the assessment of its management operations (see sections, "Norman's Urban Forest" and "The Forestry Program).
2. **What do we want?** Mission, vision, themes, and priorities from community engagement activities that took place during plan development (see the section, "Community Values and Public Engagement").
3. **How do we get there?** Goals, recommendations, and actions to help Norman achieve the vision for its urban forest (see the section, "Recommendations and Implementation Strategy").
4. **How are we doing?** Recommended metrics to measure progress and possible indicators of success that will feed into the next iteration of the adaptive management cycle (see the section, "Recommendations and Implementation Strategy").

Figure 1. Adaptive management approach.

SCOPE

The primary focus of the Urban Forest Master Plan is on public trees that are managed by the Forestry Division. Most of these trees are located in city parks within the western half of Norman city limits. However, many of the recommendations of this plan can be adapted and applied to trees on private property across Norman.

FORESTRY DIVISION MISSION

Provide the community of Norman with healthy and equitable tree canopy that enhances the quality of life for residents of all ages.

URBAN FOREST MASTER PLAN GOALS

1. Promote and protect a healthy and robust urban forest for the benefit of the Norman community.
2. Proactively manage public trees to create a legacy amenity.
3. Partner with the public and act as a trusted resource for information about stewarding trees on private property.

MEET THE TEAM

PLANNING TEAM

Colin Zink, City Forester

James Briggs, Park Development Manager

STEERING COMMITTEE

Will Spain, Member, Norman Tree Board

Kristi Isacksen, Commissioner, Park Board

Deb Cretsinger, Member, Environmental Control Advisory Board

Richard McKown, Green Earth Land Design

Michelle Corr, Resident

CONSULTANT TEAM

DAVEY Resource Group

Sandra Albro

Eva Rodriguez

Ashley McElhinney

Lianna Walsh

Dana Karcher

EXECUTIVE SUMMARY

NORMAN'S URBAN FOREST

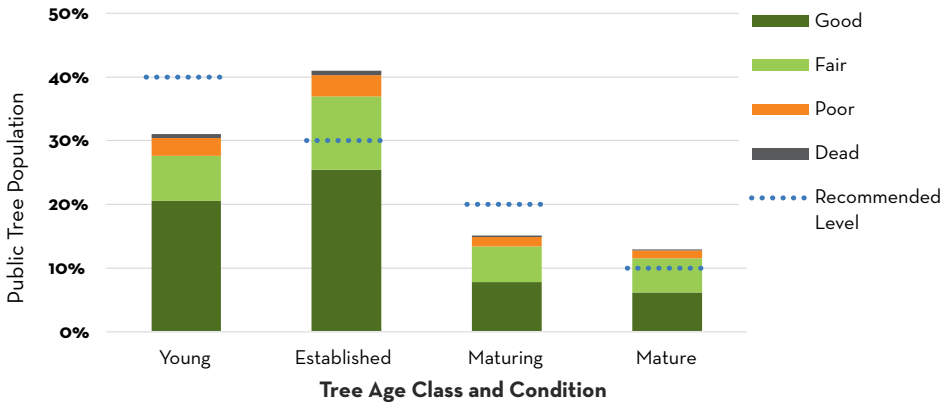
TREE CANOPY COVER

36% CITY-WIDE

18% WESTERN NORMAN

5,775 TREES IN PARKS AND PUBLIC FACILITIES

Increasing species diversity, planting new trees, and caring for existing trees will contribute to the sustainability of public trees and the benefits that they provide.



Many of Norman's park trees are older but in good condition. Sustained planting and maintenance can improve the age distribution and condition of trees over time.

THE FORESTRY PROGRAM

The Forestry Division is housed within the Parks and Recreation Department and plays a central role in managing the City's trees within managed areas of parklands and municipal properties.

FORESTRY ACTIVITIES 2021–2024

687 trees planted

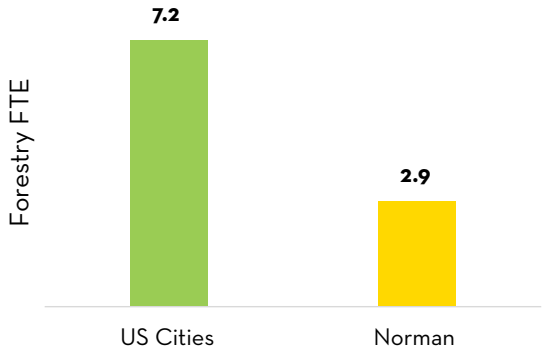
610 trees pruned

85 trees removed

900 trees given away

STAFFING

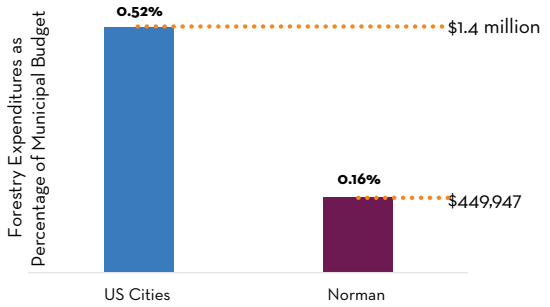
- Adding 3 dedicated tree crew members and 1 park arborist would bring Norman closer to average US municipal forestry staffing levels and reduce reliance on contracted tree care.



Norman Forestry staffing compared to the average for 508 US cities.

BUDGET

- In 2024, the Parks and Recreation Department spent $449,947 on forestry.
- Dedicating $1.4 million to Forestry would bring the City in line with average municipal forestry spending among US cities.



Forestry-related expenditures as a percentage of total municipal budget among 463 US cities and Norman.

COMMUNITY PRIORITIES AND PUBLIC ENGAGEMENT

350

number of community members who participated in the development of the Urban Forest Master Plan

COMMUNITY'S TOP TREE BENEFITS

- Cooling shade in the summer
- Wildlife habitat
- Neighborhood character

COMMUNITY'S TOP CONCERNS ABOUT TREES

- Storm damage
- Tree–infrastructure conflicts (utilities, sidewalks, streets)
- Cost to maintain

FORESTRY DIVISION RECOMMENDATIONS

1. **GROW THE FORESTRY DIVISION:** Additional capacity will help Forestry grow and maintain trees across the City's large park system and reduce reliance on contractors.
2. **PRIORITIZE MAINTENANCE OF PUBLIC TREES:** Proactive management of the urban forest is a cost-saving measure that reduces risk and promotes long-term tree survival.
3. **PROTECT THE URBAN FOREST:** Improved diversity and resilience reduce tree loss, build environmental sustainability, and protect tree benefits for the community.
4. **PLAN FOR SUSTAINABLE GROWTH:** Trees can be a key part of a sustainable growth strategy for Norman that builds affordability, attractiveness, and quality of life for all residents.
5. **PROMOTE THE "RIGHT TREE IN THE RIGHT PLACE":** Carefully matching tree species to planting sites can reduce tree–infrastructure conflicts and the cost of tree maintenance and removal in the long term.
6. **PARTNER ON PLAN IMPLEMENTATION:** Coordinating forestry efforts across departments can help Norman implement tree care according to urban forestry best practices.

TREES IN NORMAN

Trees contribute to the beauty and livability of Norman, connecting the community with nature. The Forestry Division, part of the Parks and Recreation Department, stewards public trees across 1,200 acres of parkland and municipal properties. It is responsible for tree planting, inspection, and maintenance of over 5,775 public trees as well as promoting the urban forest across Norman.

A majority of Norman's tree canopy is cared for by residents, businesses, and institutions along streets and on private property. Storm debris as well as tree conflicts with utilities and other infrastructure are common concerns as Norman's tree canopy grows and matures. The Forestry Division serves as a trusted resource to support tree stewardship on private property.

In 2025, Norman is in a period of rapid growth. *AIM Norman*, the City's comprehensive plan, projects that more than 23,000 additional housing units will be needed by 2045 to accommodate an expected population increase to 185,000 residents. This will add approximately 5,000–15,000 acres of new development to Norman. Past development has had mixed effects on the city's tree cover. In western Norman, new construction has added tree canopy through the planting of trees on land that was formerly grassland. In contrast, infill development in western Norman, and new development in eastern Norman, often require tree removal. There is a desire to preserve both housing affordability and tree canopy as the city grows.

This Urban Forest Master Plan outlines recommendations, action steps, and metrics that will help the Forestry Division continue to plant, preserve, maintain, and advocate for trees over the next 20 years. Implementation of this plan will guide Forestry in its mission to provide the community of Norman with healthy and equitable tree canopy that enhances the quality of life for residents of all ages.

ALIGNMENT WITH CITY GOALS AND RECOMMENDATIONS

This Urban Forest Master Plan aligns with two *AIM Norman* Development Principles and Goals.

AIM NORMAN REC. 4. RESPECT AND PROTECT THE ENVIRONMENT IN ALL DECISION-MAKING

- Promote and protect a healthy and robust urban forest.

AIM NORMAN REC. 8. ENCOURAGE BALANCED AND CONNECTED NEIGHBORHOODS

- A well-managed urban forest will be a legacy amenity.

In addition, the Parks, Recreation and Culture Master Plan (2025) highlights recommended actions where the Forestry Division can expand and improve trees:

PARKS, RECREATION, AND CULTURE MASTER PLAN REC. 6. PROTECT NATURAL RESOURCES

- Complete and implement the Urban Forest Master Plan.
- Grow the Forestry Division.

SECTION TWO

NORMAN'S URBAN FOREST

NORMAN'S URBAN FOREST

Norman's urban forest is composed of trees on both public and privately-owned land. Information from existing tree canopy studies and a 2024 public tree inventory establish a baseline on which the health and sustainable growth of the urban forest can be measured.

EXISTING TREE CANOPY

Tree canopy cover in Norman is estimated through multiple City and regional initiatives. Most recently, the City of Norman Community Wildfire Protection Plan estimates citywide tree canopy cover at 36% (Chloeta 2025; figure 2). Within the more urbanized area of western Norman, tree canopy cover is 17% to 19% (Environmental Control Advisory Board 2018; Davey Resource Group 2019; American Forests 2025; figure 3). The City of Norman Environmental Control Advisory Board (2018) recommended a citywide canopy goal of 35% to capture carbon dioxide, reduce urban heat, and maintain the beauty of Norman.

A comprehensive, up-to-date assessment of tree canopy cover in Norman could provide more detailed information about areas of tree canopy gain and loss over time. This information could help the City track its progress and identify mechanisms to curb tree canopy losses.

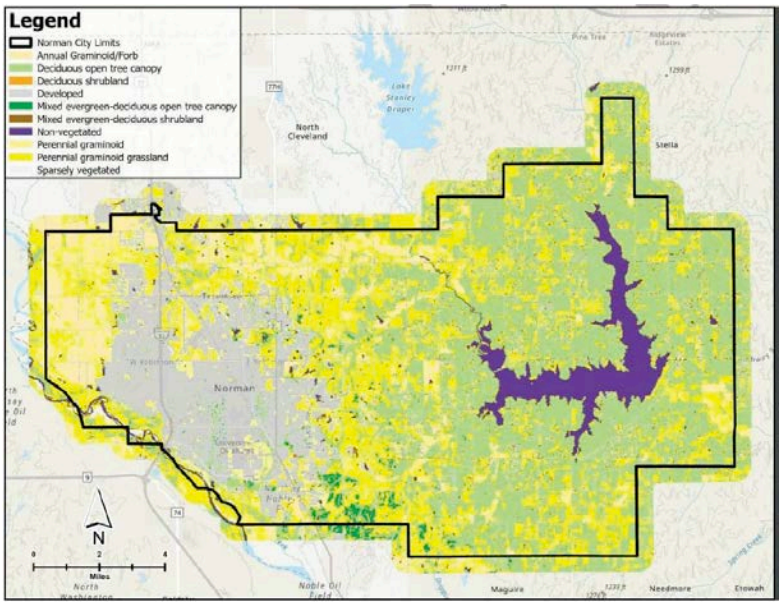


Figure 2. Vegetation cover in Norman. Reproduced from the City of Norman Community Wildfire Protection Plan (Chloeta 2025).

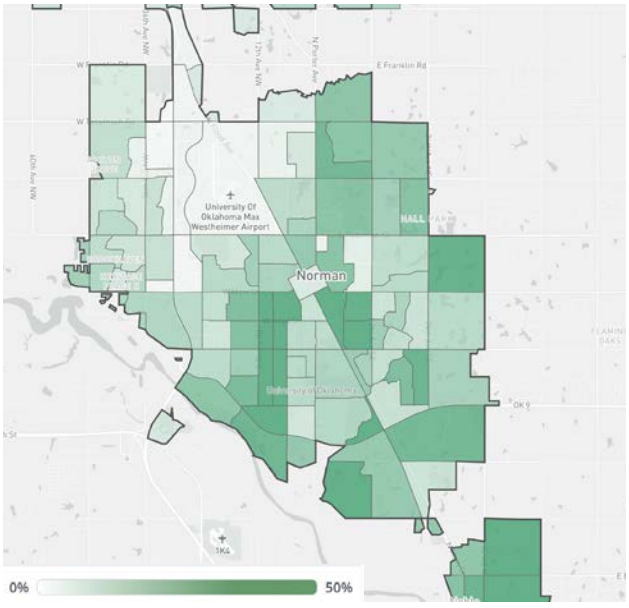


Figure 3. Tree canopy cover by US Census block group (American Forests 2025).

TREE CANOPY COVER HAS BEEN ESTIMATED AT 36% CITYWIDE AND 17%–19% WITHIN THE MORE URBANIZED AREA OF WESTERN NORMAN.

TREE EQUITY

Tree equity is fairness in the distribution of tree canopy so that all residents may enjoy the benefits of trees. American Forests' Tree Equity Score (2025) is a tool that measures tree equity nationally based on the spatial distribution of tree canopy cover and socioeconomic indicators.

Norman's citywide Tree Equity Score is 82 out of 100, which is characterized as "moderate priority" (figure 4). Norman can work to make tree canopy more equitable by targeting planting, maintenance, and preservation within areas that have the lowest existing tree cover and/or the largest population of vulnerable residents. American Forests estimates that strategically adding 0.4 square miles of additional tree cover within 13 of Norman's 99 block groups—an estimated 19,090 trees—would help raise citywide tree equity by bringing all these block groups from "highest priority" to a tree equity score of at least 75. As it sets goals for tree equity, Norman may decide to set a more aggressive goal.

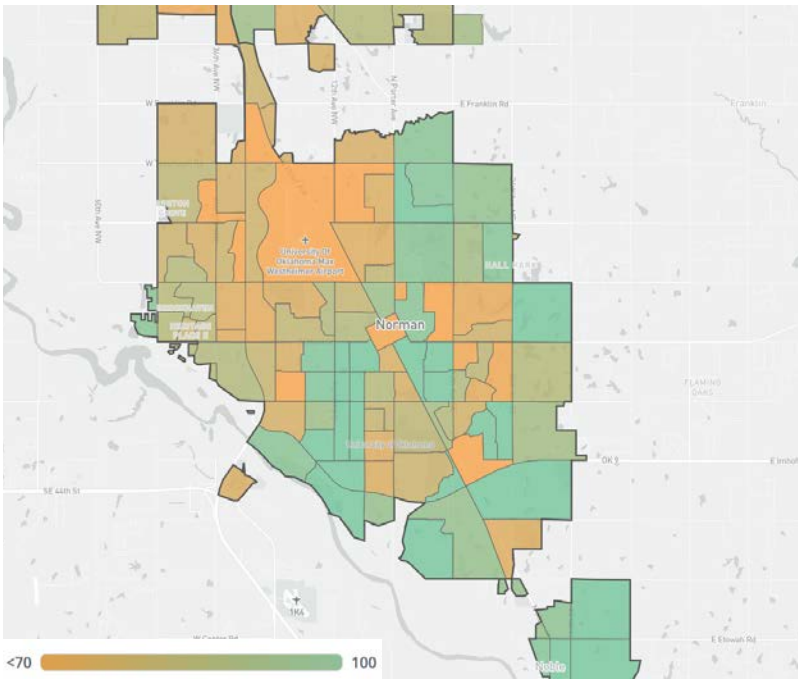


Figure 4. Tree Equity Score by block group, ranging from areas of lower tree equity (orange) to higher tree equity (green) based on environmental and social factors (American Forests 2025).

2024 PUBLIC TREE INVENTORY

In 2024, Davey Resource Group inventoried trees in most of Norman's public parks and facilities. The inventory recorded information including species, size, condition, location, and risk assessment information for 5,775 trees and 162 stumps within managed areas (figure 5, table 1). These trees are just a portion of the trees in Norman and do not include trees within natural areas, along streets, or on private property.

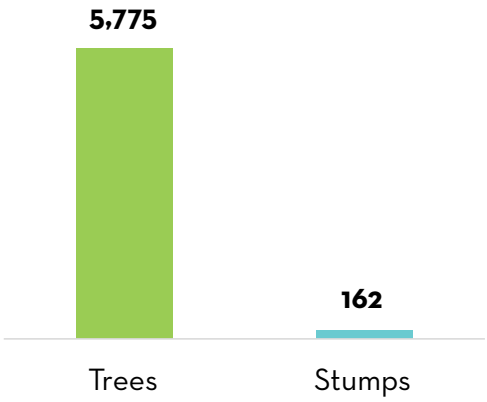


Figure 5. Inventoried trees and stumps in public parks and facilities, 2024.

Table 1. Tree and stump sites by park in the public tree inventory.

