

Tree and Landscape Advisory Committee Meeting Agenda

April 16, 2026

10:00 a.m.

Council Chambers, 305 SW A Street

Contact: shelli.kerr@bentonville.ar.gov to request participation via Zoom.

AGENDA

Members

- 1 Reagan Roth
- 2 Gulizar Baggson
- 3 Helen Lampkin
- 4 Nathan Lembke
- 5 Ralph Webber, Chairperson
- 6 Jeannie McIntire
- 7 Mark Lankford

Ex Officio

Holly Hook, City Council

Staff

Shelli Kerr, Comprehensive Planning Manager
Tyler Cheek, Horticulturist
Haley Deatherage, Horticulturist

1. Call to Order
2. Approval of Minutes - March 19, 2026 *

OLD BUSINESS

3. Tree Canopy Assessment and Reforestation Plan *

NEW BUSINESS

4. Spring Tree Giveaway After-Action Discussion
5. Landscape Awards

OTHER BUSINESS

6. Parks Updates
7. Planning Updates

ADJOURNMENT

Tree and Landscape Advisory Board

March 19, 2026

10:00 am

City Hall, 305 SW A Street, Bentonville, AR 72712

MINUTES

Attendance			
Member	Attendance	Ex Officio	Attendance
1 Reagan Roth	In person	Holly Hook , City Council	In person
2 Gulizar Baggson	Absent	Staff Shelli Kerr, Comprehensive Planning Manager Baylea Birchfield, Comprehensive Planner II Tyler Cheek Haley Deatherage	In person In person In person In person
3 Helen Lampkin	In person		
4 Nathan Lembke	Absent		
5 Ralph Weber	In person		
6 Jeannie McIntire	In person		
7 Mark Lankford	In person		

Guests: Courtney Fitzgerald with Bentonville Public Library and Shane McQuillan with Runway Group

1. Call to Order

Ralph called the meeting called to order at 10:02 a.m.

2. Approval of Minutes

Jeannie made a motion to approve the minutes for February 19, 2026; Helen seconded. All in favor, motion passed 5-0.

OLD BUSINESS

3. None

NEW BUSINESS

Shane McQuillan introduced himself as the new urban forester with Runway Group. He will be helping to coordinate trees for tree giveaways and neighborhood tree planting programs.

4. Spring Tree Giveaway

Confirmed two trees per household, 7:30 am to 10 am. If tagging is required, members would like to do that prior to the giveaway. See if there's a way we can get into the building for restroom use. Consider having non-English options for handouts and online resources. Find out what Runway/Compton wants done with the leftovers. Shane indicated parks taking them may be the easiest approach. Public should be notified that in order for PawPaws to fruit, two trees are needed.

Action Item: Baylea will send out a volunteer sign up for the giveaway and time to tag trees if required.

5. Review of Tree Planting Documents

Shelli sent out the latest document the day before. She asked for comments within the next two to three weeks. Comments:

- Illinois River Watershed suggests a 100' riparian buffer (see page 35)
- The LID Book has recommendations for street trees.
- Pg 23 has a sentence that doesn't make sense.

- List of trees looks good, but the number of trees per project may be a little high.
- Suggest having a recommendation for what season/time of year is appropriate for these projects. Arborist society has a good calendar for reference.
- Ralph suggested revisiting the natural landscape ordinance.
- What is the status of Gulizar's mini-forest proposals. Tyler indicated there is some work taking place in parks on this. Utility complex may be a good location, too.

Action Items: Members submit comments on the plan in three weeks. Shelli to add the natural landscape ordinance to the next agenda.

6. Staff Updates – Parks and Planning

Parks is finishing up the Foresting the Future tree plantings. They've planted 430 and have 70 left. Trees have been planted I Memorial, Gilmore, Park Springs and Austin Baggett parks.

The library is planning a story walk and hydroponic towers. They are seeking an AARP grant for the story walk and need \$1500 to fund the towers.

Helen made a motion to donate \$1500 from the tree and Landscape Funds to the purchase of the two hydroponic towers at the library; Mark seconded. All in favor, motion passed 5-0.

OTHER BUSINESS

None.

ADJOURNMENT

Mark made a motion to adjourn, Reagan seconded. All in favor, motion passed 5-0.

TREE CANOPY

ASSESSMENT & REFORESTATION PLAN

BENTONVILLE, ARKANSAS
MARCH | 2026





BENTONVILLE, AR

TREE CANOPY ASSESSMENT



When one plants a tree they plant themselves.

Every root is an anchor, over which one rests with grateful interests, and becomes sufficiently calm to feel the joy of living.

-JOHN MUIR



PREPARED BY

PlanIT Geo, Inc., Arvada, Colorado

PREPARED FOR

The City of Bentonville

COMPLETED

March 2026

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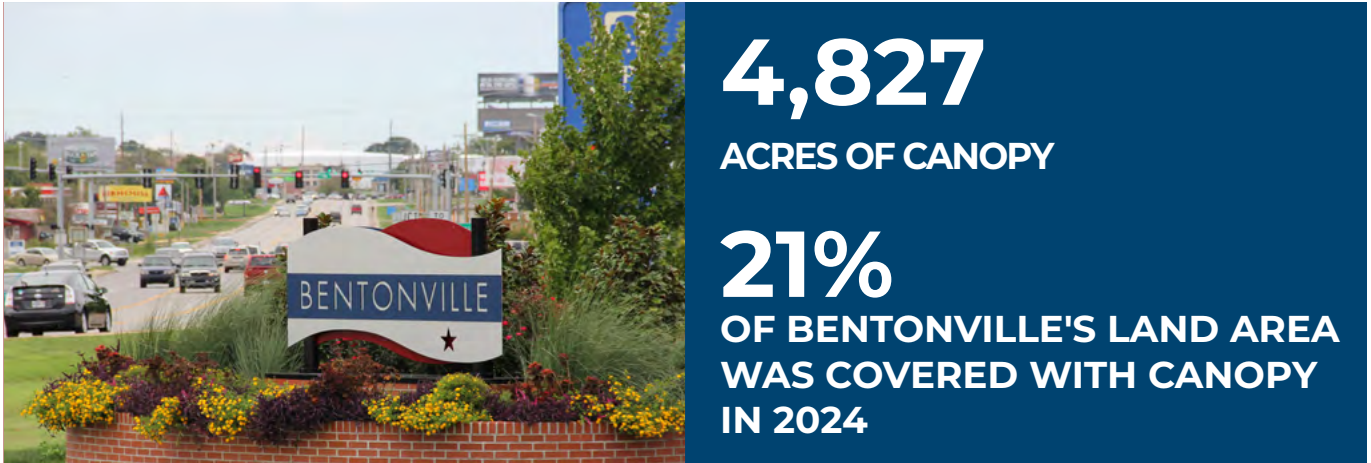
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EXECUTIVE

SUMMARY

PURPOSE AND METHODS

Urban tree canopies are constantly evolving. While new plantings and the growth of existing trees contribute to canopy expansion, factors such as development, natural disasters, disease, and pests lead to canopy loss. These shifts are often difficult to perceive from the ground, but by analyzing past and present aerial imagery, tree canopy changes can be accurately measured. This assessment examines urban tree canopy (UTC), possible planting area (PPA), and canopy change between 2019 and 2024 within the City of Bentonville, located in the northwestern corner of Arkansas and adjacent to Beaver Lake. Bentonville's long-standing commitment to its urban forest is evident in its 26-year designation as a Tree City USA, an achievement that underscores the city's dedication to tree stewardship and sustainability.

The city's urban forest has endured significant challenges over the years, particularly due to a severe weather event in May 2024. The 1.7-mile-wide EF-2 tornado, the largest in Arkansas history, caused substantial damage, primarily in the northern quarter of the city where Slaughter Pen Mountain Bike Park resides. Despite this setback, the City of Bentonville recognizes the importance of rebuilding and strengthening its urban forest. This assessment will be used to develop a strategic reforestation plan to not only replenish lost canopy but also mitigate future losses through proactive measures.

The results, based on 2024 imagery taken after the storm from the Airbus Defence and Space Pleiades program, provide a near-current look at land cover in Bentonville. This study utilized modern machine learning techniques to create land cover data that are reproducible and allow for a more uniform comparison in future tree canopy and land cover assessments. **This assessment report will follow the standards established by the US Forest Service and report tree canopy metrics as a percentage of the land area (excluding water bodies) unless stated otherwise.** The key goals of this tree canopy cover assessment include:

- ▶ Quantify the amount and location of tree canopy and other land cover types
- ▶ Analyze the change in canopy cover from 2019 to 2024
- ▶ Measure the ecosystem services provided by the tree canopy to the community
- ▶ Identify areas where tree canopy can be expanded (Possible Planting Area analysis)
- ▶ Determine priority areas for tree planting initiatives based on socioeconomic, environmental, and climate-related factors
- ▶ Provide data to inform future planning and to establish canopy coverage goals

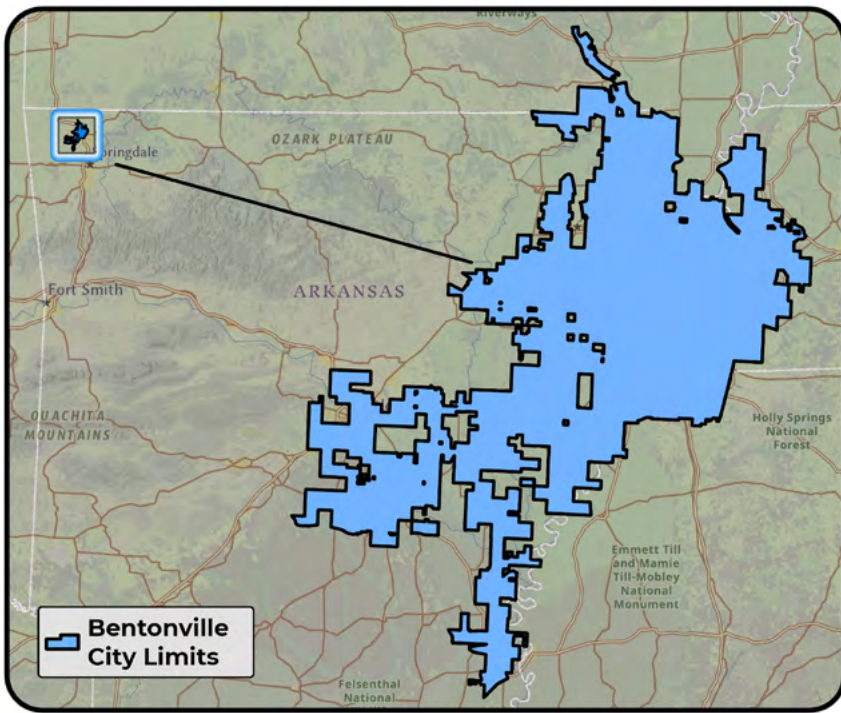


Figure 1. The City of Bentonville occupies approximately 21 square miles in the northwestern corner of Arkansas.