PARK	NUMBER OF TREE & STUMP SITES
Westwood Park	911
Reaves Park	485
Legacy Trail	302
Hall Park Greenbelt	282
Legacy Park	249
Northeast Lions Park	240
Griffin Community Park	224
Colonial Estates Park	219
Andrews Park	210
Woodcreek Park	191
Frances Cate Park	167
Highland Village Park	161
Westwood Tennis	124
Doubletree Greenbelt	112
Chisholm Cattle Trail Park	93
Brookhaven Park	87
Tulls Park	83
Kevin Gottshall Memorial Park	81
Eagle Cliff Park	81
Lions Park	80
Other parks and facilities	1,555

TREE DIVERSITY

Tree diversity refers to the number and relative abundance of trees in an area. Measuring tree diversity helps to inform urban forest management decisions and provides information about the resilience of an urban forest to potential threats. Urban forestry industry standards for tree diversity recommend that no single species exceeds 10% of the tree population and no single genus exceeds 20% of the tree population (Santamour 1990).

The tree inventory catalogued 108 unique species within Norman's parks and public facilities. Eastern redcedar (*Juniperus virginiana*) is the most common species (10%), currently at the recommended limit for species abundance. It is followed by lacebark elm (*Ulmus parvifolia*, 8%), baldcypress (*Taxodium distichum*, 5%), American elm (*Ulmus americana*, 4%), and loblolly pine (*Pinus taeda*, 4%; figure 6). Future planting of Eastern redcedar should be limited—and planting of other species should continue—to reduce the relative abundance of Eastern redcedar over time.

ABUNDANCE OF EASTERN REDCEDAR AND ELM WITHIN THE PUBLIC TREE POPULATION IS AT OR NEAR RECOMMENDED LIMITS FOR TREE DIVERSITY.

Additionally, no single genus should exceed 20% of the tree population. Trees on Norman parklands and facility properties represent 60 distinct genera. At the level of genus, elm is the most common (*Ulmus*, 19%), followed by juniper (*Juniperus*, 10%), oak (*Quercus*, 10%), hackberry (*Celtis*, 9%), and pine (*Pinus*, 5%; figure 7). Although none of these genera currently exceed the 20% recommended threshold for genus abundance, future planting of elm trees should be carefully considered to reduce the relative abundance of elm over time. Specifically, planting of American elm should be limited to minimize the threat of future elm loss due to Dutch elm disease.

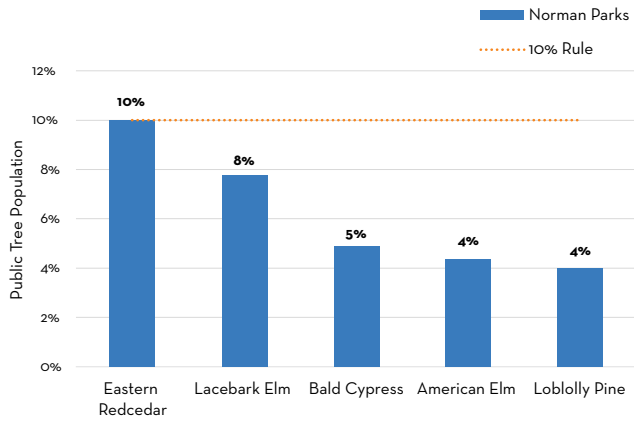


Figure 6. Top five tree species of public trees compared to a 10% rule for recommended species abundance.

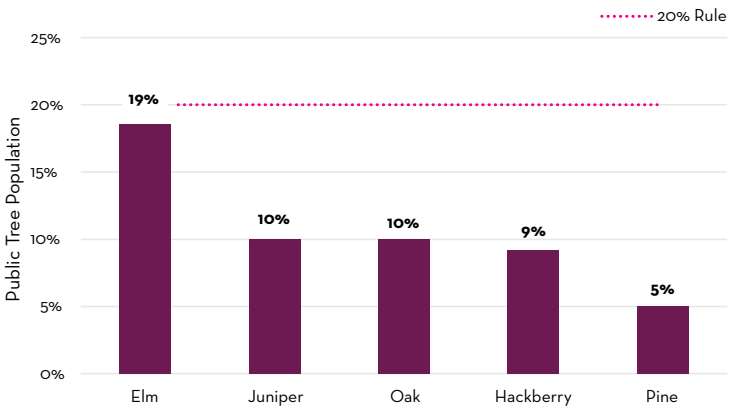


Figure 7. Top five genera of public trees compared to a 20% rule for recommended genus abundance.

SIZE-AGE CLASSES

Relative tree age can be estimated from trunk diameter. In urban forests, it is recommended that young trees should comprise 40% of the inventoried tree population, established trees should comprise 30%, maturing trees should comprise 20%, and mature trees should comprise 10% (Richards 1983). This distribution allows for a steady succession of trees into maturity while spreading out age-related maintenance needs.

Within Norman's public tree population, there is a surplus of established (41%) and mature (13%) trees and fewer young (31%) and maturing (15%) trees than recommended (figure 8). It is recommended that planting efforts be increased over time to ensure canopy continuity as mature trees age out of the population.

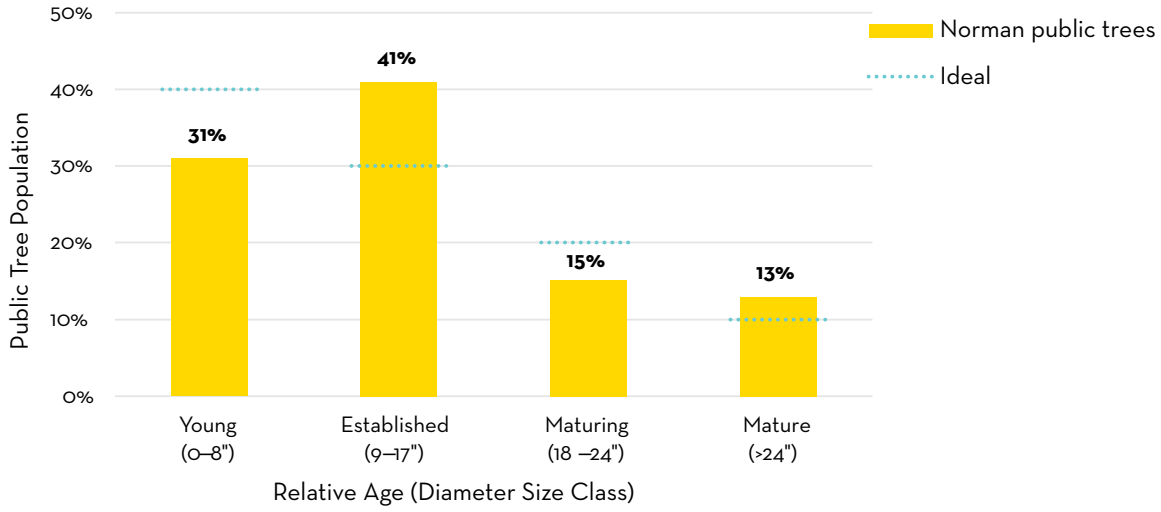


Figure 8. Size-age classes of public trees estimated from trunk diameter (DBH), relative to an ideal age class distribution.

CONDITION

Trees are a living resource; they age, grow, and change over time. The inventory collected tree condition information to gain insight into the public tree population's health and sustainability. DRG inventory arborists examined each tree for signs of stress, poor structure, mechanical damage, soil and root problems, and pests and/or diseases. Based on the cumulative quality of each tree, condition was rated as Good, Fair, Poor, or Dead.

Ninety percent of public trees were assessed to be in either Good or Fair condition, meaning that they show no major defects (figure 9). Trees rated as dead or poor only accounted for 10% of public trees.

Figure 9. Condition of public trees.

CONDITION BY SIZE-AGE CLASS

Most public trees were rated to be in Good or Fair condition within each size-age class (figure 10). The proportion of trees in Good condition was smaller among Maturing and Mature trees compared to younger size classes. This is not uncommon, as older and larger trees have had more time to accrue defects over their lifetimes, which reduces their condition rating over time.

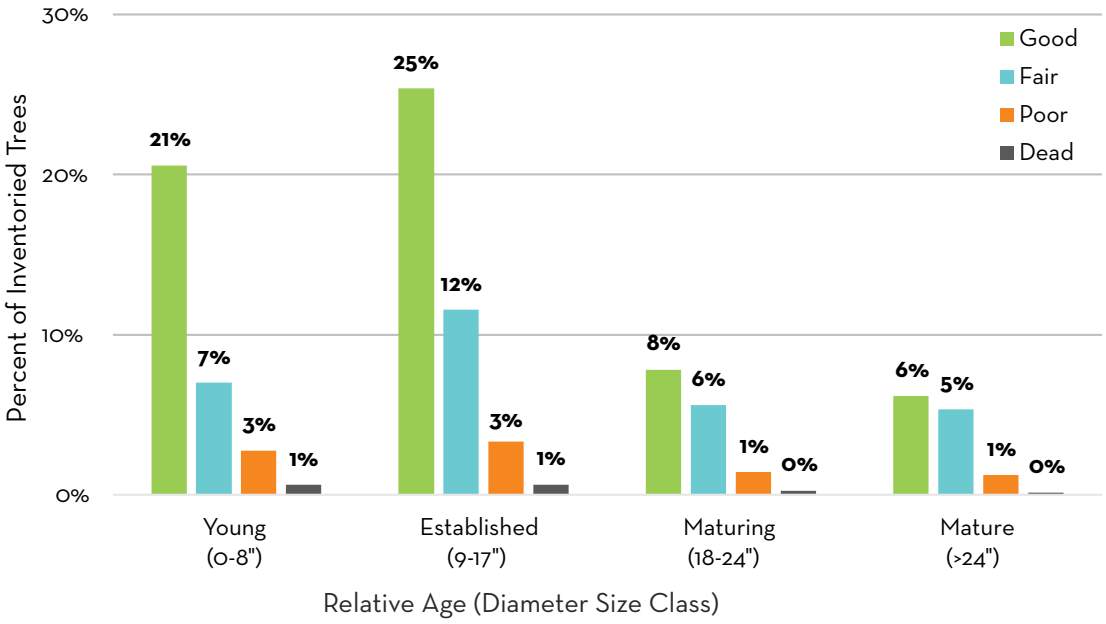


Figure 10. Condition of inventoried trees by size class.

DEFECTS

The most common defect among public trees was dead and dying branches—40% of public trees were recorded with this defect (table 2). Branch attachment was the second most common defect among public trees (21%). Thirteen percent of public trees did not have any notable defects.

Table 2. Defects noted during the public tree inventory.

DEFECT	NUMBER	PERCENT
Dead and dying branches	2,298	40%
Branch attachment	1,198	21%
No defect	748	13%
Decay or cavity	536	9%
Broken and/or hanging branches	387	7%
Tree architecture	281	5%
Other	165	3%
Root problem	113	2%
Cracks	27	>1%
Trunk condition	22	>1%
Total	5,775	100%

TREES IN NATURAL AREAS

The public tree inventory did not include trees within 307 acres of forested wildland parks in Norman, including the majority of the area of Saxon Park, Ruby Grant Park, and Sutton Wilderness Park. In 2025, trees within wildland parks are not under active management. However, capacity and expertise from the Forestry Division may be required for planning or implementation over the next 20 years. For example, the *Community Wildfire Protection Plan* (2025) recommends fuel reduction at select natural areas to reduce the risk of wildfire. Invasive species management and ecosystem restoration are examples of other activities that may require Forestry expertise and capacity in the future.

TREE BENEFITS

ENVIRONMENTAL BENEFITS

Trees provide many environmental benefits to communities. They help cool the air through shade and evapotranspiration. They clean the air by removing pollutants and particulate matter. And they indirectly clean our water by intercepting stormwater runoff, which reduces erosion and keeps waterborne pollutants from entering local waterways during storms. i-Tree Eco, a tool within the i-Tree Tools software suite from the US Forest Service and partners, was used to combine tree inventory data with local air pollution and weather data to quantify the environmental benefits of Norman's public trees.

Each year, Norman's public trees capture and store 67 tons of carbon from the atmosphere, remove 3 tons of pollutants and particulate matter from the air, and intercept 465,045 gallons of stormwater each year, for total annual cost savings of $22,628 to the community (table 3). Over their lifetimes, public trees have stored 3,391 tons of carbon. The replacement value of these trees is $15.7 million, an average of $2,736 per tree.

The benefits that trees provide are linked to their physiology and stature. Generally, larger trees provide more benefits than smaller trees; however, the traits and benefits of individual species vary. Although lacebark elm comprises 8% of Norman's public trees, it provides 12% of the population's total annual benefits (table 4).

The benefits that are emphasized here are those that can be easily quantified—but trees provide numerous other environmental benefits. Of growing importance is the cooling ability of trees in urban areas, which helps to reduce urban heat island effect by shading surfaces and cooling the air. In Norman, the cooling benefit of trees was named as the most important benefit that trees provide to the community (figure 11). Trees also provide food and habitat for wildlife, which was named as the second most important benefit to the Norman community.

PEOPLE NAMED THE COOLING BENEFIT OF TREES AS THE MOST IMPORTANT BENEFIT THAT TREES PROVIDE TO THE NORMAN COMMUNITY.

Table 3. Ecosystem benefits of Norman's public trees.

ECOSYSTEM BENEFITS OF PUBLIC TREES	QUANTITY	VALUE
ANNUAL BENEFITS		$22,628
Air quality: pollution removal (lb)	5,940	$7,082
CO removal	159	$118
NO_2 removal	801	$49
O_3 removal	3,850	$1,637
SO_2 removal	0.5	<$1
PM_{10} removal	1,006	$3,521
$PM_{2.5}$ removal	113	$1,757
Carbon sequestration (tons)	67	$11,390
Stormwater: avoided runoff (gal)	465,046	$4,156
TOTAL ANNUAL BENEFITS		
Structural Value		
Carbon storage (tons)	3,391	$578,407
Replacement Value		$15,704,510

Table 4. Tree species that provide the greatest value of total annual benefits.

SPECIES	NUMBER OF TREES	TOTAL ANNUAL BENEFITS VALUE
Lacebark elm	444	$2,642
Eastern redcedar	583	$1,747
Green ash	217	$1,298
American elm	257	$1,270
Eastern cottonwood	91	$940
White mulberry	219	$895
Shumard oak	205	$889
Baldcypress	273	$885
American sycamore	135	$875
Hackberry	304	$819

OTHER BENEFITS

Trees provide a host of other benefits to communities. Many of the social and human health benefits of trees are indirect effects of the environmental benefits that they provide. For example, by reducing air pollution, trees improve the health of people with asthma and chronic obstructive pulmonary disease by reducing exacerbation of these illnesses. Looking at trees and being in their presence—as well as the cooling effects of trees during summer heat—produce a calming effect that indirectly improves a broad range of conditions from heart disease to mental health. These other benefits have further economic impacts that can be quantified in terms of avoided costs, such as the avoided cost of hospital visits, or added value, such as the value that trees add to homes.

In a survey of community members in Norman, people valued the character that trees add to their neighborhoods and the effect of trees on their mental and physical health as top benefits of trees (figure 11).

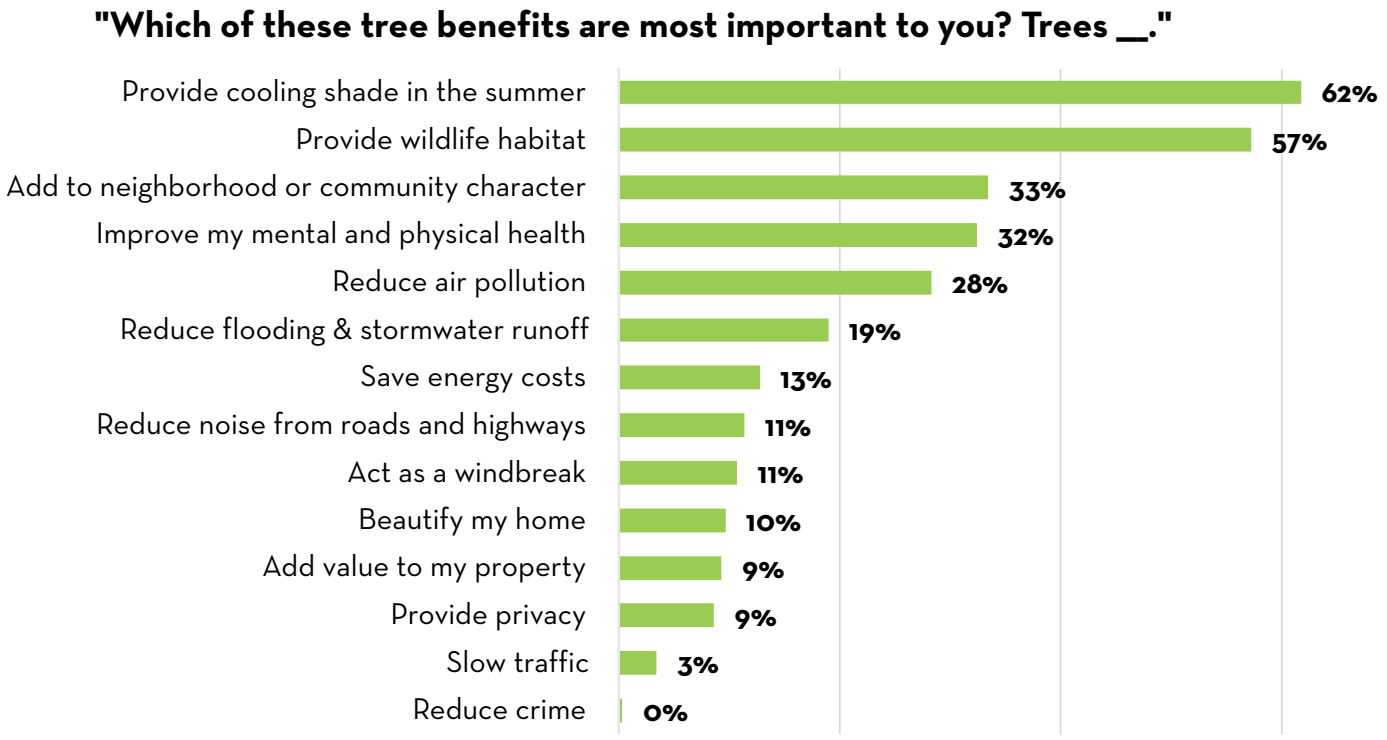
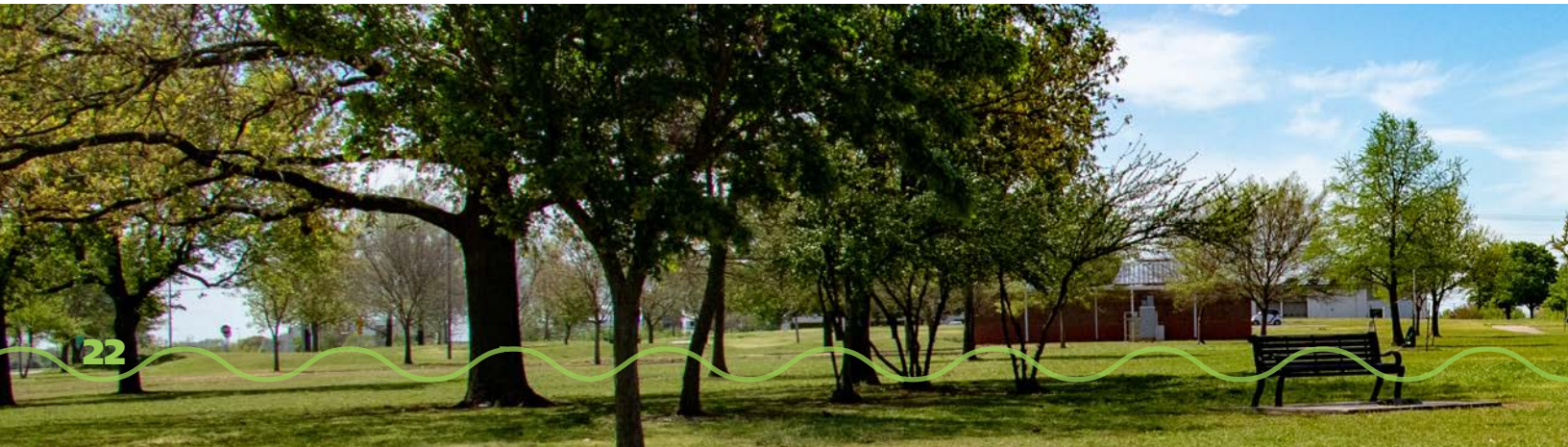


Figure 11. Top tree benefits in Norman based on 290 responses to a community survey.



TREE RESILIENCE

PEST & DISEASE RESILIENCE

Tree diversity helps to predict the susceptibility of an urban forest to pests and diseases. This is because pests and diseases tend to prefer host trees within the same species or genus. i-Tree Eco software was used to identify key pests and diseases of concern within Central Oklahoma and their potential economic impacts (table 5). i-Tree estimates the replacement value of Norman public trees using inventory data.

Not all identified threats have been found in Norman, but some of them may arrive over the next 20 years. As of 2025, Asian longhorned beetle (*Anoplophora glabripennis*) has not been detected in Oklahoma. However, it tolerates a broad range of climate conditions and targets many different tree hosts, making it a potential pest of concern in Norman in the future. Thirty-four percent of public trees, with an estimated replacement value of $5 million, are susceptible to Asian longhorned beetle. Emerald ash borer (*Agrilus planipennis*) was confirmed in Oklahoma in 2022, though it has not yet been found in Cleveland County (USDA APHIS 2025). It threatens to eradicate nearly all ash trees in Norman, including 4% of public trees, within 5–10 years of its arrival.

Resilience of Norman's urban forest can be built by educating residents to recognize potential pests and diseases of concern and by creating plans and policies for pest and disease management.

Table 5. Susceptibility of public trees to existing and potential tree pests of concern in Oklahoma. Replacement value is the cost to replace a tree with a similar tree; it was calculated from i-Tree Eco.

PEST/DISEASE	NUMBER OF SUSCEPTIBLE TREES	REPLACEMENT VALUE ($)
Asian longhorned beetle	1,853	$5,140,991
Spotted lanternfly	788	$1,767,191
Dutch elm disease	620	$1,250,762
Oak wilt	565	$1,353,167
Emerald ash borer	246	$1,503,992
Forest tent caterpillar	124	$197,989
Thousand canker disease	6	$20,713

ICE STORM RESILIENCE

Ice storms bring freezing rain that accumulates on trees, weighing them down and leading to branch and tree failure. Norman has had significant ice storms, including a storm from December 8–11, 2007, that brought 1–1.5 inches of ice that killed approximately 9% of urban trees in Norman (Rahman and Rashed 2015), and a storm from October 26–29, 2020 that brought 1.5 inches of ice (National Weather Service 2021), also causing extensive tree damage.

Tree species that are particularly prone to ice damage include those with weak branch structure, fine branching, and broad crowns. In Norman, American elm, one of the five most abundant tree species in the public tree inventory, was noted to be particularly susceptible to ice damage in an analysis of 42 scientific sources (Hauer 2014, table 6). In total, 5% of trees within public space in Norman belong to species that are susceptible to ice damage.

Proactive pruning to correct weak and broken branching, as well as a storm response plan, can help to reduce the impact of ice storms.

Table 6. Tree species that are susceptible to ice damage in the 2024 Norman public tree inventory.

SPECIES: PRONE TO ICE DAMAGE	NUMBER OF TREES
Ulmus americana	257
Ulmus pumila	146
Ulmus rubra	121
Acer saccharinum	114
Celtis occidentalis	109
Populus deltoides	91
Gleditsia triacanthos	67
Salix	61
Robinia pseudoacacia	36
Betula nigra	30
Pinus virginiana	1

WILDFIRE RESILIENCE

Wildfire is a natural force that has historically shaped the Great Plains and Cross Timbers ecosystems of Central Oklahoma. According to the *Community Wildfire Protection Plan* (2025), several areas in Norman are at high risk for wildfire due to excess fuel, which refers to organic materials that can ignite and burn. These areas include Hall Park, Royal Oaks Park, Sutton Wilderness, Saxon Park, and Ruby Grant Park. Eastern redcedar, the most prevalent tree species within Norman parks, is highly flammable and can increase the severity of wildfires in city parks.

SPECIES RECOMMENDATIONS

The Oklahoma State University Extension, administered by the Division of Agricultural Sciences and Natural Resources, produces *Oklahoma Proven,* a plant evaluation and marketing program to guide plant selection. Oklahoma Proven recommends 37 tree species for USDA Hardiness Zone 7a (Appendix A). Recommended species are well adapted to Oklahoma's climate, with an emphasis on drought tolerance and long-term landscape suitability.

Species should be further evaluated for suitability based on the actual characteristics of planting sites (see box, "Right Tree in the Right Place"). This helps to minimize costly maintenance and infrastructure conflicts as trees mature and extends the lifespan of trees. In addition, trees are important parts of the local ecosystem. Species selection should prioritize native species to provide food and habitat to a range of insects, birds, and animals, and to reduce reliance on chemical fertilizers and pesticides.

Norman can utilize Oklahoma Proven and other resources to create its own species recommendations, which should be frequently updated to leverage the latest science and field observations about how species perform locally.

PLANTING THE RIGHT TREE IN THE RIGHT PLACE HELPS TO MINIMIZE COSTLY MAINTENANCE AND INFRASTRUCTURE CONFLICTS AS TREES MATURE.

SUMMARY, NORMAN'S URBAN FOREST

- Tree canopy cover varies across Norman. Citywide, tree cover is estimated to be 36%, while in the more developed parts of Norman, tree cover is 17%–19%. A comprehensive urban tree canopy study can be useful for accurately measuring tree canopy and tracking areas of gains and loss over time as the city grows.
- A 2024 public tree inventory detailed information for 5,937 trees and stumps within managed areas of parks and public facilities. Information from the tree inventory can be used to guide the effective management of public trees.
- Building diversity of the public tree population helps to make it more resilient, protecting the benefits that trees provide to the community. Over time, planting a wider variety of species that have been proven to be well adapted to Oklahoma, can protect trees from damage from pests, diseases, and storms.
- Planting the right tree in the right place means choosing trees that are well-matched to planting sites based on characteristics such as size, light and soil preferences, and aesthetics. This helps to minimize costly maintenance and infrastructure conflicts and extends the lifespan of trees.

RIGHT TREE IN THE RIGHT PLACE:
A GUIDE FOR NORMAN RESIDENTS AND PROPERTY OWNERS

Planting a tree is an investment into Norman's community that adds beauty, shade, and environmental benefits, like cleaner air and water and resilience to extreme weather events. Planting the right tree in the right place is essential for its long-term health and for the safety of your home and community.

The term "right tree in the right place" means choosing a tree species that is well-suited to its planting location. When tree species and site conditions are well matched, trees are healthier, require less maintenance, and are allowed the opportunity to provide greater environmental, economic, and social benefits.

STEP 1: PICK YOUR PLANTING SITE

Before choosing a tree, understand the conditions of your desired planting site, including:

- **Sunlight**: is the site in full sun, part shade, or full shade?
- **Soil type and drainage:** Is the soil loamy or more clay-like? Does water pool or drain at the site?
- **Space:** How much room is available above *and* below ground? Are there overhead or underground utilities at the site? What about buildings, fences, or concrete?

STEP 2: PICK THE RIGHT TREE SPECIES

Consider the planting sites conditions, your goals for the tree, and Norman's environment.

- **Will the tree species suit Norman's climate?** Norman experiences hot summers, drought, strong wind storms, and the occasional fire or ice event. Select a native or regionally adapted species that can tolerate Norman's extremes.
- **How big will it get?** Consider how tall and wide the tree will grow. Avoid species that will outgrow your space.
- **Every tree is different.** Some trees drop leaves and flowers. Others have brittle wood or grow super fast. Choose species that meet what you're willing to invest when it comes to long-term care and maintenance.
- **What do you want from your tree?** Shade, fall color, wildlife habitat, screening or privacy – prioritize what matters most to you.
- **Double check your choice:** Some species perform better than others in Norman. OSU extension or Norman's Forestry Division can help steer you towards reliable alternatives.

STEP 3: CONSIDER RIGHT-OF-WAY RULES AND UTILITIES

Trees planted too close to streets or utility lines can quickly become hazards and may need to be removed prematurely.

- **Does your site have overhead utilities?** Pick a small tree that grows no taller than 25 feet.
- **What about underground utilities?** Call OKIE811 before you dig to locate buried lines.
- **Is your site in the right-of-way?** Check city guidelines. Minimum distances from curbs, driveways, and signage may apply to reduce the risk of damage.

TIPS FOR SUCCESS!

1. Take the time to research the right tree for the right place, or consult a local tree expert for guidance!
2. Plan for your tree's mature size.
3. Water and mulch the tree property in the first 3 years to ensure your tree establishes well!

Planting the right tree in the right place today ensures your tree will thrive for many years to come!

NORMAN
PARKS & RECREATION

SECTION THREE

THE FORESTRY PROGRAM

THE FORESTRY PROGRAM

As part of the development of the Urban Forest Master Plan, Davey Resource Group assessed the Forestry Division's program, operations, activities, and capacity. Where possible, the City's forestry program was compared to available data from other cities and urban forestry industry standards to produce recommendations for program improvements.

The following information sources were reviewed:

- Staff interviews
- Staff-provided data
- Forestry revenue and expenditures
- Norman Tree City USA annual reports
- Public tree inventory, 2024
- City and regional planning documents
- City of Norman Tree Ordinance 16-901 – 916; 20-3301 – 3304.
- Hauer and Peterson 2016

FORESTRY OPERATIONS

The Forestry Division is housed within the Parks and Recreation Department and plays a central role in managing the City's trees within managed areas of parklands and municipal properties. Forestry regularly coordinates with other key departments and divisions, including Public Works, Utilities, and Planning and Community Development, to support a cohesive approach to tree care, infrastructure planning, and land development.

STAFFING

The Parks and Recreation Department employs nine staff who conduct tree-related activities (table 7). Of these, only the City Forester works full-time in the Forestry Division. The Park Maintenance crew devotes part of their time to tree work, with the remainder of their time supporting mowing, trash clean up, and other maintenance related tasks in Norman parks. Accounting for the portion of staff time that is spent on tree care, these nine staff positions comprise 2.85 full-time equivalents (FTE) in forestry. This is lower than the average forestry FTE for 508 US cities that provided staffing information to a national study of urban forestry programs (7.2 FTE, figure 12). It is also lower than average for 87 cities who are of a similar size to Norman (11.8 FTE) and cities in the South region (8.2 FTE).

Table 7. City staff who work on forestry-related activities in Norman.

POSITION	NUMBER	FORESTRY FTE	CREDENTIALS
Park Maintenance Crew	3	1.5	
City Forester	1	1	ISA Certified Arborist ISA Certified Arborist Utility Specialist ISA Tree Risk Assessment Qualification
Park Development Manager	1	0.15	
Park Administrative Staff	2	0.1	
Code Compliance Inspector	2	0.1	
Total	9	2.85	

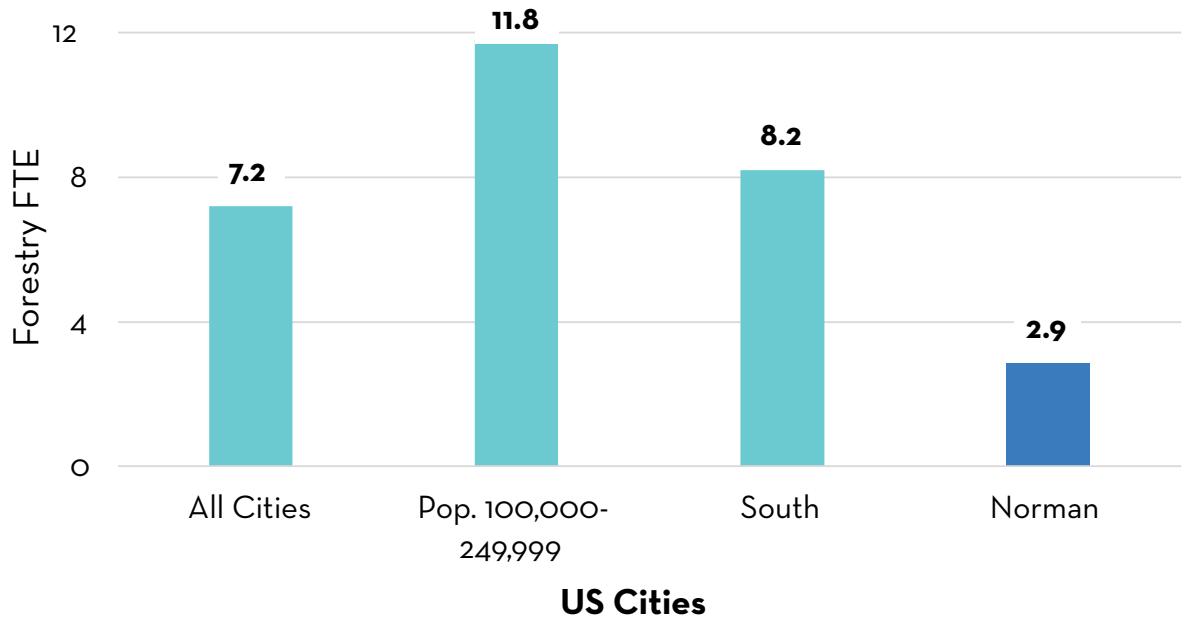


Figure 12. Forestry-related full-time equivalent (FTE) staff positions among 508 US cities that participated in a national municipal tree care census and in Norman.

ADDITIONAL FORESTRY CAPACITY

The addition of 4 forestry FTE would bring Norman closer to average US municipal forestry staffing levels and reduce reliance on contracted tree care, which is more expensive (table 8). This includes the addition of one 3-person tree crew to conduct pruning, planting, removal, and debris cleanup, and one park arborist to create and oversee the implementation of annual forestry work plans.

THE ADDITION OF 4 DEDICATED FORESTRY STAFF WOULD BRING NORMAN CLOSER TO AVERAGE US MUNICIPAL FORESTRY STAFFING LEVELS AND REDUCE RELIANCE ON CONTRACTED TREE CARE.

Training and certification allow tree crews to conduct maintenance according to urban forestry and safety standards, which reduces the risk for damage-related claims, high-cost priority maintenance, and injury incidents.

Additional Forestry capacity is supported by recommendations from the *Parks, Recreation and Culture Master Plan* including additional forestry staffing with relevant certifications, and increased resources for contracted services, as part of recommended increases in park maintenance expenditures (pp. 97–98).

Estimated tree activity costs with additional in-house capacity can be found in Appendix C.

Table 8. Recommended additions to forestry-related capacity in Norman.