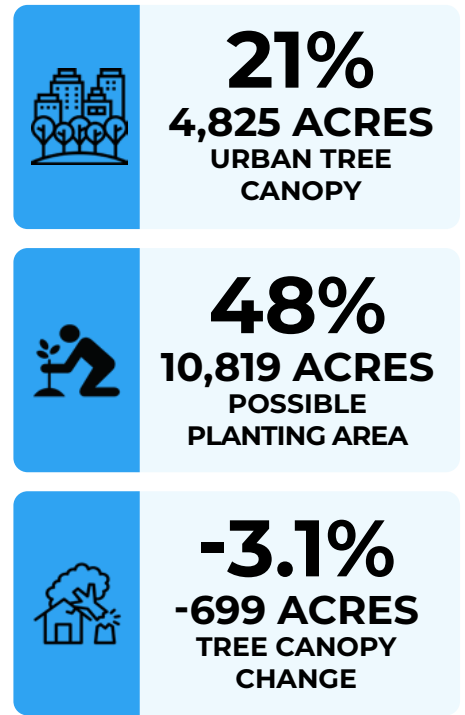


Figure 2. Based on an analysis of 2024 and 2019 high-resolution imagery.

BENTONVILLE'S URBAN FOREST

In 2024, Bentonville's full Area of Interest (AOI), which represents the city limits boundary, excluding bodies of water, had 21% of its land covered with urban tree canopy and 48% available for potential planting. The remaining 31% of the land area was deemed unsuitable for planting without substantial land modification. Bentonville's total area within city limits, including surface water, comprises 21% tree canopy, 48% other vegetation, 26% impervious surfaces, 3% soil and dry vegetation, and less than 1% each of shrubs and water.

Bentonville's urban forest tells a story of resilience and opportunity. In May 2024, the EF-2 tornado carved through one of the city's most densely forested corridors. Yet, the storm path still retains a remarkable 39% tree canopy, almost double the citywide average, despite losing 158 acres of trees. At the neighborhood level, 13 of Bentonville's 38 census block groups contain 64% of the city's total tree canopy, underscoring a striking concentration of canopy cover in a handful of areas. Along streets and rights-of-way, block group 50-070-20704-1 stands out with 33% canopy coverage, the highest in the city's ROWs. Meanwhile, nearly 590 acres of street-adjacent land remain available for new tree plantings citywide. Among parks and city-owned lands, three mountain bike parks (Coler, Handcut Hollow, and Slaughter Pen) dominate, collectively sheltering 70% of all tree canopy in Bentonville's public green spaces, with each park boasting over 75% forest cover.

PROJECT

METHODOLOGY

Land cover, urban tree canopy, and possible planting areas were mapped using the sources and methods described below. These data sets provide the foundation for the metrics reported at the selected geographic assessment scales.

DATA SOURCES

This assessment utilized high-resolution (50-centimeter) multi-spectral imagery from the Airbus Defence and Space Pleiades collected in early October of 2024 to derive the land cover data set. The imagery was used to classify all types of land cover. For canopy change analysis, high-resolution (60-centimeter) multispectral U.S.D.A National Agriculture Imagery Program (NAIP) imagery collected in July and August of 2019 was used to derive the historical tree cover dataset.

MAPPING LAND COVER

The land cover dataset serves as the fundamental component of a tree canopy assessment. Land cover classes were developed by combining training models derived from NAIP imagery and Pleiades imagery to enhance the accuracy of the classification. The data were processed using modern machine learning techniques to extract tree canopy cover and five additional distinct land cover classes from the latest available 2024 Pleiades imagery. These six extracted classes are illustrated in Figure 3.

In distinguishing trees from shrubs, trees are classified as such when they reach a height of approximately 12 feet. However, the classification is not based solely on height; it also employs an object-based classification method that accounts for the different spectral patterns exhibited by shrubs compared to trees.



IDENTIFYING POSSIBLE PLANTING AREAS

In addition to quantifying the City of Bentonville’s existing tree canopy cover, areas where trees can be planted (PPA- Possible Planting Area) were also identified. To assess this, all land area in the City of Bentonville that was not currently tree canopy was classified as either possible planting area (PPA) or unsuitable for planting. Evaluating potential planting area sites is necessary to determine their actual capacity to support trees.

Possible planting areas were derived from the shrubs and other vegetation land cover classes. Unsuitable areas or areas where it was not feasible to plant trees (e.g. recreation fields, utility corridors, stormwater facilities, wetlands, etc.) were manually delineated and overlaid with the existing land cover data set (Figure 4). The final results were reported as PPA Vegetation, Unsuitable Impervious, Unsuitable Vegetation, Unsuitable Soil, and Water.



Figure 4. The study identified vegetated areas where it would be feasible for tree plantings but undesirable based on their current usage (left) in the data as “Unsuitable” (right).



IDENTIFYING TREE CANOPY CHANGE

Tree canopy change was identified by comparing imagery captured from multiple years (2019 and 2024). The figures below provide examples of canopy loss and canopy gain. Overall, the majority of canopy gains can be described by the following three categories: 1) new tree plantings and associated growth 2) natural regeneration of areas previously classified as vegetation (Figure 5), and 3) growth/expansion of canopy previously existing at the time of the historical study. Cause three is the most discrete type and the most difficult to notice. In comparison to gains, losses are generally larger and more noticeable due to large tracts of canopy being cleared for development or lost to storm events. Figure 6 shows an example of the latter.



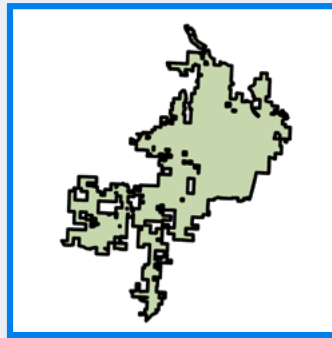
Figure 5. Maturing trees added canopy in this wooded area containing part of Razorback Greenway and the The Meadows Independent and Assisted Living Community from 2019 (left) to 2024 (right).



Figure 6. The EF-2 tornado in May 2024, as well as development, caused a major loss of canopy in this residential area containing R.E. Baker Elementary School from 2019 (left) to 2024 (right).

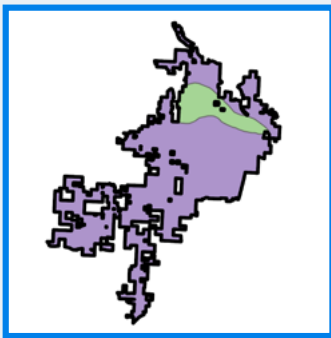
DEFINING ASSESSMENT LEVELS

To best inform the City of Bentonville and other stakeholders, urban tree canopy and other associated metrics were tabulated across several geographic boundaries. These assessment levels include the Bentonville city boundary (full AOI), the 2024 EF-2 tornado path, census block groups, rights-of-ways summarized by census block groups, and parks, trails, & other city-owned parcels.



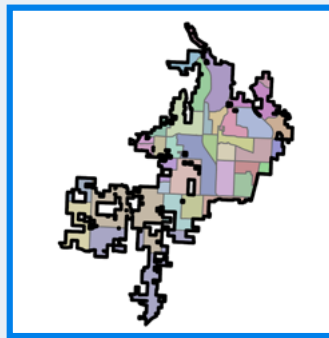
Bentonville City Limits

The Bentonville City Limits boundary is the one (1) main area of interest over which all metrics are summarized.



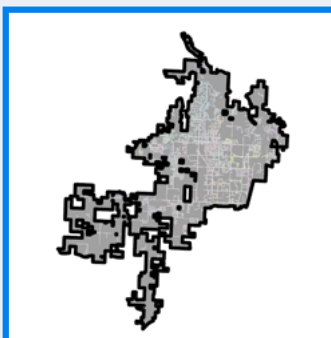
2024 EF-2 Storm Path

The storm path was delineated and assessed to understand the impact the tornado had on areas directly within the path versus areas outside of the direct path (2).



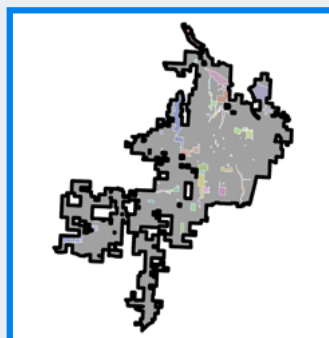
Census Block Groups

Thirty-eight (38) census block groups were assessed to show relationships between canopy and sociodemographic factors, and highlight potential environmental justice issues.



Rights-of-Way Within Census Block Groups

Tree canopy was assessed for rights-of-way within thirty-eight (38) census block groups to identify areas where the city has the capacity to manage and improve tree cover along roads and sidewalks.



Parks, Trails, & Other City-Owned Parcels

Fifty-eight (58) parks, trails, and other city-owned parcels were assessed to better understand tree canopy cover within urban green spaces and other areas under the city's jurisdiction.

Figure 7. Five (5) distinct geographic boundaries were explored in this analysis: Bentonville city limits (full AOI), the 2024 EF-2 storm path, census block groups, rights-of-way by census block groups, and parks, trails & other city-owned property.

STATE OF THE CANOPY AND KEY FINDINGS

The results of this study can be used to design a strategic approach to identifying existing canopy and future planting areas. The land cover data presented below depict Bentonville's current city limits.

Figure 8 illustrates the distribution of land cover in Bentonville, including water bodies. Tree canopy covers 21% of Bentonville's boundary. Vegetation like grass and low shrubs account for approximately 49% while impervious surfaces comprise 26% of the boundary. Soil and dry vegetation cover 3% of the area, and lastly, shrubs and water each represent less than 1% of the city boundary.

Table 1. Land cover classes in acres and percent in Bentonville.

Land Cover Class	Acres	% of Total
Non-Canopy Vegetation	10,999	48%
Impervious Surfaces	6,037	26%
Tree Canopy Cover	4,827	21%
Soil & Dry Vegetation	663	3%
Shrubs	166	0.70%
Water	131	0.60%

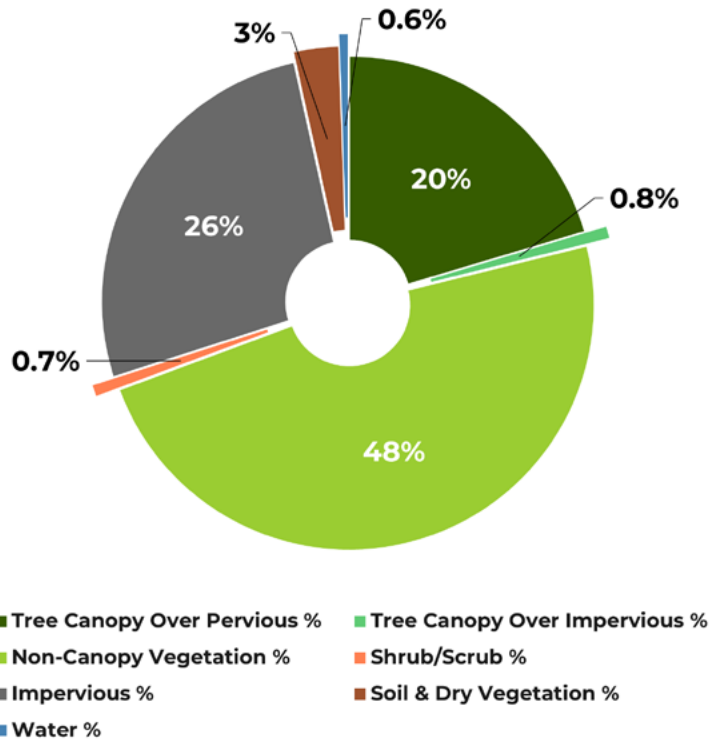
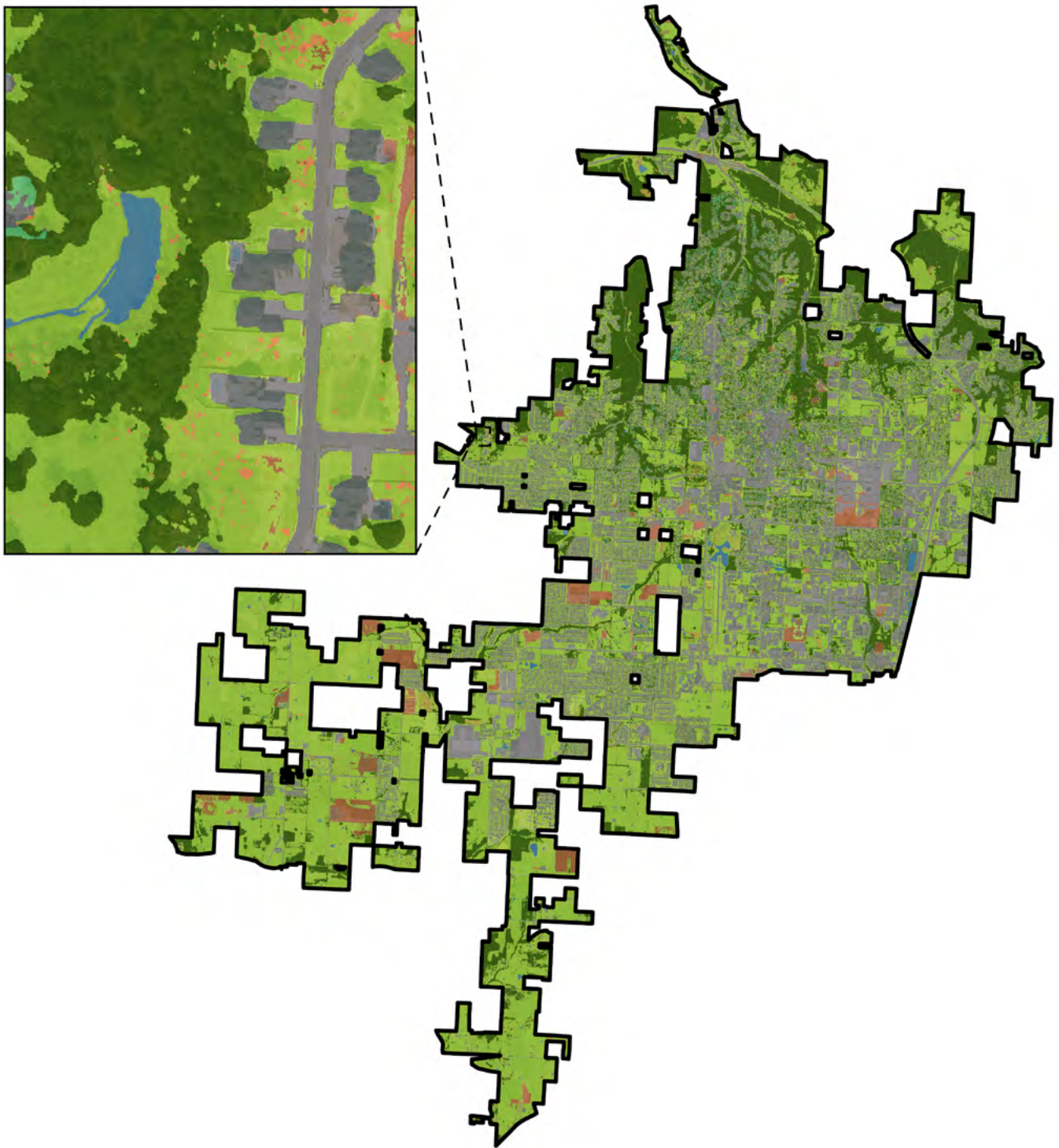


Figure 8. Distribution of land cover classes throughout the City of Bentonville.



Land Cover Classification

- | | |
|-----------------------------|-------------------------|
| Tree Canopy | Impervious |
| Tree Canopy Over Impervious | Water |
| Non-Canopy Vegetation | Soil and Dry Vegetation |


Figure 9. Land cover classification results (percentages based on total area of Bentonville's full AOI including water bodies).

CITY-WIDE TREE CANOPY COVER

This urban tree canopy assessment utilized the land cover data as a foundation to determine tree canopy cover and possible planting areas (PPA) throughout the City of Bentonville. Results of this study indicate that within the city, 4,827 acres are covered with urban tree canopy, making up 21% of the city’s 22,693 land acres; 10,819 acres are covered with other vegetation where it would be possible to plant trees, making up 48% of the city; and the other 7,046 acres were considered unsuitable for tree planting, making up 31% of the city. Impervious surfaces made up 86% (or 6,037 acres) of total unsuitable areas. The remaining 1,009 acres of unsuitable vegetation include areas such as golf course fairways, airports, utility corridors, recreation fields, open spaces in parks, and wetlands.

Table 2. Tree canopy potential in acres and percent in Bentonville.

UTC Potential Class	Acres	% of Total
Potential Planting Area	10,819	48%
Unsuitable	7,046	31%
Existing Tree Canopy	4,827	21%



Between 2019 and 2024, the City of Bentonville lost 699 acres (-3.1%) of tree canopy.

CITY-WIDE TREE CANOPY CHANGE

Over the 5-year study period, Bentonville’s tree canopy expanded. Within the city boundaries, canopy coverage decreased by 699 acres, representing a 3.1% absolute loss from 2019 to 2024. While canopy coverage likely fluctuated throughout this period, this assessment captures a snapshot of conditions based on the timing of the imagery used. Canopy growth can be attributed to several factors, including the natural expansion of existing trees, new tree plantings, and natural regeneration through seed dispersal. In contrast, most significant canopy losses were linked to the EF-2 tornado in 2024 and land clearing for new developments, particularly on previously vacant lots.



CANOPY AND IMPERVIOUS SURFACES

The city’s 4,827 acres of urban tree canopy were further divided into subcategories based on whether the canopy was overhanging pervious or impervious surfaces. Tree canopy overhanging an impervious surface offers many ecological advantages, such as localized cooling through shading and increased storm-water absorption. Results indicated that Bentonville’s UTC was predominantly overhanging pervious surfaces at 96%, while only 4% was overhanging impervious surfaces. Planting trees in rights-of-way, along streets and sidewalks, and in other public areas, as well as strengthening ordinances for planting around parking lots in new developments, can help to offset the negative effects of impervious surfaces.