POSITION	NUMBER	FORESTRY FTE	RECOMMENDED CREDENTIALS
Park Arborist	1	1	ISA Certified Arborist ISA Tree Risk Assessment Qualification
Tree Maintenance Worker I	2	2	ISA Certified Arborist
Tree Maintenance Worker II	1	1	ISA Certified Arborist ISA Certified Tree Climber Heavy Equipment Operator

EQUIPMENT

The Forestry Division shares equipment with the Park Maintenance Division and has adequate equipment to conduct tree trimming, planting, and removal, even with the addition of a dedicated tree crew (table 9). The addition of a grapple truck would assist City staff with the removal of large woody debris that results from utility line maintenance and storms. Currently, this type of debris handling is contracted out to companies that have a grapple truck.

Low staffing within the Forestry Division limits in-house capacity for tree work. The City relies on supplemental contracted labor to handle a significant portion of Norman's routine tree pruning and removals, at a cost that is 50%–300% higher than the in-house rate (Vogt, Hauer, and Fischer 2015).

Table 9. Forestry-related equipment within the Parks and Recreation Department, 2025.

EQUIPMENT	QUANTITY
Chipper (large)	1
Chipper (medium)	1
Stump Grinder	1
Chainsaw	19
Pole Saw	4
Bucket Truck	2
Mini Lift	1
Mulcher (attachment)	1
Tree Auger (attachment)	1
Skid steer	1
Grapple truck	0

*Recommended new acquisition

PROACTIVE MAINTENANCE REDUCES THE COSTS OF EMERGENCY TREE CARE BY UP TO 50% AND EXTENDS THE LIFESPAN OF TREES.

TREE ACTIVITIES

From 2021–2024, the Forestry Division planted 687 trees, pruned 610 trees, removed 85 trees, and gave away 900 trees for planting on private property (figure 13).

Norman's public tree pruning program is still largely reactive, responding to tree-related issues and emergencies as they arise. Urban forestry industry standards recommend proactively pruning trees, as needed, on a 5–10-year schedule. Regular maintenance reduces the incidence of high-priority, high-cost pruning and removal and emergency response by up to 50% (AECOM 2013) and extends the lifespan of trees. Over the past 4 years, the Forestry Division has pruned an average of 153 trees annually. To achieve a 10-year pruning cycle, Norman Parks and Recreation would need to conduct routine maintenance on approximately 418 trees each year.

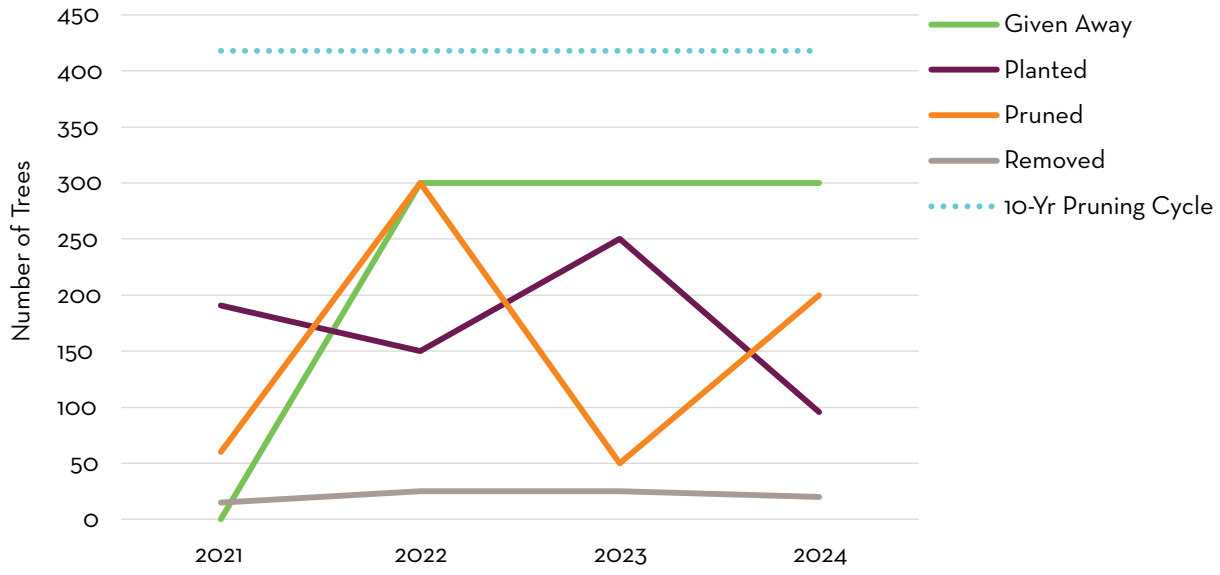


Figure 13. Annual tree activities conducted by Parks and Recreation, 2021–2024, compared to a recommended 10-year pruning cycle (blue dotted line).

Forestry inspects all public trees in its inventory each year. Staff use TreeKeeper® resource management software to read and update inventory information in the field.

The *Community Wildfire Protection Plan* and the *City of Norman Emergency Operations Plan* call for expanded roles and responsibilities of the Forestry Division for fuel load management and emergency tree pruning and removal.

BUDGET

In 2024, the Parks and Recreation Department spent $449,947 on forestry-related activities and management (figure 14). As a proportion of the City of Norman's entire municipal budget, Norman spends much less than average for US cities who have shared data about municipal forestry spending—0.16% of Norman's city budget in 2024 compared to approximately 0.5% of average municipal budgets for 463 US cities (figure 15).

Of Norman's 2024 municipal budget, dedicating $1.4 million to Forestry would bring the City in line with average municipal forestry spending among US cities. The *Parks, Recreation, and Culture Master Plan* outlines potential funding sources including the Norman Forward sales tax and developer impact fees. Additional possible funding sources that are specific to urban forestry include penalties for public tree damage or removal, mitigation fees for development, and grants.

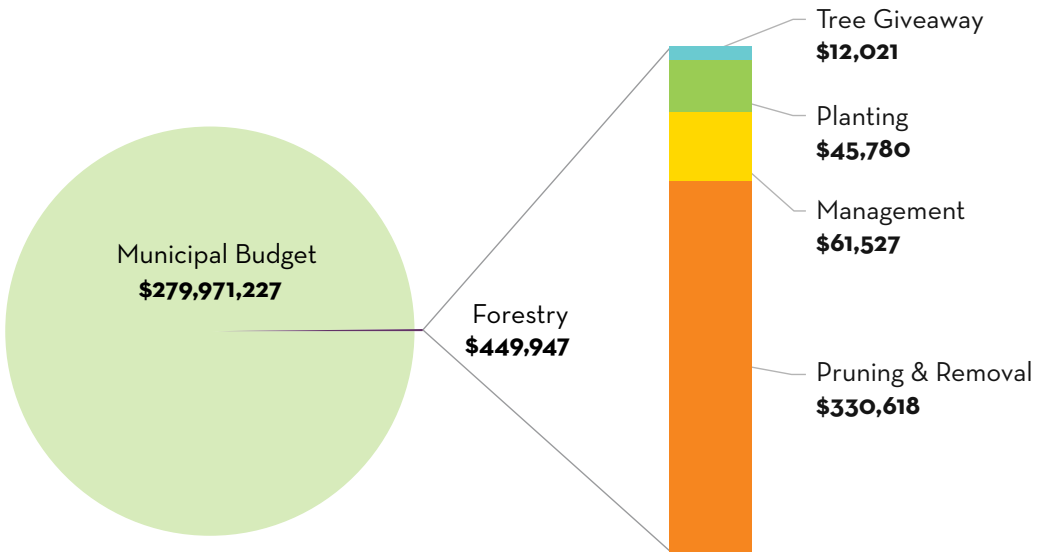


Figure 14. Parks and Recreation Department expenditures on forestry-related activities and management, 2024.

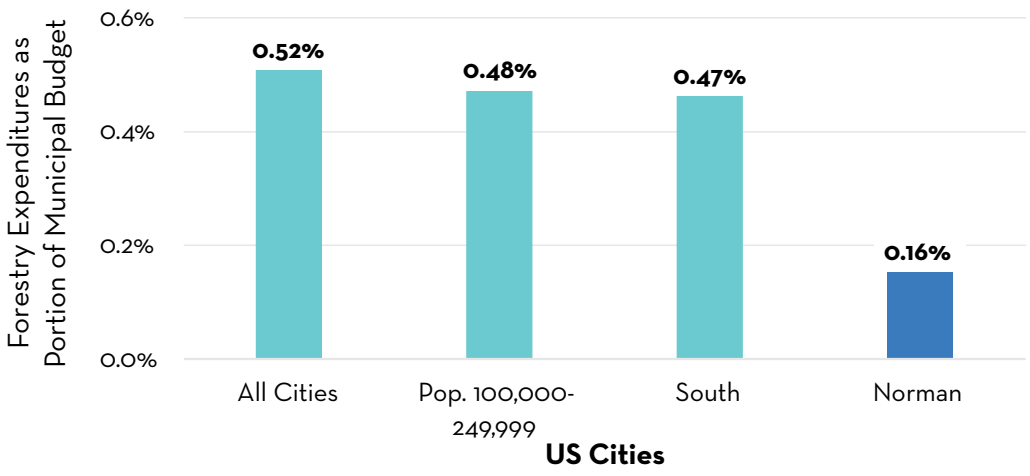


Figure 15. Percentage of forestry-related expenditures among 463 US cities that provided data to a national municipal tree care census and Norman.

PUBLIC SERVICE REQUESTS

From 2022–2024, the Norman Action Center reported 389 forestry-related calls, of which 39% were related to woody debris (figure 16). Managing woody debris that arises from storms, utility line clearance, and other causes is currently the responsibility of private property owners. Forestry staff help to maintain street clearance—for instance, by removing trees and broken limbs that have fallen into the street—and aid Norman residents with woody debris removal in emergencies. In the event of widespread, severe storms, Norman's disaster response plan includes hiring contractors to remove large woody debris from front yards. Increased Forestry Division staffing and equipment would result in better customer service for the residents of Norman.

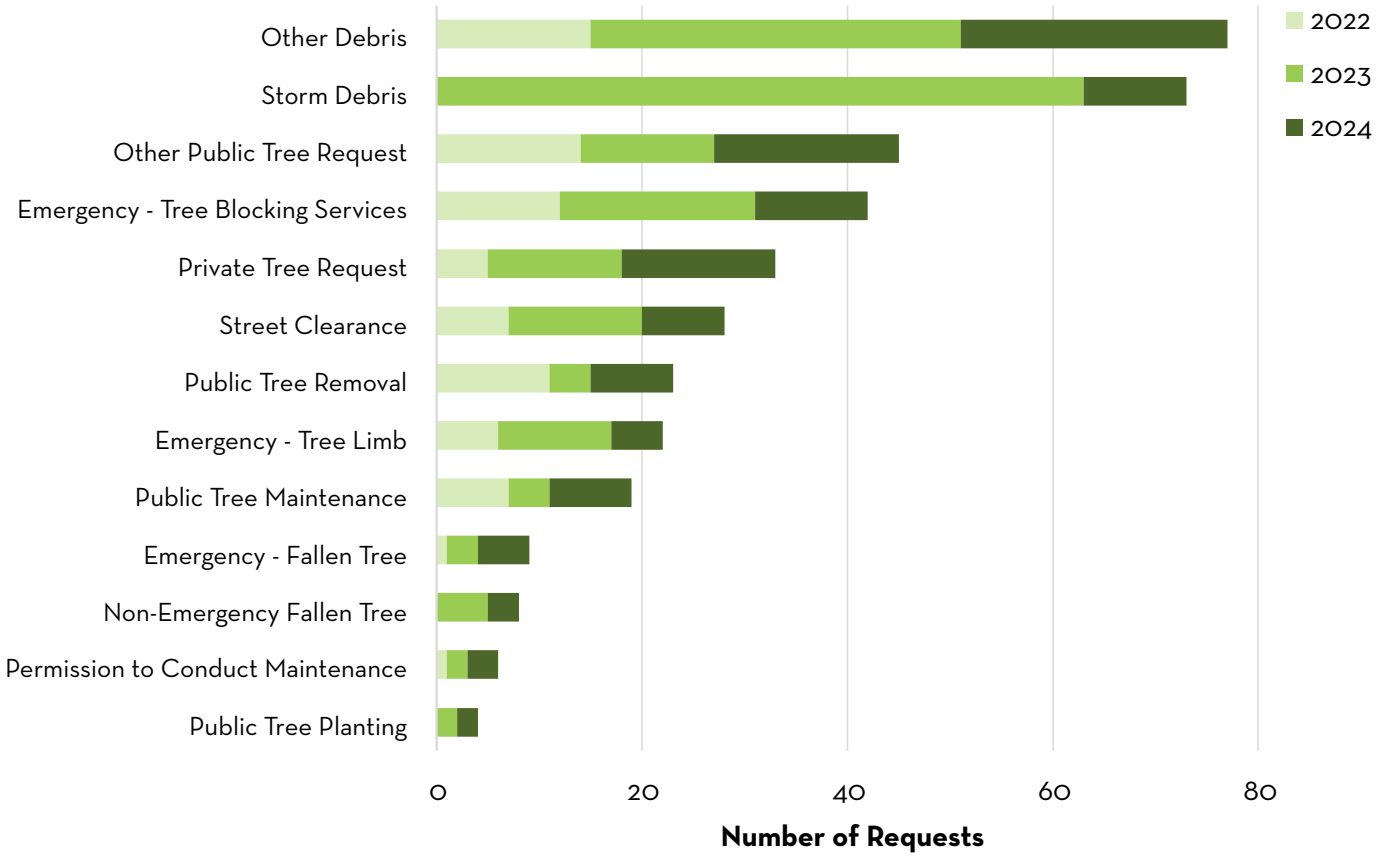


Figure 16. Forestry-related calls to the Norman Action Center by type, 2022–2024.

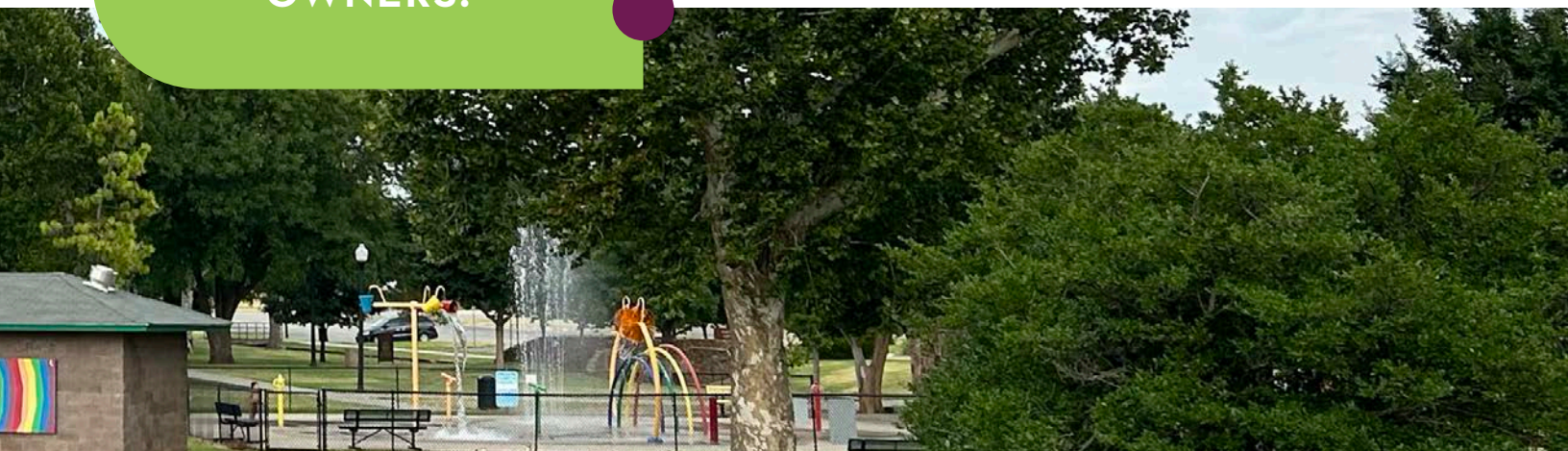
TREE CARE RESPONSIBILITY

In Norman, city code assigns responsibility for tree maintenance and debris clean-up along streets, within utility easements, and elsewhere on private property to property owners. An exception is within Commercial Tree Zones and Historic Tree Zones, where Forestry is involved in the care of trees along streets (see box, "Who Cares for Trees Along Streets in Norman?").

As public employees, Forestry staff are not permitted to perform tree work on private property. However, through calls to the Action Center and the Forestry Division, Forestry staff can provide consultation to residents about courses of action for tree concerns on private property. A majority (60%) of respondents in a community survey of trees answered that they would first contact the City of Norman if they had a problem with a street tree (figure 17). This shows that the Forestry Division acts as a trusted resource in the community for information about tree care.

NORMAN CITY CODE ASSIGNS RESPONSIBILITY FOR TREE MAINTENANCE AND DEBRIS CLEAN-UP ALONG STREETS, WITHIN UTILITY EASEMENTS, AND ELSEWHERE ON PRIVATE PROPERTY TO PROPERTY OWNERS.

Figure 17. Community survey responses about trusted tree care resources, 2025 (286 responses).



WHO CARES FOR TREES ALONG STREETS IN NORMAN?

A QUICK GUIDE FOR PROPERTY OWNERS

Trees planted in the street right-of-way—typically a grassy area between the sidewalk and the curb—are located within public easements on private property. In Norman, the adjacent property owner is responsible for the care and maintenance of these trees, as outlined in the Code of the City of Norman, Oklahoma, Section 16-108.