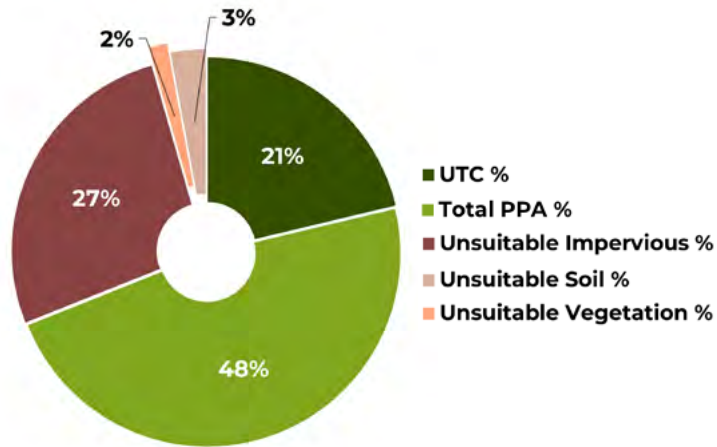


Figure 10. Tree canopy, possible planting area, and area unsuitable (impervious, soil, vegetation) for tree canopy throughout the City of Bentonville.

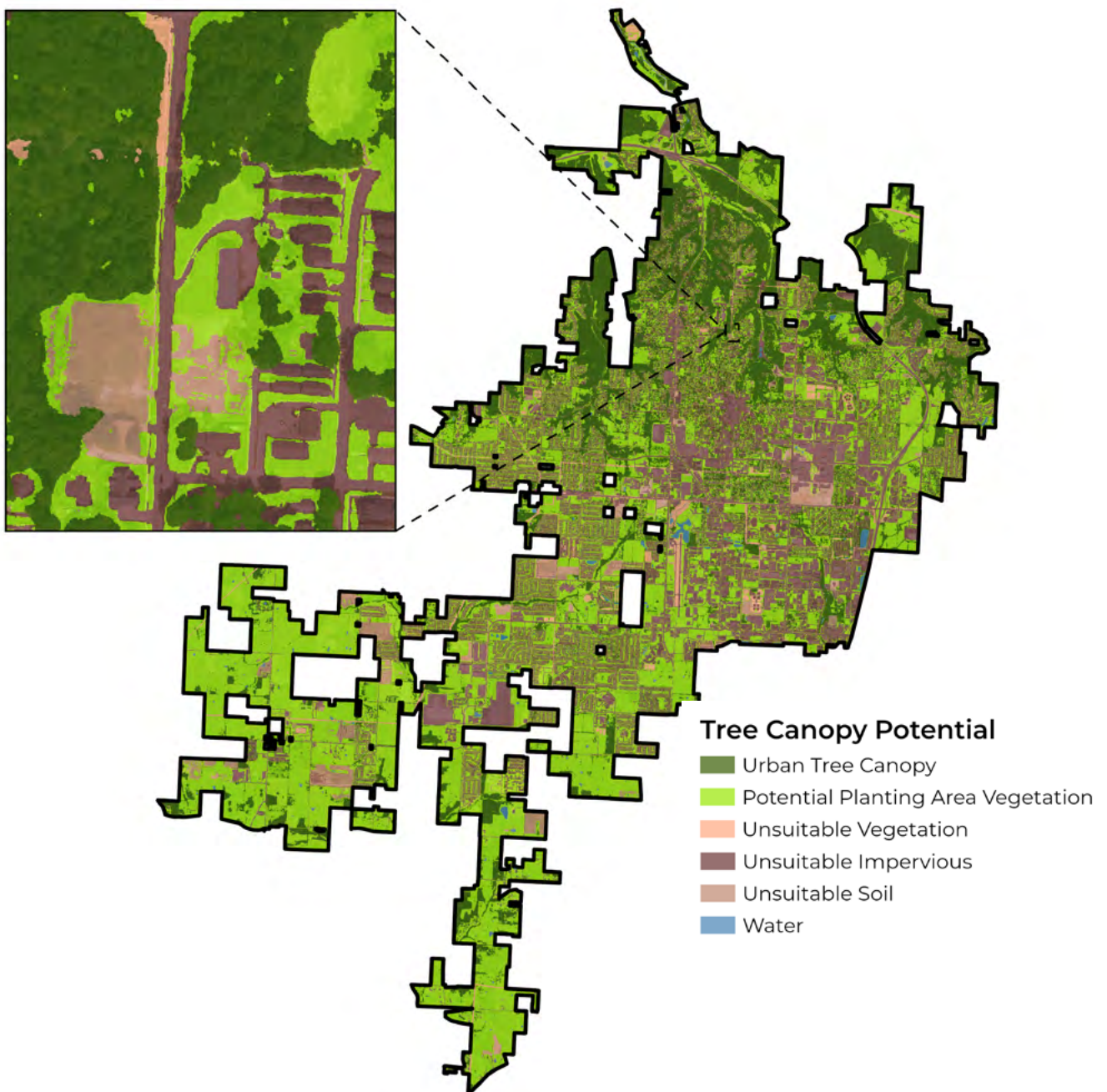


Figure 11. Tree canopy, possible planting area, and area unsuitable (impervious, soil, vegetation) for tree canopy throughout the City of Bentonville.

TREE CANOPY COVER BY 2024 EF-2 STORM PATH

To assess the impact of the EF-2 tornado that struck in May 2024 on Bentonville’s urban forest, the storm’s path was delineated and urban forestry metrics were calculated within it. This analysis enables the City of Bentonville to quantify the most severe damage caused by the storm and begin planning for recovery. The tornado’s path passed through the northern corner of the city, including Slaughter Pen Mountain Bike Park and the intersection of Tiger Boulevard and North Walton Boulevard.

The storm path cut through one of the most densely forested areas in Bentonville and, despite the damage, still retains a 39% urban tree canopy, significantly higher than the citywide average of 21%. In contrast, areas outside the storm path have an average UTC of just 19%. Although the storm path accounts for only 10% of the city’s total area, it contains 18% of Bentonville’s overall tree canopy. In addition to the remaining 882 acres of canopy, the storm-affected area also includes 749 acres of open space, offering substantial potential for replanting and restoration efforts.

Between 2019 and 2024, the areas most affected in Bentonville by the 2024 EF-2 tornado lost 158 acres of tree canopy, equating to a 7% net loss.

2024 EF-2 STORM PATH TREE CANOPY CHANGE

Over the five-year study period, the storm path experienced a net loss of 158 acres of tree canopy, representing a 6.9% net decrease. In comparison, areas outside the storm path lost 548 acres, equating to a smaller net decline of 2.7%, demonstrating that the large loss in the storm path from 2019 to 2024 can largely be attributed to the storm itself. Aerial imagery reveals that within the storm-affected area, much of the canopy loss occurred along the edges of forested tracts, as well as from the loss of large, mature trees in residential neighborhoods.

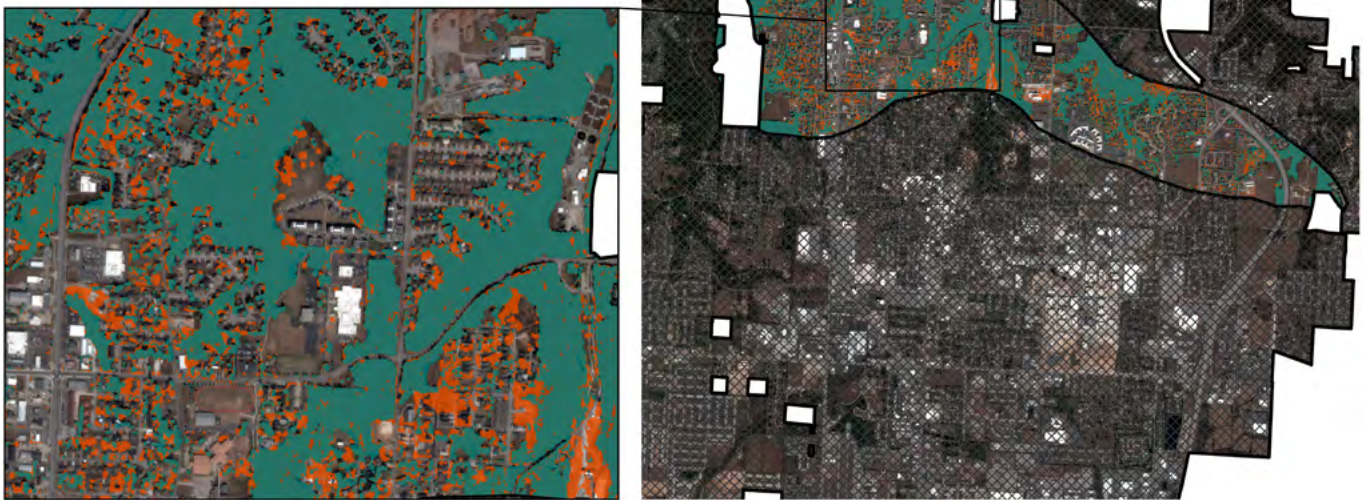


Figure 12. Canopy loss within the 2024 EF-2 storm path in northern Bentonville. Orange indicates tree canopy that was lost, while teal indicates tree canopy that was either maintained or gained between 2019 and 2024.

TREE CANOPY COVER BY CENSUS BLOCKS GROUPS

UTC and PPA were also assessed at the census block group level, which is valuable for determining the equitable distribution of tree canopy throughout Bentonville, as the block groups are linked to readily available demographic and socio-economic data. This geographic scale is the second smallest unit of measure at which the U.S. Census publishes statistical data within a state and represents between 600 and 3,000 people.

Of Bentonville's 38 census block groups, 13 have tree canopy percentages at or above the city-wide average of 21%. Collectively, these block groups account for 32% of Bentonville's total land area but contain 64% of the city's urban forest canopy. The highest-density UTC census block groups are located in northernmost Bentonville. In contrast, 14 block groups have 10% or less UTC. These lower-canopy areas are generally concentrated throughout central Bentonville.

In terms of potential planting area, 12 block groups have at least half of their land available for potential planting, totaling 6,408 acres. Meanwhile, 5 block groups in Bentonville have impervious surfaces covering 50% or more of their land, which significantly limits opportunities for expanding urban tree canopy. However, they still collectively offer nearly 370 acres of open space, providing important opportunities to mitigate urban heat island effects and manage stormwater to reduce flooding in these areas.

CENSUS BLOCK GROUPS TREE CANOPY CHANGE

Between 2019 and 2024, tree canopy increased in four block groups, decreased in 24 block groups, and remained relatively stable (with changes of less than $\pm 1\%$) in the remaining 10 block groups. Block group 50-070-20904-2 experienced the largest proportional canopy loss with a decline of 21 acres, representing a -14.6% net decrease. In terms of acreage loss, block group 50-070-21304-3 had the largest decline of 81 acres (-2.9% net loss). Block group 50-070-20704-1 had the largest proportional and acreage increase, gaining twelve acres of tree canopy over the five years (+4.1% net gain).

As expected, the block groups that experienced the greatest canopy loss were situated within or adjacent to the boundary of the 2024 EF-2 storm path. The neighboring census block groups north of the storm path performed better than those to the south.



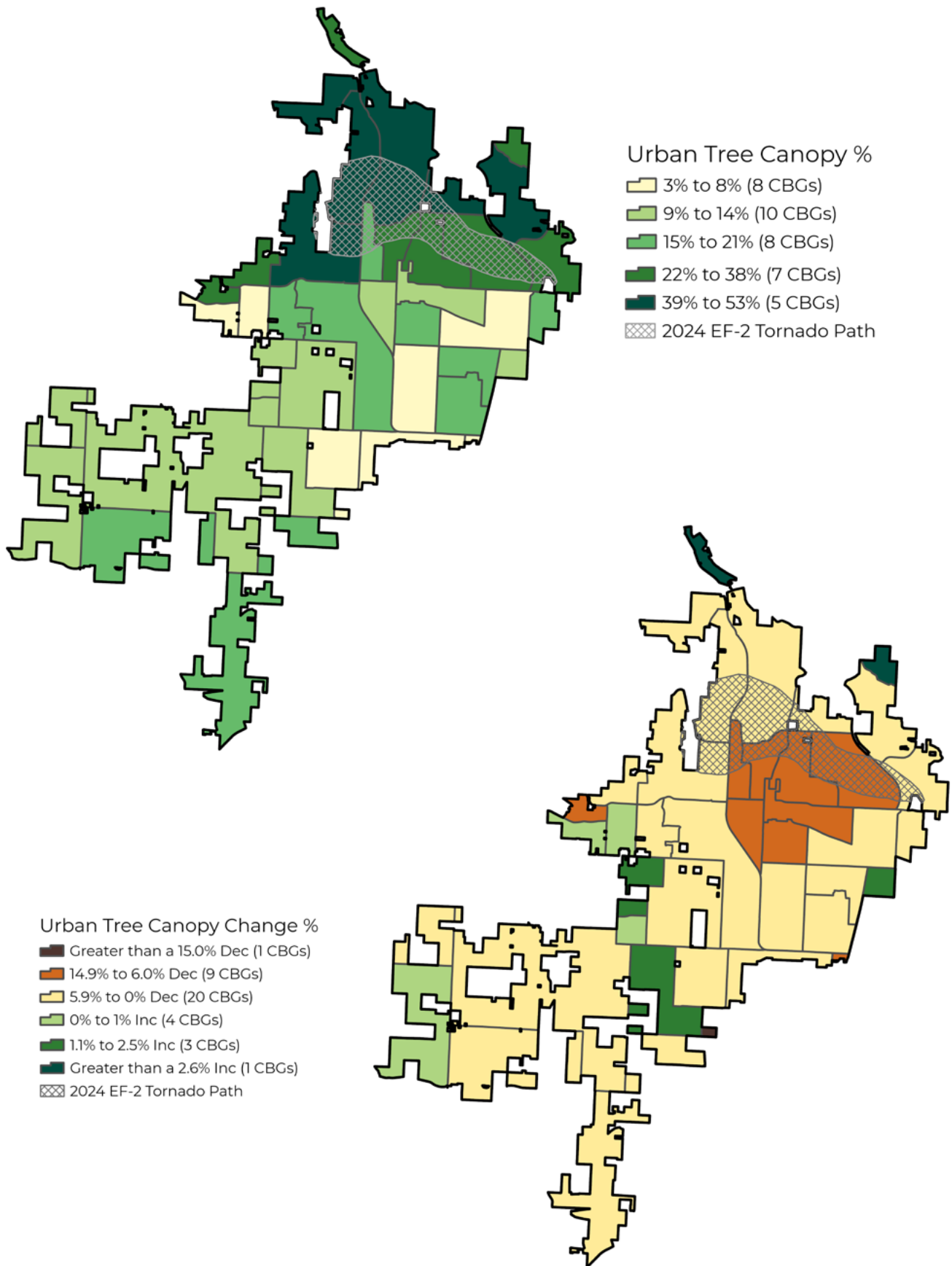


Figure 13. UTC (top) and UTC change (bottom) percentages by census block groups.

TREE CANOPY COVER BY RIGHTS-OF-WAY

Urban tree canopy data was evaluated within rights-of-way (ROW) and summarized by census block groups to better understand tree cover along streets and roadways. This analysis highlights the extent of trees in areas managed and maintained by the City of Bentonville. The city's ROW comprises approximately 10% of the total land area (2,170 acres) with an average tree canopy coverage of 13%. Currently, ROW areas contribute 8% of the city's overall tree canopy.

Among all census block groups, 50-070-20704-1 has the highest ROW canopy coverage at 33%, followed by 50-070-20605-3 and 50-070-20102-1, with 30% and 29% UTC, respectively. Notably, block group 50-070-20605-3 contains the largest share of ROW tree canopy by area, with 33 acres, about 12% of the city's total ROW canopy. In contrast, there are 10 block groups where ROW canopy coverage is below 5%, indicating limited street tree presence. Additionally, 12 block groups have ample opportunity for new plantings, with at least 30% of their ROW area classified as potential planting area. In some block groups, low overall canopy coverage paired with relatively high ROW canopy may suggest that private properties or other public lands, such as parks, lack sufficient tree cover.

Although ROW areas average 57% impervious surface cover and represent only 3% of the city's total PPA, planting trees in these locations can make a visible and meaningful difference by shading streets and sidewalks in areas most lacking canopy. Since ROW areas typically occupy a small portion of each block group but are highly visible and heavily used, focusing planting and preservation efforts in these spaces is an effective strategy. Altogether, approximately 590 acres of ROW are available for new tree plantings, offering a key opportunity to enhance shade, beauty, and canopy coverage along Bentonville's streets.

RIGHTS-OF-WAY TREE CANOPY CHANGE

Between 2019 and 2024, rights-of-way tree canopy increased in three block groups, decreased in 28 block groups, and remained relatively stable (with changes of less than ±1%) in the remaining 7 block groups. Rights-of-way in Bentonville had a net loss of 92 acres of tree canopy (-4.2% net loss). Rights-of-ways in twelve block groups had a net decrease of 5% or more.

With a few exceptions, the pattern of canopy loss within ROW closely mirrors the overall canopy decline in the corresponding census block groups. The census block groups within the 2024 EF-2 storm path and just south of it experienced the greatest loss.

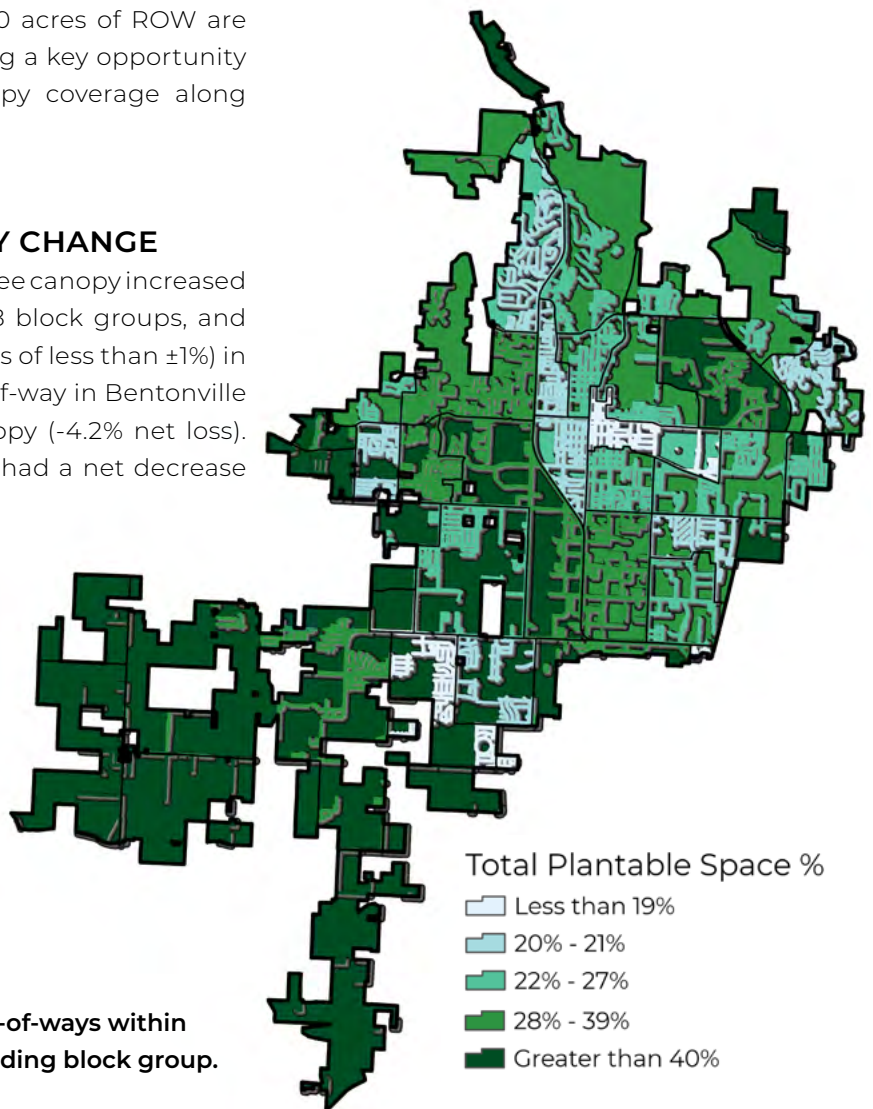


Figure 14. PPA percentages by rights-of-ways within census block groups and the corresponding block group.