PROPERTY OWNER RESPONSIBILITIES:

- **Watering** to support tree establishment and health. *Permit not required.*
- **Monitoring tree health** to assess the evidence of pests, disease, hazards, or decline. *Consult the Forestry Division if a tree appears to be hazardous.*
- **Pruning** to maintain safe clearance over sidewalks (7 feet) and streets (14 feet), or **planting or removing a street tree**. *Permission from Norman's City Forester is required before altering, planting or removing any street tree.*

WHAT THE CITY DOES NOT DO:

- The City **does not** prune, water, or routinely maintain street trees.
- The City **does not** remove street trees unless they interfere with public infrastructure or present a threat to public safety.

Instead, the City of Norman's Forestry Division inspects, prunes, waters, and maintains trees in Norman's parklands and city-managed lands—over 1,200 acres of land! Working together, residents and public servants can keep Norman's tree-lined streets safe, beautiful, and thriving.

For more information and tree care resources, please visit the Forestry Division website.

NORMAN
PARKS & RECREATION

PROGRAM EVALUATION: INDICATORS OF A SUSTAINABLE URBAN FOREST

The *Indicators of a Sustainable Urban Forest* is an assessment tool that is grounded in peer-reviewed research and widely used to evaluate urban forestry programs (Kenney and colleagues 2011). It provides a comprehensive framework for evaluating the strengths and gaps within Norman's forestry program and opportunities to align the program with urban forestry best practices.

An adaptation of the *Indicators* was created for Norman; it includes 30 indicators that were organized into three categories: Trees, People, and Management Approach. The tool provides evaluation criteria for scoring each indicator on a five-point scale ranging from Low to High. Major findings across indicators for each of the three categories are provided here; a detailed description of the tool and Norman's scoring is provided in Appendix B.

THE TREES: LOW-MODERATE

The Forestry Division has a current, GIS-based public tree inventory of parks and public facilities to help identify management strategies and priorities. There are opportunities to increase data collection to better understand the state of the urban forest across Norman. A public tree planting plan can help to manage resources, plant trees where they can address multiple community priorities, and support continuity in tree canopy as public trees mature, decline, and die.

THE PEOPLE: LOW-MODERATE

Across stakeholder groups in Norman, there are opportunities to utilize the goals, priorities, and recommendations from this Urban Forest Master Plan to collaboratively grow tree canopy in Norman. Within City government, formal avenues of communication including regular touchpoints and a work order system can help the staff track projects and communicate across departments.

Building relationships with nonprofit environmental and community groups can help to create coordinated education and awareness-building initiatives. Tree inventories and management plans can guide large landowners in urban forest management on private land. Regular contact between Forestry and utility company vegetation management coordinators can be used to obtain updates about maintenance schedules, promote right-tree-right-place principles, and identify potential funding opportunities for outreach and education. Forestry maintains an active relationship with Oklahoma Forestry Services, which can serve as a valuable partner to supplement local capacity in key areas such as technical expertise, training, and largescale forest management.

THE MANAGEMENT APPROACH: LOW-MODERATE

Additional Forestry capacity and recommendations from this Urban Forest Master Plan can help the City achieve the goal of proactive public tree management, which was first outlined in the *Community Forest Management Plan* (2006). Data from the public tree inventory can be used to update the *Community Forest Management Plan* to guide management decisions over the next 3–5 years. Recommended resources for tree species selection can help developers and residents choose pest- and climate-resilient tree species that will contribute to a healthy ecosystem in Norman. Annual reports about Forestry activities, accomplishments, and Action Center requests can promote awareness and transparency about Forestry activities. Finally, an interdisciplinary committee can help to oversee implementation of the Urban Forest Master Plan.

SUMMARY, THE FORESTRY PROGRAM

- The Parks and Recreation Department has 2.85 full-time equivalent staff positions dedicated to forestry activities. The addition of 4 full-time equivalent staff positions would bring the Forestry Division in line with the national average for forestry capacity and would help Forestry proactively manage public trees.
- The addition of a grapple truck would assist City staff with the removal of large woody debris that results from utility line maintenance and storms.
- The Forestry Division conducts primarily reactive maintenance of public trees. Over the past 4 years, Forestry has pruned an average of 153 trees each year and typically inspects all trees in its inventory each year. To establish a 10-year pruning cycle, approximately 418 trees would need to be inspected and pruned, as needed, each year.
- The Forestry Division conducts an annual tree giveaway, which distributed 900 trees to Norman community members from 2021–2024 for planting on private property.
- In 2024, the Parks and Recreation Department spent $449,947 on forestry-related activities and management, or 0.16% of Norman's city budget. Dedicating $1.4 million to Forestry would bring the City in line with average municipal forestry spending among US cities.
- Approximately 40% of Action Center calls between 2022–2024 were related to woody debris. Property owners are responsible for managing and removing woody debris on rights-of-ways and easements per city code. The Forestry Division aids with woody debris removal after storms and to maintain street clearance.
- City code assigns responsibility for tree maintenance along streets, utility easements, and private property to property owners.
- Using a peer-reviewed urban forestry program assessment tool, the current performance level, gaps, and opportunities were identified for 30 indicators of a sustainable urban forest that can guide Norman as it grows its Forestry Division.

SECTION FOUR

COMMUNITY PRIORITIES & PUBLIC ENGAGEMENT

COMMUNITY PRIORITIES & PUBLIC ENGAGEMENT

The process to develop the Urban Forest Master Plan incorporated feedback from more than 350 residents and stakeholders in Norman to understand the issues, opportunities, and challenges they see for trees and the urban forest in Norman. This feedback informed the development and recommendations of the Urban Forest Master Plan.

ENGAGEMENT ACTIVITIES

- Steering Committee (4 meetings): December 2024–June 2025, 5 members
- Focus Groups (6): April–May 2025, 24 participants
- Community Survey (1): March–May 2025, 296 participants
- Community Meetings (2): March and June 2025, 27 participants

PARTICIPATING STAKEHOLDERS

- Norman City Departments and Divisions:
  - Forestry
  - Parks and Recreation
  - City Manager's Office
  - Planning
  - Public Works
  - Utilities
- Planning Commission
- Environmental Control Advisory Board
- Norman Chamber of Commerce
- Oklahoma Electric Cooperative
- OGE Energy Corp.
- Cleveland County Conservation District
- Central Oklahoma Master Conservancy District
- Norman Rotary Club
- Ideal Homes
- Home Creations
- Sierra Club
- Kiowa Tribe
- Master Gardeners
- Norman residents

ENGAGEMENT FINDINGS: WHAT WE HEARD

COMMUNITY SURVEY

A community survey collected responses over 10 weeks from early March through mid-May 2025. The survey was advertised via City communication outlets and via utility bill inserts.

WHO RESPONDED

Of 296 participants who completed the Norman Urban Forest Master Plan community survey, most respondents are single-family homeowners (figure 18). Respondents represent all eight city council wards. Survey responses are consistent with the proportion of Norman residents who own trees on private property but underrepresent residents who do not own trees but are affected by trees in the community.

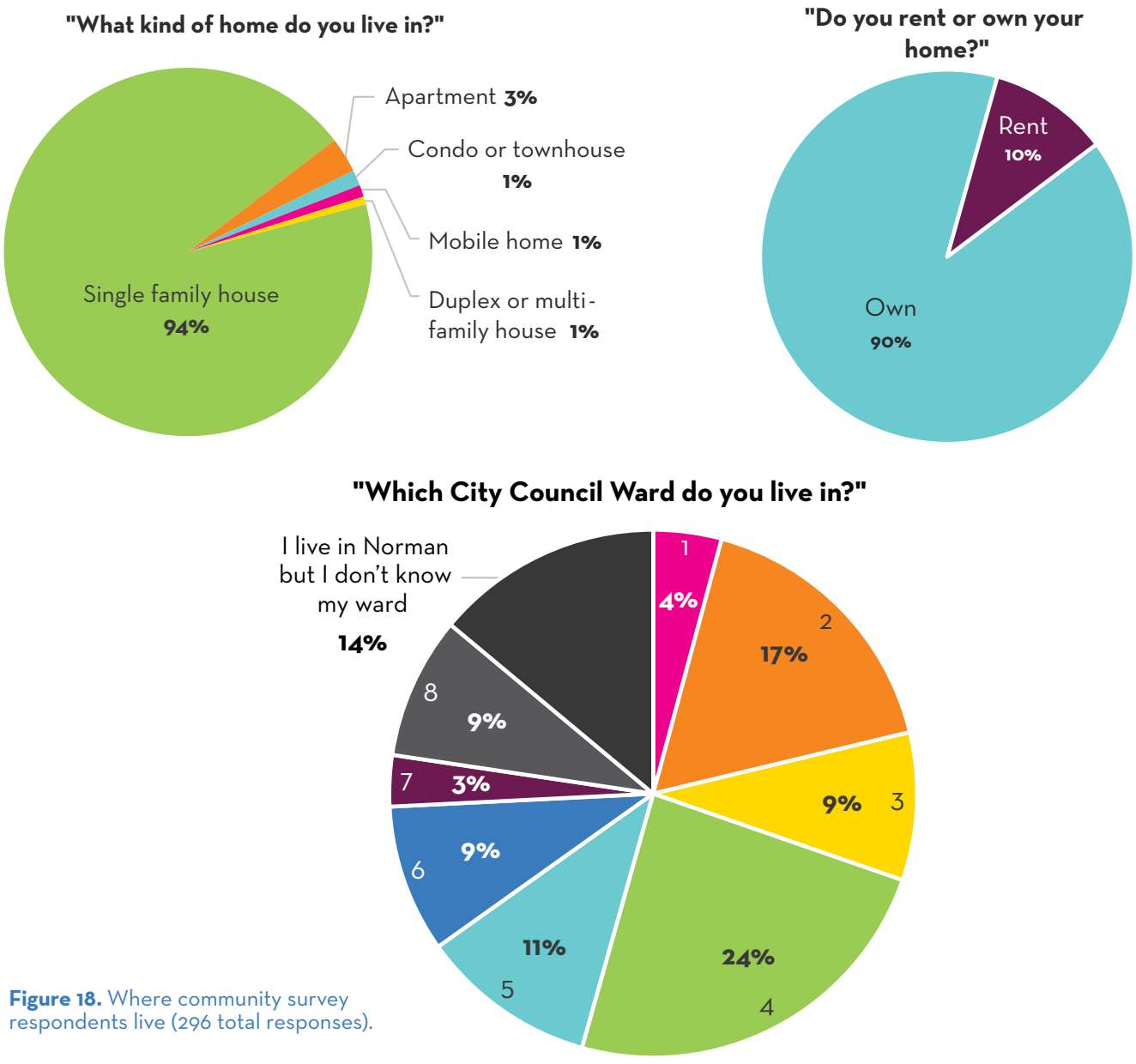


Figure 18. Where community survey respondents live (296 total responses).

PRIORITIES AND CONCERNS ABOUT TREES

84%

of respondents feel there are too few trees in Norman parks

79%

of respondents feel it is very or extremely important to have more trees in their neighborhood

When asked to describe the general state of trees in Norman, the most common themes included wanting more trees (16%), positive descriptions of trees (13%), and noting that trees are maturing and declining (12%). The most frequent concerns about trees in Norman are risk of storm damage (44%) and conflict with infrastructure including utilities, sidewalks, street signs, and storm drains (46% total, figure 19; refer to figure 11 for tree benefits findings).

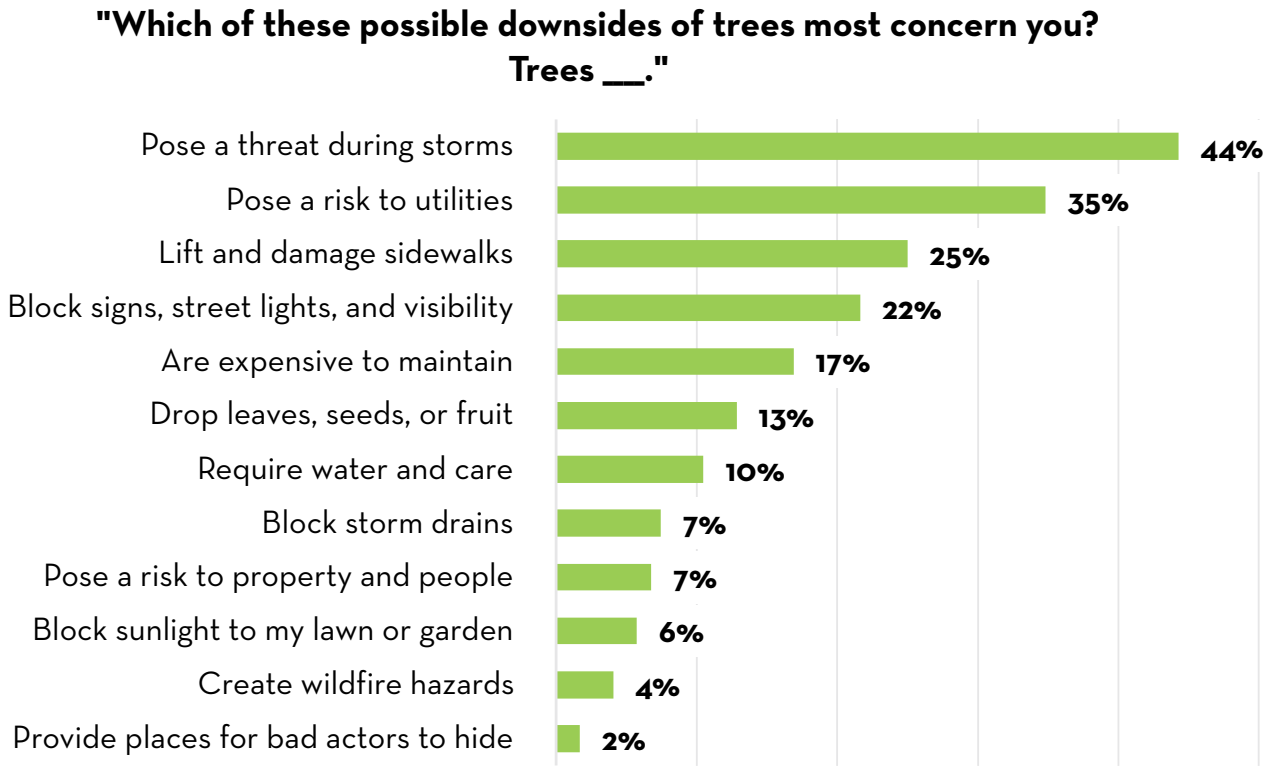


Figure 19. Concerns about trees among 296 community survey respondents. Respondents could select up to three answers.

DESIRED RESOURCES

While private property owners are responsible for the maintenance of trees within street rights-of-way, 55% of survey respondents felt that the City of Norman should be responsible for caring for trees along streets. Only 19% of respondents agreed that maintenance should be the responsibility of property owners.

When asked about possible forestry programs or services they would use, two-thirds of respondents wanted resources for planting on private property, while one-third of respondents were looking for opportunities to volunteer (figure 20).

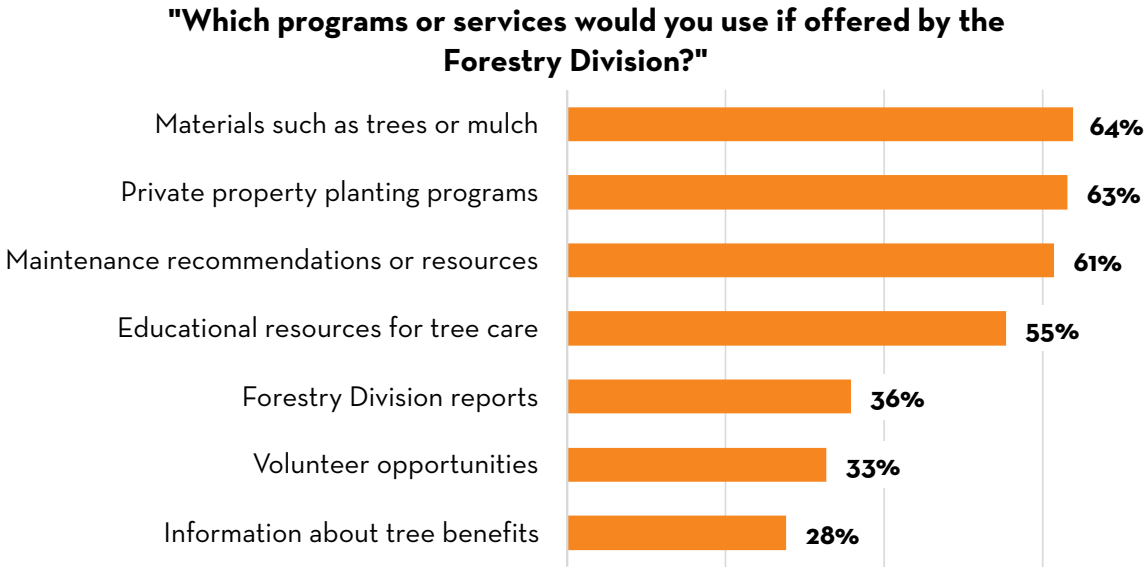


Figure 20. Community survey responses about desired City programs and services (292 responses). Respondents could select multiple options.

STAKEHOLDER THEMES AND PRIORITIES

Six focus groups and two community meetings collected deeper feedback to inform the development of the Urban Forest Master Plan. Focus group participants were invited from among groups that currently have tree-related responsibilities as well as groups who interact with constituents who care for trees. Community meetings were advertised via City communications channels and open to the general public.