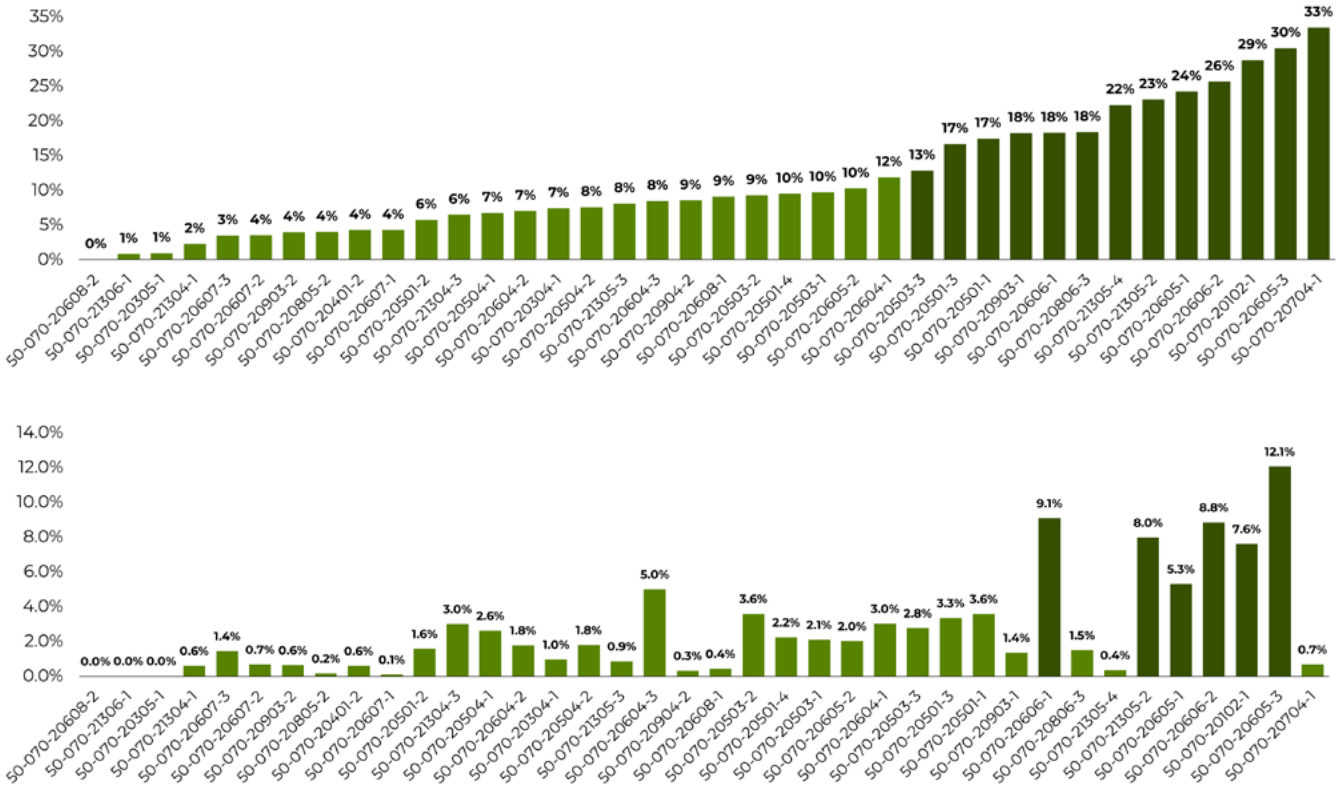



Figure 15. UTC (top) and UTC distribution (bottom) by rights-of-way summarized by census block groups. The dark green columns represent rights-of-way with higher than average UTC percentages (top) and the six rights-of-way that constitute 50% of the overall urban forest within rights-of-way.



Bentonville's rights-of-way have a low average tree canopy coverage of 13%, but there is an opportunity to enhance tree canopy shading adjacent to sidewalks and roads by utilizing the 590 acres of possible planting area.



TREE CANOPY COVER BY PARKS, TRAILS, & OTHER CITY-OWNED PARCELS

Tree canopy metrics were evaluated for 41 parks, trails, and other city-owned parcels throughout Bentonville. Together, these properties cover 1,191 acres, representing about 5% of the city’s total land area, and contain 451 acres of tree canopy, which accounts for 9% of Bentonville’s overall urban tree canopy. Assessing tree canopy in city-owned areas helps establish realistic canopy goals for greenspaces directly managed by the city. Eighteen properties have urban tree canopy percentages higher than the city-wide average of 21%, and collectively contribute 415 acres, or 92% of the tree canopy found across all city-owned properties. Of the 41 properties, 28 are designated as parks or trail systems, and these have an average UTC of 42%, providing 369 acres of tree canopy. The remaining 13 properties are city-owned parcels containing government buildings and other public non-park areas, with an average UTC of 26% and a total of 82 acres of tree canopy.

Slaughter Pen Mountain Bike Park, the Waste Water Compost Plant, Bella Vista Lake Park, and the planned area for 8th Street Gateway Park together contain the highest shares of city-owned tree canopy, accounting for 45%, 14%, 11%, and 8% of the total, respectively. Collectively, these four properties represent 77% of the total canopy across all city-owned properties, with each site containing higher-than-average tree canopy (84%, 57%, 39%, and 34% UTC, respectively).

In contrast, Citizen’s Park and Orchards Park have notably low canopy coverage, each with less than 5% UTC, but both offer significant potential for new tree planting, as more than 40% of their land is suitable for additional trees. Although much of their space is devoted to recreational fields and open green areas, the large number of visitors to these parks presents an opportunity to enhance comfort and usability by strategically planting trees for shade. When it comes to the greatest room for canopy expansion, Bella Vista Lake Park stands out with 42% of its area available for planting, representing 13% of the city’s total potential planting area.

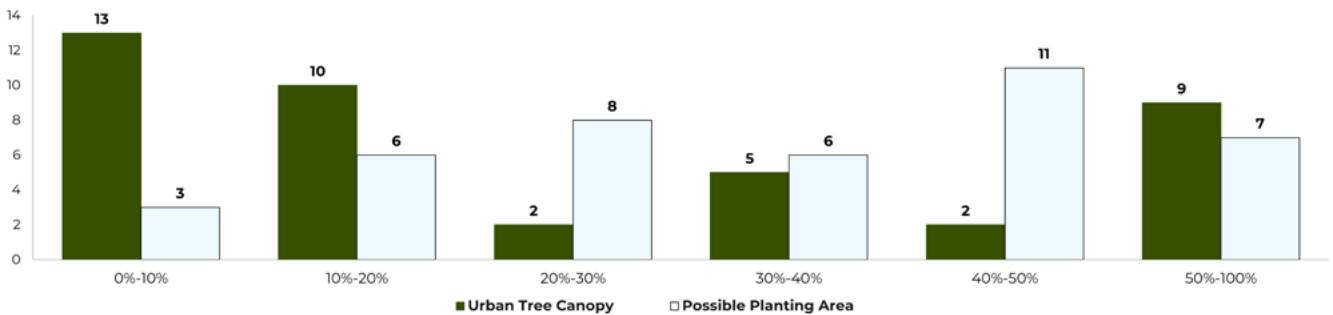


Figure 16. Distribution of parks, trails, and other city-owned parcels within UTC and PPA ranges.

PARKS, TRAILS, & OTHER CITY-OWNED PARCELS CANOPY CHANGE

Over the five-year assessment period, 22 city-owned properties experienced a decrease in tree canopy, while 8 properties saw an increase, and the remaining 11 properties remained relatively stable, with changes of less than ±1%. Philips Park experienced the largest canopy loss, with a reduction of 9 acres, representing a 17% net decrease. In contrast, Bella Vista Lake Park recorded the greatest canopy gain, adding 8 acres for a 6.6% net increase. Overall, the 28 park and trail properties together experienced a net loss of 9 acres of tree canopy, reflecting a 1% absolute decrease. Meanwhile, the 13 city-owned non-park areas saw a modest increase of 0.4 acres, which corresponds to a small 0.1% gain in tree canopy.

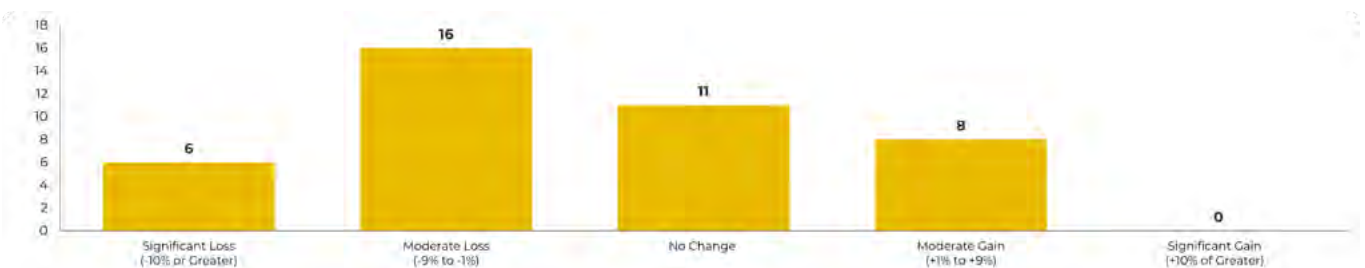


Figure 17. Distribution of parks, trails, and other city-owned parcels within UTC change ranges.

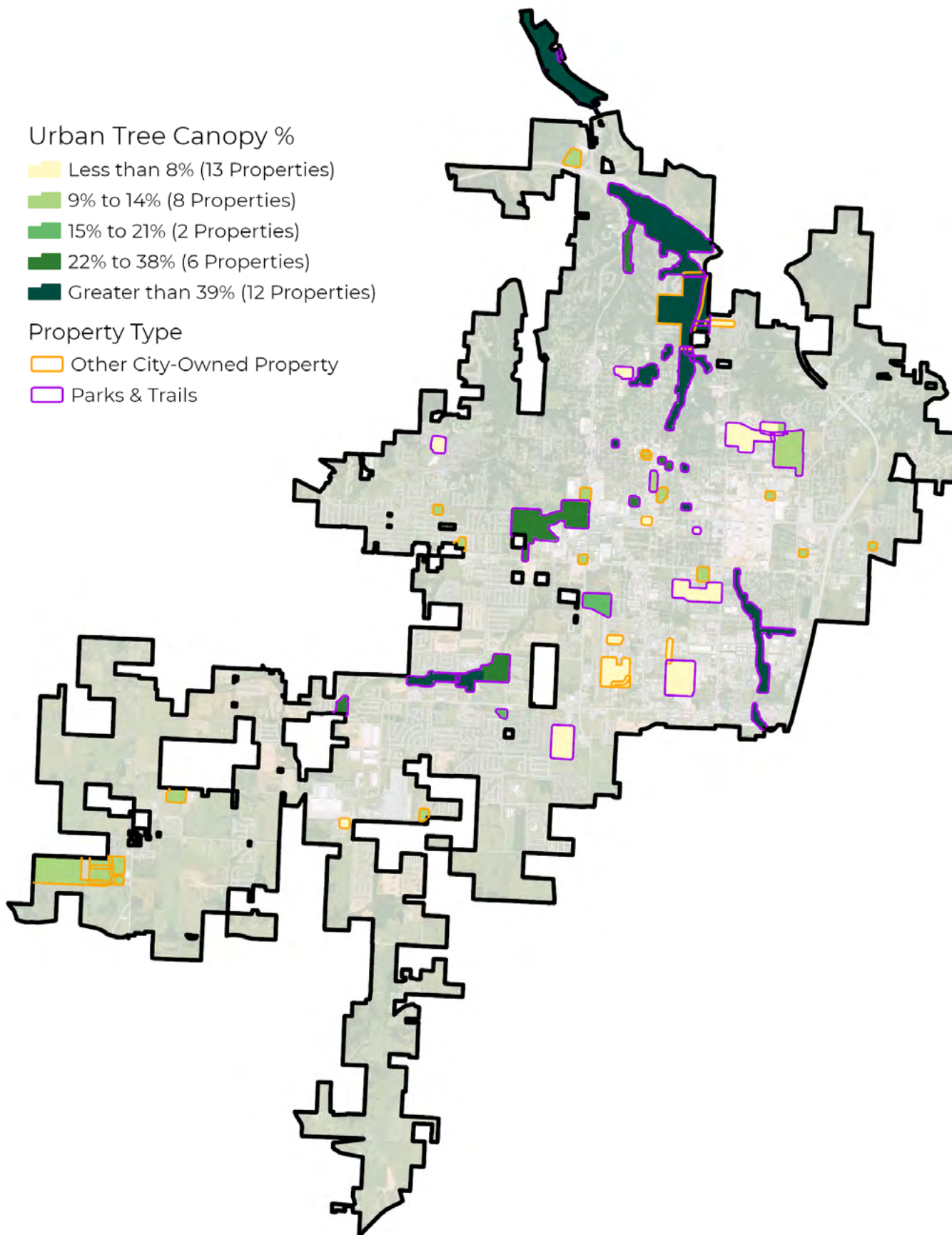


Figure 18. Urban tree canopy percent by parks, trails, and other city-owned property.

TREE PLANTING PRIORITIZATION

Increased tree canopy cover can provide a wide array of benefits to a local community and its residents and visitors. To locate specific areas in need, nine variables representing a range of socio-economic, demographic, and accessibility factors were analyzed at the census block group level. The five socioeconomic variables incorporated into this assessment were sourced from the 2022 U.S. Census American Community Survey 5-year summaries, and urban heat island information was derived from surface temperature data captured on September 14, 2024. Each variable was normalized and assigned equal weight in the prioritization criteria, and the final score for each CBG was calculated by summing the normalized values. The rankings range from high priority (dark blue) to low priority (light yellow) and were calculated for each criterion, as well as overall, to highlight where multiple needs overlap. For a description of each variable that comprised the overall prioritization ranking, see Figure 19 on the following page.

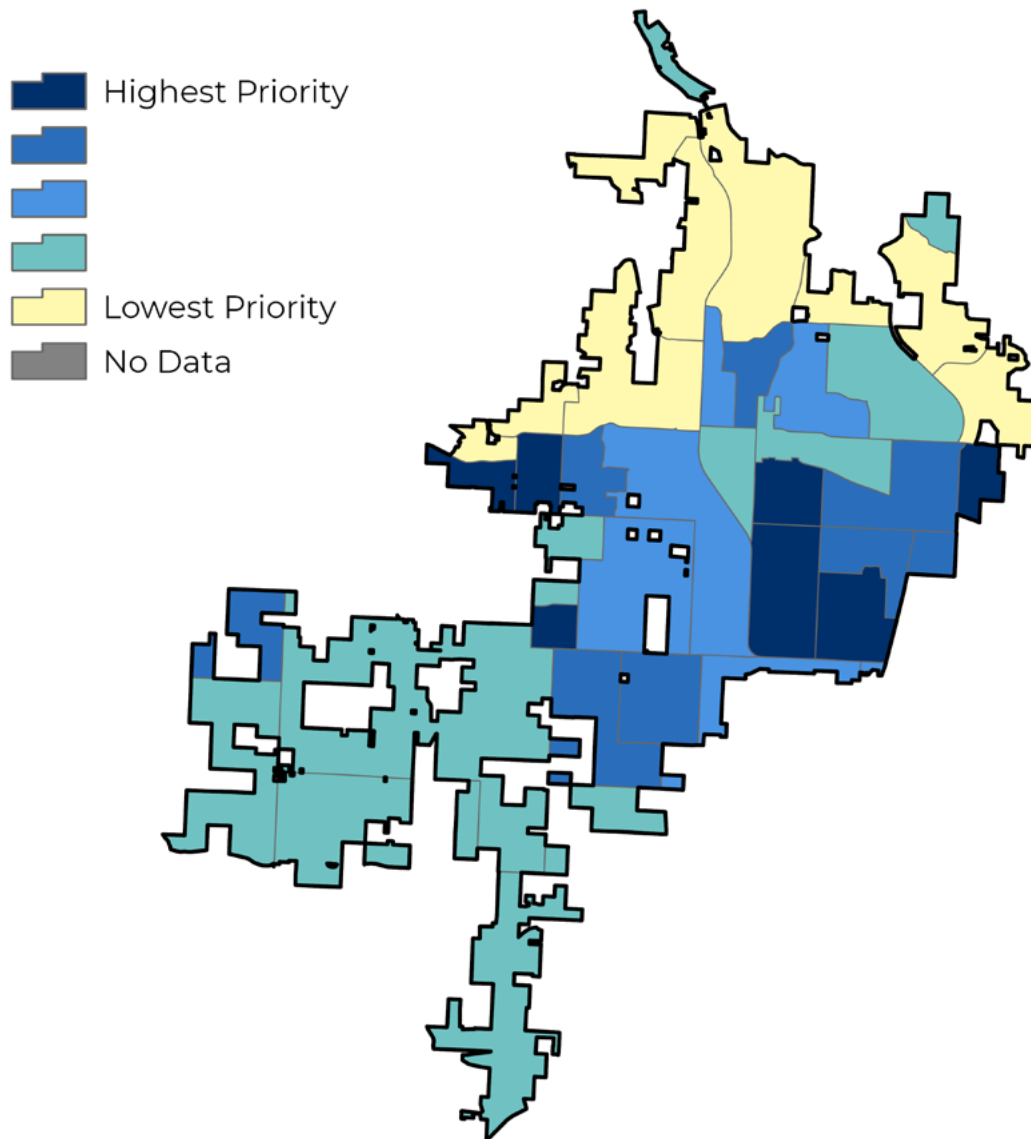
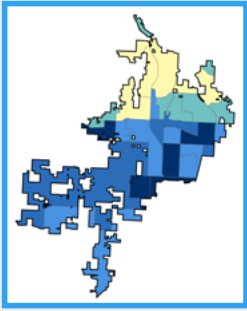
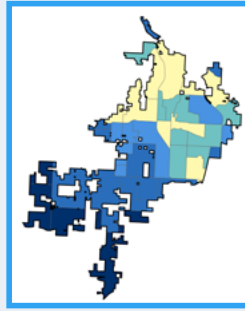


Figure 19. Overall prioritization rankings for Bentonville's census block groups. Lower rankings (darker blue) indicate higher priority for tree plantings.