The following themes were identified as priorities important to stakeholders:

- **Community engagement:** More guidance and resources about proper tree care, especially on topics such as species selection and placement. Proactive, two-way community engagement that extends beyond issue-based interactions.
- **Interdepartmental coordination:** Clear roles and shared protocols among City departments for improved efficiency, particularly during storms and infrastructure projects.
- **Tree equity:** Ensure that all residents benefit from the urban forest regardless of geography or income.
- **Long-term urban forest planning:** Plan to maintain continuity in tree canopy as trees die or are removed.
- **Right tree in the right place:** Create resources to assist residents and homeowners with choosing tree species based on desired aesthetic attributes that will be long-lived, avoid costly maintenance, benefit native ecosystems and wildlife, and be suited to Norman's climate.
- **Clarify private property rights and responsibilities:** Provide plain-language guides about City tree code and policies and consistently enforce tree regulations.
- **Trees as infrastructure:** Recognize trees as essential green infrastructure for stormwater management, flooding, and water quality.
- **Trees and development:** Early integration of tree planning in development, species selection resources, and a menu of options that will allow developers to balance environmental sustainability and affordable housing.
- **Utility line maintenance:** Residents are concerned about the quantity of tree pruning and removal, as well as debris handling and notification practices.

SUMMARY, COMMUNITY PRIORITIES AND PUBLIC ENGAGEMENT

- More than 350 community members contributed feedback that shaped the creation of the Urban Forest Master Plan.
- A community survey found that most respondents felt it was important to have more trees in neighborhoods and parks. Top concerns about trees related to storm damage and conflicts with infrastructure.
- Stakeholder feedback gathered during six focus groups and two community meetings revealed that segments of the community are strongly pro-tree, viewing trees as assets. Within this group, residents often strongly advocate for the protection of trees from removal during development and utility maintenance.
- A number of themes were identified relating to community engagement, desired resources, and City government operations that informed recommendations of the Urban Forest Master Plan.

SECTION FIVE

RECOMMENDATIONS & IMPLEMENTATION STRATEGY

RECOMMENDATIONS & IMPLEMENTATION STRATEGY

RECOMMENDATION 1: GROW THE FORESTRY DIVISION

To date, the Forestry Division has demonstrated a high degree of effectiveness with a small staff. Forestry will require additional capacity to maintain trees across the City's large park system and to take on additional responsibilities including new street tree districts and *AIM Norman* goals. Moving capacity from contracted companies to in-house staff can provide long-term cost savings. These savings can be reinvested into expanding the portion of the City's tree canopy that is under active management.

ACTIONS

- Establish a dedicated Forestry crew that includes 1 Park Arborist and 3 Tree Maintenance Crew positions.
- Provide training and credentials for Forestry staff, including ISA Certified Arborist and advanced credentials (ISA Tree Climber, TRAQ) and wildfire protection training.
- Acquire a grapple truck to more safely and effectively handle heavy woody debris during tree removal and storm cleanup.
- Create an urban forestry standard operations procedures manual with policies and practices that are based on best management practices and urban forestry standards; provide for regular updates.
- Examine opportunities for dedicated funding, earned income, and financial support for Forestry operations as detailed in the *Parks, Recreation & Culture Master Plan*:
    - Dedicated funding: Create a dedicated Forestry Division budget within the municipal budget.
    - Earned income: Establish a Tree Fund to collect proceeds, penalties, and donations.
    - Financial support: Pursue local, state, federal, and nonprofit grant opportunities.
- Publish annual reports on the City website that include Forestry accomplishments and activities.

METRICS

- Forestry FTEs and credentials
- Forestry revenue and expenditures
    - Emergency pruning and removal expenditures
- Volume of woody debris managed
- Number of annual reports

SUCCESS INDICATORS

- The Forestry Division has the capacity and resources to proactively care for public trees.
- City council and the general public are well informed about Forestry activities.

RECOMMENDATION 2: PRIORITIZE MAINTENANCE OF PUBLIC TREES

Efficient and effective management decision making relies on clear goals and accurate, up-to-date information. Proactive management of the urban forest—including regular inspection and maintenance—is a cost-saving measure that reduces risk and promotes long-term tree survival. Regular collection of tree canopy and inventory data can help the Forestry Division increase the portion of public trees that are under proactive management.

ACTIONS

- Update the public tree inventory on a 5-year cycle. Expand the inventory to include City-maintained street trees within Commercial Tree Zones and Historic Tree Districts. Note utility conflicts and site characteristics to aid with species selection.
- Conduct a sample inventory of forested natural areas to assess tree benefits, vulnerabilities, and management needs.
- Implement a routine pruning program for a portion of public trees, as capacity and resources allow, with the goal of establishing a 5–10 year proactive maintenance cycle for public trees. Expand the area that is under proactive maintenance over time.
    - In the near term, prioritize proactive maintenance within high-traffic and/or high-risk areas.
- Establish regular maintenance for newly planted trees, including watering, mulching, and staking, for 2–3 years to ensure establishment.
- Conduct young tree training (pruning) for trees <6 inches diameter at standard height (DSH) on a 3-year cycle to establish strong growth forms and reduce more costly maintenance as trees mature.
- Utilize contracted tree care companies for high- and moderate-priority tree removal and high-priority pruning of public trees.
- Update the 2006 community forest management plan using inventory data and findings from the Urban Forest Master Plan.

METRICS

- Public tree population attributes: number, diversity, size distribution, condition, defects, planting sites.
- Number of trees inspected and maintained annually.
- Number of trees removed annually.

SUCCESS INDICATORS

- All public trees are regularly inspected and maintained.
- Young trees establish and succeed into larger size classes.
- Average tree lifespan increases.
- Emergency tree and branch failures decrease.

RECOMMENDATION 3: PROTECT THE URBAN FOREST

Long-term threats to the urban forest in Norman include pests, disease, extreme weather, and wildfire. Improved species diversity, shifting the composition of trees toward more resilient species, and actively managing wildlands are ways to reduce risk of tree loss and protect tree benefits for the community.

ACTIONS

- Conduct a citywide urban tree canopy assessment to quantify existing canopy, evaluate areas of canopy gain and loss, and estimate ecosystem services.
- Develop a list of mostly native, pest- and climate-resilient tree species (or endorse and promote existing species selection resources) for public plantings, tree giveaways, and new development. Update the list regularly to build citywide species diversity.
- For public tree removals, document tree characteristics and reasons for removal; identify trends over time to inform the approved species list.
- Create a strategy to monitor and manage invasive species and pests, including Asian longhorned beetle, spotted lanternfly, Dutch elm disease, Chinese privet, and emerald ash borer.
- Partner with nonprofit organizations and volunteer groups to support invasive species removal and native species restoration in forested areas of wildland parks.
- Implement vegetation management, fuels reduction, and defensible space creation within forested areas of City-owned parks and green spaces, as detailed in the *Community Wildfire Protection Plan*.

METRICS

- Tree canopy cover and change
- Number of trees treated and removed annually
- Frequency of tree species list updates
- Pest and disease incidence
- Volume of fuels and invasive plants removed

SUCCESS INDICATORS

- The Forestry Division is a trusted resource for information about tree species selection and pest/disease management.
- Forest health within wildland parks increases.
- Wildfire damage within Norman parks is minimized.

RECOMMENDATION 4: PLAN FOR SUSTAINABLE GROWTH

Norman is experiencing a decades-long period of rapid population growth and development that is having mixed effects on its tree canopy. Trees are being removed and planted within new development while trees are aging out within Core Norman. Better understanding how, where, and why tree canopy is changing can help the City develop effective policies that balance multiple priorities. Trees can be a key part of a sustainable growth strategy for Norman that builds affordability, attractiveness, and quality of life for all residents.

ACTIONS

- Study urban tree canopy change by land use to understand how development is impacting tree canopy in Norman.
- Conduct a priority planting analysis to identify areas for planting and preservation where trees can address multiple City priorities, including stormwater management, urban heat island reduction, and social equity.
- Create a long-term planting plan for parks that aligns with the 15-year park update cycle. Replace trees that have been removed, strategically grow canopy, and increase the abundance of native, pest- and climate-resilient species within parks.
- Coordinate with City departments to increase tree canopy along trails, bike lanes, and capital street improvements to promote multi-modal transportation and build connectivity to parks.
- Support implementation of the *AIM Norman Stormwater Master Plan Update* recommendations that align with urban forestry, such as incentive credits for the preservation of at least 60% beneficial tree cover for development projects in riparian areas within water quality protection zones.
- Expand Norman's NeighborWoods Program to support equitable distribution of trees in rights-of-way and neighborhoods with low canopy cover.
- Conduct a feasibility study and gauge public interest in creating policy mechanisms to increase tree canopy cover on private property and the increase the City's involvement in street tree management.
- Explore a credit system for affordable housing projects that allows developers to choose from a menu of sustainable options, including tree planting, tree preservation, green infrastructure, and recycled materials.
- Support implementation of the *Community Wildfire Protection Plan* recommendation to reduce fuels and maintain defensible space around newly constructed neighborhoods.

METRICS

- Number of trees planted annually by the Forestry Division
- Number of trees that are planted, protected, and preserved in construction and development projects
- Tree Equity Score
- Tree canopy cover

SUCCESS INDICATORS

- Public tree diversity increases.
- Tree losses are minimized during development and construction projects.
- Tree canopy cover grows and becomes more evenly distributed across Norman public and private property.

RECOMMENDATION 5: PROMOTE THE "RIGHT TREE IN THE RIGHT PLACE"

Private property owners in Norman are responsible for tree maintenance in street and utility rights-of-way—however, many residents are not aware of that. During Urban Forest Master Plan public engagement activities, many stakeholders asked for resources that clarify their responsibilities and provide tips about planting and tree care. Properly matching tree species to planting sites—commonly called "right tree in the right place (at the right time)" in urban forestry—is a long-term strategy to reduce utility, street, and sign conflicts as well as reduce the cost of tree maintenance and removal.

ACTIONS

- Develop tip sheets to increase public awareness about key urban forestry messages, Norman tree regulations, and educational resources, translated into multiple languages.
- Leverage City communication channels to conduct outreach campaigns about private tree stewardship and key urban forestry messages such as "the right tree in the right place".
- Connect developers, builders, and the public with tree species lists, species selection resources, policy summaries, and planting specifications to promote tree species diversity, site compatibility, and long-term tree survival.
- Increase public awareness of Historic Tree Districts through signage, storytelling campaigns, or walking tours that connect trees to Norman's cultural identity.
- Work with tree giveaway recipients to match tree species to planting site characteristics. Screen for planting sites that are in a street right-of-way or utility easement.
- Pilot a volunteer program that trains residents to serve as neighborhood liaisons, helping to distribute educational materials, answer common questions, and support tree maintenance in their communities.

METRICS

- Number of residents engaged
- Action Center requests
- Number and size of Historic Tree Districts

SUCCESS INDICATORS

- Residents demonstrate a good understanding of available resources for tree species selection and which site factors affect tree suitability.
- Historic Tree Districts become a popular tool for additional tree protection and preservation within street rights-of-way.
- Tree survival and establishment on private property increases.

RECOMMENDATION 6: PARTNER ON PLAN IMPLEMENTATION

Norman is in a period of rapid city growth, which will require expansion and adaptation of City operations. Processes to coordinate forestry goals and efforts across multiple departments, led by experts in the Forestry Division, can create new channels for relationship-building, communication, and tracking. This will help City staff implement tree care according to urban forestry best practices and build local capacity to increase awareness about trees.

ACTIONS

- Create an interdepartmental work order system to track urban forestry activities and communicate across departments.
- Provide arboriculture training to staff in other City departments that perform tree trimming.
- Amend the *City of Norman Emergency Operations Plan* to include procedures for emergency pruning, removal, and debris management.
- Work across City departments to develop an approved tree and shrub species list and planting protocol for sites with overhead or underground utilities in street rights-of-way.
- Establish a committee composed of city staff, residents, partner organizations, and subject matter experts to guide Urban Forest Master Plan implementation and monitor progress.
- Establish regular contact with utility companies to receive updates about vegetation management schedules, distribute utility-developed educational materials, and identify potential funding opportunities for aligned education and outreach campaigns.
- Encourage large institutions and businesses to create campus tree management plans.
- Partner with nonprofits, neighborhood associations, community groups, and academic institutions to co-host volunteer planting days, tree care events, and educational workshops.
- Cultivate partnerships with green industry leaders to coordinate urban forestry messaging, provide arboriculture training, and grow nursery stock that aligns with City tree species lists.
- Participate in regional urban forestry networks that share information among municipal forestry programs and develop strategies for shared problems.
- Create an FAQ on the Forestry web page to answer common community questions, link to educational resources, and promote the Urban Forest Master Plan.

METRICS

- Work orders: number, type, and days to close
- Number of Forestry partners
- Number of campus tree management plans
- Number of trees pruned annually

SUCCESS INDICATORS

- City of Norman departments coordinate on urban forestry and support implementation of Urban Forest Master Plan.
- Large landowners within Norman plant, preserve, and proactively manage trees on their campuses.
- Local nonprofit institutions support Forestry messages and goals in their community engagement.


WHEN ALL
IS SAID AND DONE
THE ONLY THING
YOU'LL HAVE LEFT
IS YOUR
CHARACTER.
VINCE GILL

SECTION SIX

CONCLUSION

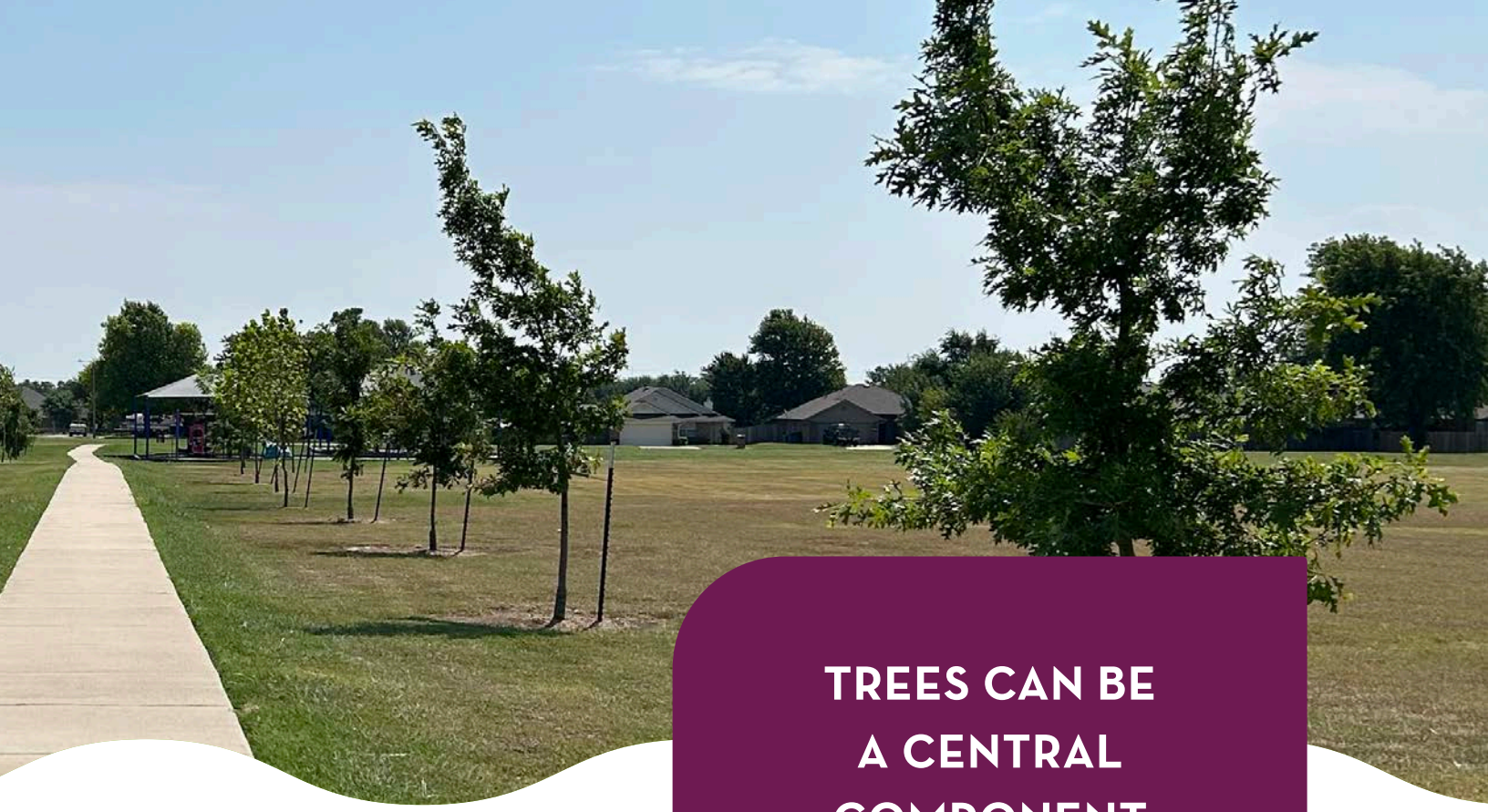
CONCLUSION

Norman's Forestry Division has demonstrated effectiveness in the care of nearly 6,000 trees across 1,200 acres of parklands and public facilities. Adding capacity within Forestry can allow in-house crews to proactively manage the City's public trees, which has been shown to produce long-term cost savings, reduce risks, and extend tree lifespans.

Increasing species diversity, planting resilient trees, and actively managing wildlands can build resilience of the urban forest and protect the benefits that trees provide. Additional information about the urban forest, gained through a tree canopy study and ongoing tree inventory updates, can enable data-informed decision-making about policy and management strategies.

Supporting tree care on private property will be increasingly important as Norman grows. Many property owners are unaware of their responsibilities for maintaining trees in street and utility rights-of-way. Equipping residents, businesses, and institutions with clear guidance about proper tree care and species selection will allow them to better steward private tree canopy and reduce their maintenance burden.

Trees can be a central component of a citywide growth strategy that balances affordability, resilience, and quality of life. Adding capacity and resources to the Forestry Division will allow it to cost-efficiently care for public trees and serve as a trusted community resource. Partnering with the community will create a healthy, resilient, and sustainable tree canopy that serves as a lasting amenity for the Norman community.



TREES CAN BE A CENTRAL COMPONENT OF A CITYWIDE GROWTH STRATEGY THAT BALANCES AFFORDABILITY, RESILIENCE, AND QUALITY OF LIFE.

REFERENCES

AECOM. 2013. Financing San Francisco's Urban Forest. City of San Francisco, CA.

American Forests. 2025. "Tree Equity Score National Explorer." https://www.treeequityscore.org/

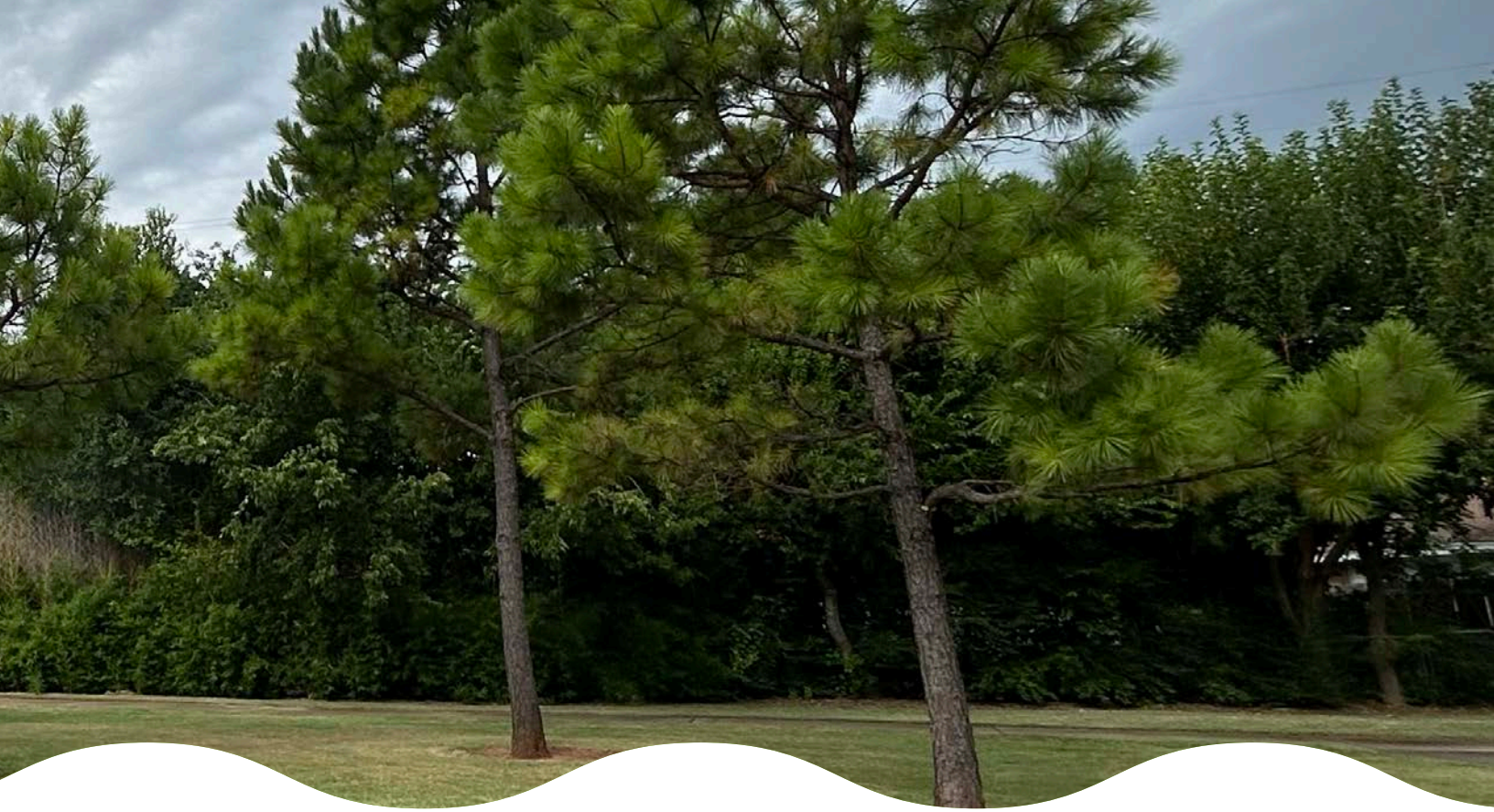
Chloeta. 2025. "City of Norman Community Wildfire Protection Plan." City of Norman, OK.

Davey Resource Group. 2019. "Oklahoma City Metropolitan Area Tree Canopy Assessment." Association of Central Oklahoma Governments. https://tree-canopy-acog.hub.arcgis.com/

Environmental Control Advisory Board. 2018. "2018 Review and Update of Mayors' Climate Agreement Recommendations." City of Norman, OK.

Hauer, Richard, and Ward Peterson. 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.

Hauer, Richard. 2014. "Trees and ice storms: Developing storm-resistant urban tree populations." Arborist News 23: 32–35.



Kenney, W. Andy, Philip J.E. Van Wassenaer, and Alexander L. Satel. 2011. "Criteria and indicators for strategic urban forest planning and management." Arboriculture & Urban Forestry (AUF) 37 (3): 108–117.

National Weather Service. 2021. “The Ice Storm of October 26-29, 2020.” https://www.weather.gov/oun/events-20201026

Oklahoma State University Extension. 2024. "Oklahoma Proven: Plant Selections for Oklahoma." OSU Extension. https://extension.okstate.edu/fact-sheets/oklahoma-proven-plant-selections-for-oklahoma.html#trees

Rahman, Muhammad Tauhidur, and Tarek Rashed. 2015. "Urban tree damage estimation using airborne laser scanner data and geographic information systems: An example from 2007 Oklahoma ice storm." Urban Forestry & Urban Greening 14, no. 3 (2015): 562-572.

Richards, Norman A. 1983. “Diversity and stability in a street tree population.” Urban Ecology, 7(2), 159-171.

Santamour, Frank S. 1990. “Trees for urban planting: diversity, uniformity, and common sense.” In Proceedings of the 7th conference of the metropolitan tree improvement alliance 7(7): 57-66. Metria.

APPENDICES

APPENDICES

A. OKLAHOMA PROVEN RECOMMENDED TREE SPECIES

Oklahoma Proven recommended tree species, separated by height at maturity.

SMALL TREES (<25 FT)

BOTANICAL NAME	COMMON NAME
Acer buergerianum	Trident maple
Asimina triloba	Pawpaw
Cercis canadensis var. *texensis* 'Oklahoma'	Oklahoma redbud
Chilopsis linearis	Desert-willow
Chionanthus	Fringetree
Frangula caroliniana	Indian cherry
Magnolia grandiflora 'Southern Charm'	Teddybear® southern magnolia
Magnolia stellata	Star magnolia
Magnolia x *'Elizabeth'* *Magnolia* x *'Butterflies'*	Deciduous hybrid magnolia cultivars
Magnolia x *soulangiana*	Saucer magnolia
Malus 'Prairifire'	Crabapple
Ziziphus jujuba	Chinese date

MEDIUM TREES (25–50 FT)

BOTANICAL NAME	COMMON NAME
Acer campestre	Hedge maple
Acer saccharum 'Caddo'	Caddo sugar maple
Acer truncatum	Shantung maple
Carpinus	Hornbeam species
Cercis species and cultivars	Redbud
Parrotia persica	Persian parrotia
Pinus flexilis 'Vanderwolf's Pyramid'	Limber pine cultivar
Pinus heldreichii	Bosnian pine
Pistacia chinensis	Chinese pistache
Quercus fusiformis	Escarpment live oak
Quercus muehlenbergii	Chinkapin oak

LARGE TREES (>50 FT)

botanical name	COMMON NAME
Ginkgo biloba	Ginkgo
Gymnocladus dioica	Kentucky coffeetree
Nyssa sylvatica	Black gum
Quercus macrocarpa	Bur oak
Quercus shumardii	Shumard oak
Taxodium distichum	Bald cypress
Tilia tomentosa	Silver linden
Ulmus americana 'Valley Forge', 'New Harmony', 'Princeton'	American elm cultivars
Ulmus crassifolia	Cedar elm
Zelkova serrata	Japanese zelkova

B. INDICATORS OF A SUSTAINABLE URBAN FOREST PERFORMANCE LEVEL RATINGS

An adaptation of the *Indicators of a Sustainable Urban Forest* peer-reviewed assessment tool was created to evaluate Norman's forestry program. Thirty indicators were organized into three categories: Trees, People, and Management Approach. The tool provides evaluation criteria to support scoring on each indicator on a five-point scale ranging from Low to High.

In this condensed version of the tool, the overall objective or industry standard is summarized with notes about Norman's current performance and opportunities for performance level improvement.

THE TREES

INDICATOR AND PERFORMANCE LEVEL	OBJECTIVE OR INDUSTRY STANDARD	NORMAN'S PROGRAM	OPPORTUNITIES
Urban Tree Canopy Moderate	Achieve the desired tree canopy cover according to goals set for the entire city and neighborhoods. Alternatively, achieve 75% of the total canopy possible for the entire city and in each neighborhood.	The *Oklahoma City Metropolitan Area Tree Canopy Assessment* (2019), which included only 22% of the city of Norman's land area, found that tree canopy cover was 18% as of 2016. The *2018 Review and Update of Mayors' Climate Agreement Recommendations* states that tree canopy declined from 35% to 17% and set a canopy goal of 35% (Rec. Action 11).	The UFMP will provide detail about the level of tree planting and preservation that will be needed to achieve 35% tree cover. Use this as a tool to advocate for more resources to achieve the goal.
Equitable Distribution of Canopy Low	Achieve low variation between tree canopy and equity factors citywide by neighborhood. Ensure that the benefits of tree canopy are available to all, especially for those most affected by these benefits.	Using data from the *Tree Equity Score* by American Forests, 66% of block groups (65 of 99) have a moderate to highest tree equity score. In the Block groups with 43%-68% people of color, canopy cover is 5.2 percentage points lower than city average (14.3% vs 19.5%). Tree planting and public education and outreach are currently based on other factors than tree equity.	Utilize the Tree Equity Score to identify priority areas for tree planting and preservation.
Size and Age Distribution of Trees Low-Moderate	Establish a diverse-aged population of public trees across the entire city and for each neighborhood. Ideal standard: **0-8" DBH:** 40% **9-17" DBH:** 30% **18-24" DBH:** 20% **Over 24" DBH:** 10%	Age distribution across Norman's parks is trending towards the industry recommended age distribution. Age distribution of street trees has not been assessed.	Create a long-term planting plan for parks to replace lost trees and gradually plant additional trees. Evaluate the age distribution of City-maintained ROW trees.

INDICATOR AND PERFORMANCE LEVEL	OBJECTIVE OR INDUSTRY STANDARD	NORMAN'S PROGRAM	OPPORTUNITIES
Condition of Public Trees Moderate	Possess a detailed understanding of tree condition and potential risk of all intensively managed, publicly owned trees. This information is used to direct maintenance actions.	Tree condition and risk were measured in the 2024 inventory of park and facility trees.	Utilize the 2024 park tree inventory to make management decisions. Evaluate risk and condition of City-maintained ROW trees.
Trees in Natural Areas Low	Possess a detailed understanding of the ecological structure and function of all publicly owned natural areas (such as woodlands, ravines, stream corridors, etc.), as well as usage patterns.	Trees in natural areas have not been evaluated.	Conduct a sample inventory of natural areas to understand population, benefits, and risks.
Trees on Private Property Low-Moderate	Possess a solid understanding of the extent, location and general condition of trees on private lands.	The 2019 Oklahoma metro area urban tree canopy assessment provides limited information about the location and extent of private property tree canopy for a portion of the city.	Conduct an urban tree canopy assessment of the entire city.
Tree Diversity Moderate	Establish a genetically diverse population of publicly owned trees across the entire city and for each neighborhood. Tree populations should be composed of no more than 30% of any family, 20% of any genus, or 10% of any species.	In the 2024 park and facilities tree inventory, eastern redcedar is the most common species (10% of total inventoried trees), and elm is the most common genus (19% of total inventoried trees). The diversity of street trees is unknown.	Expand species diversity of newly planted trees. As eastern redcedar and elm naturally decline, replace them with other pest- and climate-resilient species.
Suitability Low-Moderate	Establish a tree population suited to the urban environment and adapted to the overall region. Suitable species are gauged by exposure to imminent threats, considering the "Right Tree for the Right Place" concept and invasive species.	In the 2024 park inventory, 32% of inventoried trees are susceptible to invasive pests such as Asian longhorned beetle. Site suitability data for public trees has not been collected.	Conduct an inventory of City-maintained street trees. Note utility conflicts and site suitability.

THE PEOPLE

INDICATOR AND PERFORMANCE LEVEL	OBJECTIVE OR INDUSTRY STANDARD	NORMAN'S PROGRAM	OPPORTUNITIES
Neighborhood Action Low-Moderate	Residents understand, cooperate, and participate in urban forest management at the neighborhood level. Urban forestry is a neighborhood-scale issue.	There is interest and limited involvement by groups such as the Sierra Club, Master Gardeners, and the University of Oklahoma, but there are no unified goals or priorities.	Build relationships with external partners who can help promote messaging from the Urban Forest Master Plan.
Large Private/ Institutional Landholder Involvement Low-Moderate	Large, private, and institutional landholders embrace citywide goals and objectives through targeted resource management plans.	There may be management plans in place for large institutions such as the University of Oklahoma.	Promote the goals and objectives of the Urban Forest Master Plan to large institutions such as OU and encourage them to create campus management plans.
Green Industry Involvement Low	The green industry works together to advance citywide urban forest goals and objectives. The city and its partners capitalize on local green industry expertise and innovation.	There is little involvement from green industry leaders to advance urban forestry goals in Norman.	Cultivate partnerships with local green industry leaders to promote the goals of the UFMP.
City Department and Agency Cooperation Moderate	All city departments and agencies cooperate to advance citywide urban forestry goals and objectives.	City departments coordinate with Parks on landscape plans for construction projects and on ROW trees that conflict with utilities. There is good rapport among departments, but capacity is limited across the City.	Continue to partner with other City departments on urban forestry. As Forestry capacity grows, create a work order system to track projects and communicate across departments.
Funder Engagement Low	Local funders are engaged and invested in urban forestry initiatives. Funding is adequate to implement citywide urban forest management plan.	There are limited fundings sources for urban forestry in Oklahoma. State law allows for the use of sales and use taxes to supplement municipal budgets.	Continue to look for external funding opportunities to supplement the forestry budget. Look for opportunities to support popular aspects of the urban forestry program with sales/use tax funds.
Utility Engagement Low	All utility companies are aware of and vested in the urban forest and cooperate to advance citywide urban forest goals and objectives.	No planned coordination exists between the City and utility companies.	Establish regular contact with utility company vegetation management coordinators to share public updates about maintenance schedules, right-tree-right-place principles, and potential funding opportunities for outreach and education.

INDICATOR AND PERFORMANCE LEVEL	OBJECTIVE OR INDUSTRY STANDARD	NORMAN'S PROGRAM	OPPORTUNITIES
Developer Engagement Moderate	The development community is aware of and vested in the urban forest and cooperates to advance citywide urban forest goals and objectives.	Developers are aware of municipal goals and objectives for tree preservation and protection. Developers report that affordable housing and infill development are sometimes constrained by tree preservation requirements.	Create and maintain an updated species list that promotes citywide diversity and resilience. For affordable housing projects, consider creating a credit system that allows developers to choose from a menu of sustainable options. Balance tree benefits, remaining lifespan, and likely survival of preserved trees in review of landscape plans.
Public Awareness Moderate	The general public understands the benefits of trees and advocates for the role and importance of the urban forest.	Despite the generally positive perception of trees, there are minimal education and awareness-building initiatives that are coordinated across the city, and minimal access to resources and capacity to support implementation and expand awareness of tree benefits.	Strengthen partnerships with local organizations who can help coordinate volunteer opportunities, tree giveaways, and tree education and outreach. Create an FAQ on the forestry web page.
Regional Collaboration Low-Moderate	Neighboring communities and regional groups are actively cooperating and interacting to advance the region's stake in the city's urban forest.	Norman Forestry maintains a good relationship with Oklahoma Forestry.	Look for opportunities to increase communication and information sharing with other Oklahoma cities on topics including urban forestry funding, enforcement, and street tree maintenance.

THE MANAGEMENT APPROACH

INDICATOR AND PERFORMANCE LEVEL	OBJECTIVE OR INDUSTRY STANDARD	NORMAN'S PROGRAM	OPPORTUNITIES
Tree Inventory Moderate-High	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.	A GIS-based inventory of 5,937 park and facilities tree sites was conducted in 2024. Street trees have not been inventoried.	Add City-maintained ROW trees to the inventory (trees within Commercial Tree Zones and Historical Tree Districts). Update the inventory on a 5-year cycle.
Canopy Assessment Low	Accurate, high-resolution, and recent assessment of existing and potential city-wide tree canopy cover that is regularly updated and available for use across various departments, agencies, and/or disciplines.	Norman does not have a current tree canopy assessment.	Conduct a citywide urban tree canopy assessment.
Management Plan Low-Moderate	Existence and buy-in of a comprehensive urban forest management plan to achieve city-wide goals. Re-evaluation is conducted every 5 to 10 years.	The *City of Norman Community Forest Management Plan* was published in 2006.	Update the community forest management plan using inventory data and findings from the UFMP.
Risk Management Program Low	All publicly owned trees are managed for maximum public safety by way of maintaining a city-wide inventory, conducting proactive annual inspections, and eliminating hazards within a set timeframe based on risk level. Risk management program is outlined in the management plan.	The condition and maintenance priority of a portion of park trees was collected in the 2024 inventory. The condition of street trees is unknown. Management is primarily request-based or emergency response.	Collect information about tree condition and maintenance priority for City-maintained ROW trees.
Maintenance Program of Publicly-Owned Trees *(trees managed intensively)* Low	All intensively managed, publicly owned trees are well maintained for optimal health and condition in order to extend longevity and maximize benefits. A reasonable cyclical pruning program is in place, generally targeting 5-to-7-year cycles. The maintenance program is outlined in the management plan.	There is no systematic tree pruning program in place. Norman currently has a reactive system; City code requires that adjacent property owners are responsible for pruning and maintenance of public trees in the street right of way.	Implement a proactive pruning program for a portion of public trees. Expand the area that is under proactive maintenance over time. Use City communication channels to implement a cyclical block outreach campaign to encourage stewardship of trees.

INDICATOR AND PERFORMANCE LEVEL	OBJECTIVE OR INDUSTRY STANDARD	NORMAN'S PROGRAM	OPPORTUNITIES
Maintenance Program of Publicly-Owned Natural Areas *(trees managed extensively)* Low-Moderate	The ecological structure and function of all publicly owned natural areas are protected and enhanced while accommodating public use where appropriate.	The *Norman Parks and Recreation Master Plan* is under development. It indicates that publicly owned natural areas (wildland parks) and their associated maintenance costs were not quantified (pg. 98).	Build relationships with nonprofit organizations and friends-of-parks groups who can conduct invasive species removal at key wildland parks.
Planting Program Low-Moderate	Comprehensive and effective tree planting and establishment program is driven by canopy cover goals, equity considerations, and other priorities according to the plan. Tree planting and establishment is outlined in the management plan.	Tree establishment is systematic in parks but is ad hoc elsewhere. Funding for tree planting comes from the municipal budget.	Begin a modest tree planting program to replace trees that are removed and to plant in priority public spaces. Gradually increase tree planting and establishment year-over-year.
Tree Protection Policy Moderate	Comprehensive and regularly updated tree protection ordinance with enforcement ability is based on community goals. The benefits derived from trees on public and private property are ensured by the enforcement of existing policies.	Tree protection policies only apply to City of Norman properties and new construction projects with rights-of-way where regulated trees are or may be located.	Increase public awareness of historic tree districts.
City Staffing and Equipment Low-Moderate	Adequate staff and access to the equipment and vehicles to implement the management plan. A high-level urban forester or planning professional, strong operations staff, and solid certified arborist technicians.	Equipment is sufficient, but staffing levels and advanced tree training are low.	Increase the capacity of forestry by increasing tree training opportunities for staff and the amount of time they can allot to tree care.
Funding Low-Moderate	Appropriate funding in place to fully implement both proactive and reactive needs based on a comprehensive urban forest management plan.	The City of Norman spent $449,947 on tree activities in 2024, of which $330,618 was spent on pruning, $45,780 was spent on planting, and $12,021 supported tree giveaways. Maintenance is primarily reactive.	Increase the level of funding for proactive tree care and risk management.

INDICATOR AND PERFORMANCE LEVEL	OBJECTIVE OR INDUSTRY STANDARD	NORMAN'S PROGRAM	OPPORTUNITIES
Disaster Preparedness & Response Moderate	A disaster management plan is in place related to the city's urban forest. The plan includes staff roles, contracts, response priorities, debris management and a crisis communication plan. Staff are regularly trained and/or updated.	The *Community Wildfire Protection Plan* is under development. The *City of Norman Emergency Operations Plan* is in place but does not address the urban forest.	Amend the emergency operations plan to include procedures for emergency pruning, removal, and debris management. Utilize the Storm Mitigation Plan template from OK Forestry.
Resilience Low-Moderate	The City understands the climate and pest/disease vulnerability of its trees and community. Management decisions are informed by strategies to improve urban forest resilience and mitigate the harmful effects of climate change.	The *Cleveland County Hazard Mitigation Plan* describes vulnerability to a variety of disasters. Susceptibility of park trees to pest and disease and climate resilience are underway as part of development of the urban forest master plan.	Promote species lists of pest- and climate-resilient trees for use on public and private property.
Communication Moderate-High	Effective avenues of two-way communication exist among city departments and between the city and its residents. Messaging is consistent and coordinated, when feasible.	Residents submit tree-related requests to the City via telephone, email, and the Action Center, which are then answered or addressed by Parks and Rec staff. Communication between City departments about trees takes place ad hoc.	Annually publish basic information about forestry activities, accomplishments, and Action Center requests and responses on the Forestry web page. Establish a committee to oversee implementation of the UFMP.

C. 5-YEAR ESTIMATED MANAGEMENT BUDGET

A five-year management budget is provided for recommended maintenance needs of 5,775 trees and 162 stumps that were inventoried within manicured areas of Norman parks in 2024, as well as projected future maintenance needs. Costs are estimated from the actual size of trees in the inventory, based on estimated time, labor, and materials, which is typically quoted by tree diameter. Contactor costs are assumed to be 50% greater than in-house costs.

The management budget is in 2025 dollars, not adjusted for future inflation, and does not include costs for forestry management, public engagement and outreach, debris cleanup, or maintenance of trees within natural areas or along streets.

HIGH-PRIORITY TREE REMOVAL

RESOLVE BACKLOG IN YEAR 1. CONTRACTED.

ACTIVITY COST		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		FIVE-YEAR COST
DIAMETER	COST/TREE	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	
1-3"	$42	1	$42	1	$42	1	$42	1	$42	1	$42	$210
4-6"	$87	2	$174	2	$174	2	$174	2	$174	2	$174	$870
7-12"	$207	20	$4,140	6	$1,242	6	$1,242	6	$1,242	6	$1,242	$9,108
13-18"	$471	22	$10,362	4	$1,884	4	$1,884	4	$1,884	4	$1,884	$17,898
19-24"	$908	14	$12,705	2	$1,815	2	$1,815	2	$1,815	2	$1,815	$19,965
25-30"	$1,238	5	$6,188	1	$1,238	1	$1,238	1	$1,238	1	$1,238	$11,138
31-36"	$1,568	4	$6,270	1	$1,568	1	$1,568	1	$1,568	1	$1,568	$12,540
37-42"	$2,228	2	$4,455	1	$2,228	1	$2,228	1	$2,228	1	$2,228	$13,365
>42"	$3,053	3	$9,158	1	$3,053	1	$3,053	1	$3,053	1	$3,053	$21,368
Activity Total(s)		73	$53,493	19	$13,242	19	$13,242	19	$13,242	19	$13,242	$106,461

MODERATE-PRIORITY TREE REMOVAL

RESOLVE BACKLOG IN YEAR 2. CONTRACTED.

ACTIVITY COST		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		FIVE-YEAR COST
DIAMETER	COST/TREE	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	
1-3"	$42	1	$42	1	$42	1	$42	1	$42	1	$42	$210
4-6"	$87	2	$174	11	$957	2	$174	2	$174	2	$174	$1,653
7-12"	$207	6	$1,242	33	$6,831	6	$1,242	6	$1,242	6	$1,242	$11,799
13-18"	$471	4	$1,884	34	$16,014	4	$1,884	4	$1,884	4	$1,884	$23,550
19-24"	$908	2	$1,815	25	$22,688	2	$1,815	2	$1,815	2	$1,815	$29,948
25-30"	$1,238	1	$1,238	9	$11,138	1	$1,238	1	$1,238	1	$1,238	$16,088
31-36"	$1,568	1	$1,568	10	$15,675	1	$1,568	1	$1,568	1	$1,568	$21,945
37-42"	$2,228	1	$2,228	3	$6,683	1	$2,228	1	$2,228	1	$2,228	$15,593
>42"	$3,053	1	$3,053	4	$12,210	1	$3,053	1	$3,053	1	$3,053	$24,420
Activity Total(s)		19	$13,242	130	$92,237	19	$13,242	19	$13,242	19	$13,242	$145,205

LOW-PRIORITY REMOVAL

RESOLVE BACKLOG IN YEARS 1–3. IN HOUSE.

ACTIVITY COST		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		FIVE-YEAR COST
DIAMETER	COST/TREE	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	
1-3"	$28	14	$392	14	$392	14	$392	1	$28	1	$28	$1,232
4-6"	$58	20	$1,160	20	$1,160	20	$1,160	2	$116	2	$116	$3,712
7-12"	$138	20	$2,760	20	$2,760	20	$2,760	6	$828	6	$828	$9,936
13-18"	$314	16	$5,024	16	$5,024	16	$5,024	4	$1,256	4	$1,256	$17,584
19-24"	$605	7	$4,235	7	$4,235	7	$4,235	2	$1,210	2	$1,210	$15,125
25-30"	$825	4	$3,300	4	$3,300	4	$3,300	1	$825	1	$825	$11,550
31-36"	$1,045	2	$2,090	2	$2,090	2	$2,090	1	$1,045	1	$1,045	$8,360
37-42"	$1,485	1	$1,485	1	$1,485	1	$1,485	1	$1,485	1	$1,485	$7,425
>42"	$2,035	1	$2,035	1	$2,035	1	$2,035	1	$2,035	1	$2,035	$10,175
Activity Total(s)		85	$22,481	85	$22,481	85	$22,481	19	$8,828	19	$8,828	$85,099

STUMP REMOVAL

RESOLVE BACKLOG IN YEAR 1. IN HOUSE.

ACTIVITY COST		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		FIVE-YEAR COST
DIAMETER	COST/TREE	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	
1-3"	$18	19	$342	16	$288	16	$288	3	$54	3	$54	$1,026
4-6"	$28	40	$1,120	33	$924	24	$672	6	$168	6	$168	$3,052
7-12"	$44	112	$4,928	59	$2,596	32	$1,408	18	$792	18	$792	$10,516
13-18"	$72	77	$5,544	54	$3,888	24	$1,728	12	$864	12	$864	$12,888
19-24"	$94	48	$4,512	34	$3,196	11	$1,034	6	$564	6	$564	$9,870
25-30"	$110	18	$1,980	14	$1,540	6	$660	3	$330	3	$330	$4,840
31-36"	$138	13	$1,794	13	$1,794	4	$552	3	$414	3	$414	$4,968
37-42"	$160	6	$960	5	$800	3	$480	3	$480	3	$480	$3,200
>42"	$182	6	$1,092	6	$1,092	3	$546	3	$546	3	$546	$3,822
Activity Total(s)		339	$22,272	234	$16,118	123	$7,368	57	$4,212	57	$4,212	$54,182

HIGH-PRIORITY PRUNING

YEAR 1. IN HOUSE 80%/CONTRACTED 20%.

ACTIVITY COST		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		FIVE-YEAR COST
DIAMETER	COST/TREE	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	
1-3"	$22	1	$22	1	$22	2	$44	2	$44	2	$44	$176
4-6"	$33	3	$99	3	$99	3	$99	3	$99	3	$99	$495
7-12"	$83	12	$990	8	$660	8	$660	8	$660	8	$660	$3,630
13-18"	$132	16	$2,112	6	$792	6	$792	6	$792	6	$792	$5,280
19-24"	$187	22	$4,114	3	$561	3	$561	3	$561	3	$561	$6,358
25-30"	$248	12	$2,970	2	$495	2	$495	2	$495	2	$495	$4,950
31-36"	$336	9	$3,020	1	$336	1	$336	1	$336	1	$336	$4,362
37-42"	$418	5	$2,090	1	$418	1	$418	1	$418	1	$418	$3,762
>42"	$649	4	$2,596	1	$649	1	$649	1	$649	1	$649	$5,192
Activity Total(s)		84	$18,013	26	$4,032	27	$4,054	27	$4,054	27	$4,054	$34,205

MODERATE-PRIORITY PRUNING

YEARS 1–3. IN HOUSE.

ACTIVITY COST		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		FIVE-YEAR COST
DIAMETER	COST/TREE	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	
1-3"	$20	1	$20	1	$20	1	$20	2	$40	2	$40	$140
4-6"	$30	3	$90	3	$90	3	$90	3	$90	3	$90	$450
7-12"	$75	31	$2,325	31	$2,325	31	$2,325	8	$600	8	$600	$8,175
13-18"	$120	51	$6,120	51	$6,120	51	$6,120	6	$720	6	$720	$19,800
19-24"	$170	51	$8,670	51	$8,670	51	$8,670	3	$510	3	$510	$27,030
25-30"	$225	35	$7,875	35	$7,875	35	$7,875	2	$450	2	$450	$24,525
31-36"	$305	22	$6,710	22	$6,710	22	$6,710	1	$305	1	$305	$20,740
37-42"	$380	8	$3,040	8	$3,040	8	$3,040	1	$380	1	$380	$9,880
>42"	$590	6	$3,540	6	$3,540	6	$3,540	1	$590	1	$590	$11,800
Activity Total(s)		208	$38,390	208	$38,390	208	$38,390	27	$3,685	27	$3,685	$122,540

ROUTINE INSPECTION

5-YEAR CYCLE. IN HOUSE.

ACTIVITY COST		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		FIVE-YEAR COST
DIAMETER	COST/TREE	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	
Walk-by Assessment	$5	578	$2,888	583	$2,913	585	$2,925	593	$2,963	603	$3,013	$14,700
Activity Total(s)		578	$2,888	583	$2,913	585	$2,925	593	$2,963	603	$3,013	$14,700

YOUNG TREE TRAINING

TRIMMING OF TREES <8 IN. DBH ON A 3-YEAR CYCLE. IN HOUSE.

ACTIVITY COST		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		FIVE-YEAR COST
DIAMETER	COST/TREE	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	
1-3"	$20		$0		$0	284	$5,680	227	$4,540	259	$5,180	$15,400
4-6"	$30		$0	260	$7,800		$0		$0		$0	$7,800
>6"	$40	79	$3,160		$0		$0		$0	260	$10,400	$13,560
Activity Total(s)		79	$3,160	260	$7,800	284	$5,680	227	$4,540	519	$15,580	$36,760

ROUTINE PRUNING

10-YEAR CYCLE. IN HOUSE.

ACTIVITY COST		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		FIVE-YEAR COST
DIAMETER	COST/TREE	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	
1-3"	$20	18	$366	28	$566	28	$566	28	$566	28	$566	$2,630
4-6"	$30	44	$1,323	44	$1,323	44	$1,323	44	$1,323	44	$1,323	$6,615
7-12"	$75	152	$11,378	152	$11,378	152	$11,378	152	$11,378	160	$11,970	$57,480
13-18"	$120	107	$12,840	107	$12,840	107	$12,840	107	$12,840	107	$12,840	$64,200
19-24"	$170	50	$8,432	50	$8,432	50	$8,432	50	$8,432	50	$8,432	$42,160
25-30"	$225	30	$6,795	30	$6,795	30	$6,795	30	$6,795	30	$6,795	$33,975
31-36"	$305	11	$3,447	11	$3,447	11	$3,447	11	$3,447	11	$3,447	$17,233
37-42"	$380	4	$1,672	4	$1,672	4	$1,672	4	$1,672	4	$1,672	$8,360
>42"	$590	2	$944	2	$944	2	$944	2	$944	2	$944	$4,720
Activity Total(s)		418	$47,196	428	$47,396	428	$47,396	428	$47,396	436	$47,989	$237,373

REPLACEMENT TREE PLANTING AND MAINTENANCE

REPLACES TREES THAT ARE REMOVED ANNUALLY. IN HOUSE.

ACTIVITY COST		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		FIVE-YEAR COST
DIAMETER	COST/TREE	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	
Purchasing	$250	177	$44,250	234	$58,500	123	$30,750	57	$14,250	57	$14,250	$162,000
Planting & Watering	$200	177	$35,400	234	$46,800	123	$24,600	57	$11,400	57	$11,400	$129,600
Mulching	$25	177	$4,425	234	$5,850	123	$3,075	57	$1,425	57	$1,425	$16,200
Activity Total(s)		177	$84,075	234	$111,150	123	$58,425	57	$27,075	57	$27,075	$307,800

NEW TREE PLANTING AND MAINTENANCE

FILLS VACANT PLANTING SITES. IN HOUSE.

ACTIVITY COST		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		FIVE-YEAR COST
DIAMETER	COST/TREE	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	COUNT	COST	
Purchasing	$250	50	$12,500	25	$6,250	75	$18,750	100	$25,000	100	$25,000	$87,500
Planting & Watering	$200	50	$10,000	25	$5,000	75	$15,000	100	$20,000	100	$20,000	$70,000
Mulching	$25	50	$1,250	25	$625	75	$1,875	100	$2,500	100	$2,500	$8,750
Activity Total(s)		50	$23,750	25	$11,875	75	$35,625	100	$47,500	100	$47,500	$166,250

TOTAL COSTS

ACTIVITY COST	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	FIVE-YEAR COST
In House Total	$258,622	$261,348	$221,533	$149,441	$161,124	$1,052,067
Contracted Total	$70,338	$106,285	$27,295	$27,295	$27,295	$258,506
Cost Grand Total	$328,959	$367,633	$248,828	$176,736	$188,419	$1,310,574

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