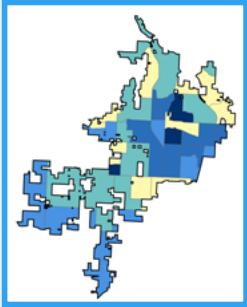
Low Existing Tree Canopy:

Census block groups with lower tree canopy cover percentages and higher non-canopy land are prioritized for planting.



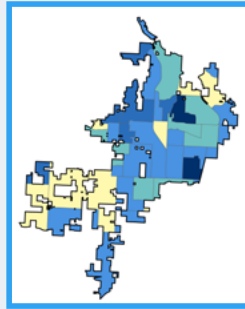
Possible Urban Tree Canopy:

Census block groups with greater plantable area are prioritized for expanding urban tree canopy.



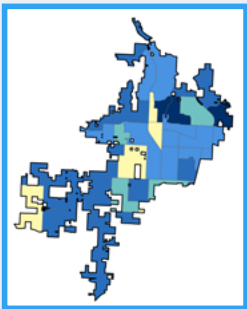
Poverty Rate:

Census block groups with higher percentages of residents below the poverty level are prioritized for planting to enhance benefits designated poverty level.



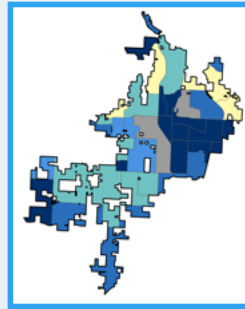
Unemployment Rate:

Census block groups with higher unemployment rates are prioritized for planting opportunities.



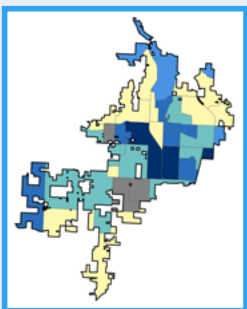
Vulnerable Population:

Census block groups with larger ratios of residents under 18 or over 65 are prioritized for planting to support vulnerable populations.



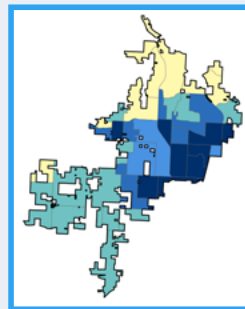
Median Household Income:

Census block groups with lower median household incomes are prioritized for planting to address environmental inequality.



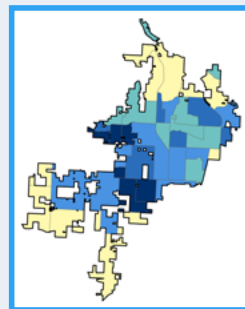
Educational Attainment:

Census block groups with lower percentages of residents with a high school diploma or GED are prioritized for planting to improve outcomes.



Urban Heat Island:

Census block groups with higher surface temperatures are prioritized for planting to mitigate the effects of heat.



Stormwater Mitigation:

Census block groups with larger percentages of plantable space within 100-ft of impervious surfaces and water bodies are prioritized for planting to improve stormwater management.



QUANTIFYING ECOSYSTEM BENEFITS

ECOSYSTEM BENEFITS

The i-Tree Landscape tool was used to calculate the benefits and functions of the canopy throughout Bentonville, drawing on the latest available research and field-collected data. This tool estimates the monetary value of ecosystem services by applying standardized economic models and quantifying benefits derived from current landscape conditions. Trees provide oxygen, indirectly reduce pollution by lowering air temperature, and improve public health by decreasing air pollutants that can cause illness and death. Tree canopy has also been demonstrated to mitigate stormwater runoff, minimizing flood risk, stabilizing soil, reducing sedimentation in streams and riparian land, and absorbing pollutants, thereby improving water quality and habitats. Additionally, trees sequester carbon from the atmosphere through photosynthesis and store it long-term in their biomass. **Bentonville's existing canopy provides over \$1.7 million annually in avoided infrastructure costs and an additional \$26.1 million in stored carbon, with i-Tree Landscape outputs further refined using the tree canopy acreage obtained from this high-resolution assessment for more precise calculations** ([see here](#) for more detailed i-Tree methodology).

THE VALUE OF BENTONVILLE'S COMMUNITY FOREST

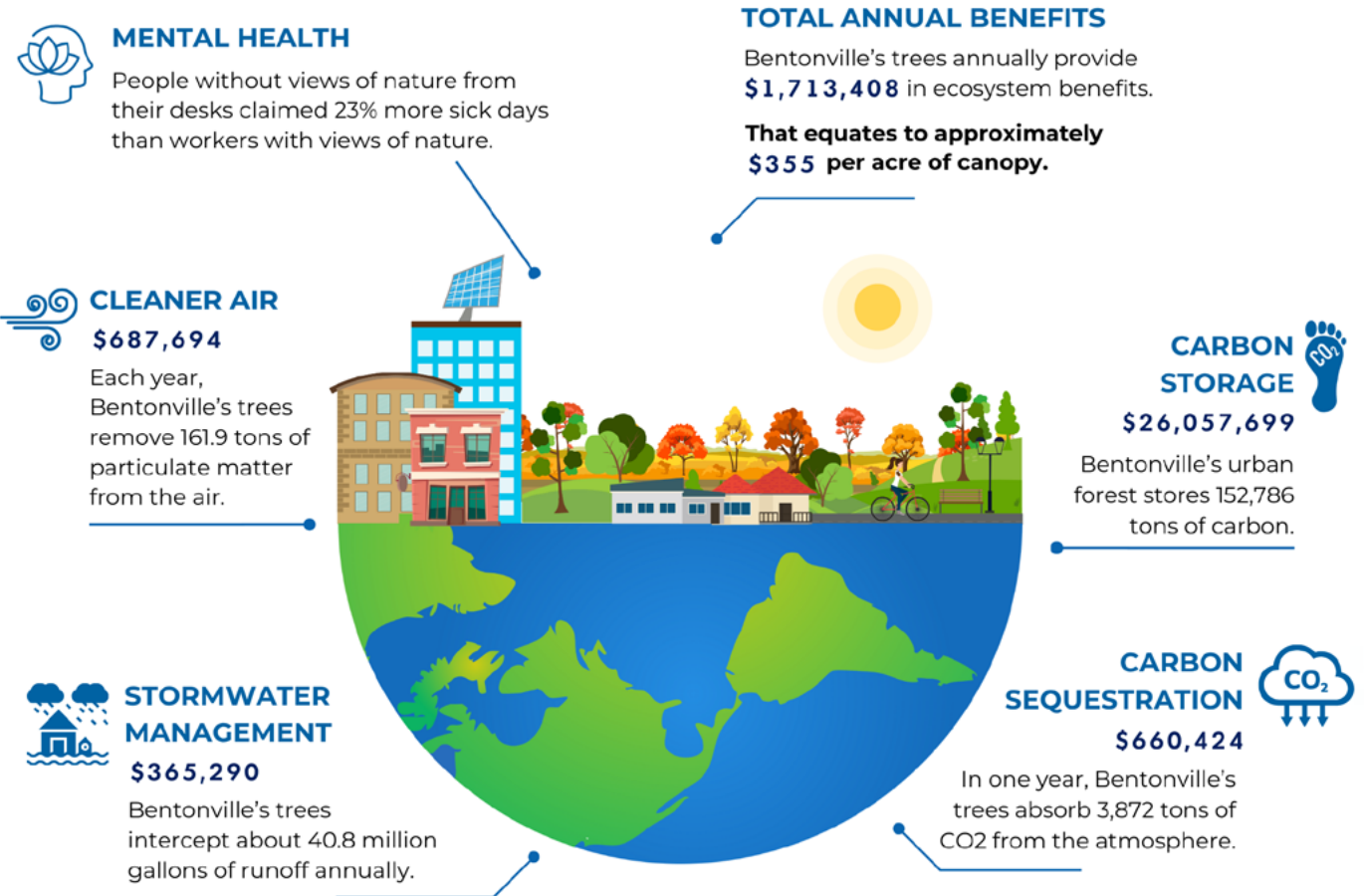


Figure 20. Ecosystem service benefits of Bentonville's canopy cover. Data sourced from i-Tree, the US Forest Service, the Arbor Day Foundation, and the U.S. Environmental Protection Agency.

REFORESTATION

PLANTING PLAN



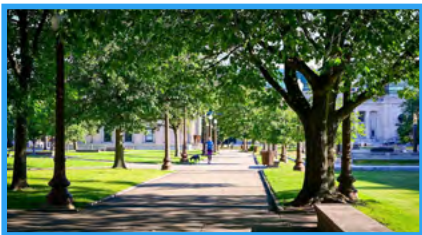
GOAL 1:

EQUITABLE CANOPY COVER



GOAL 2:

CLIMATE RESILIENCE



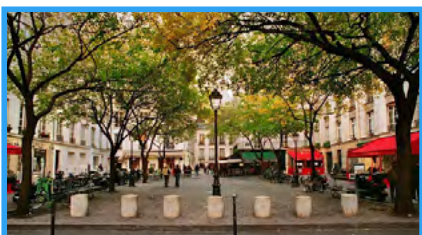
GOAL 3:

RIGHT TREE RIGHT PLACE



GOAL 4:

INNOVATIVE DESIGN



GOAL 5:

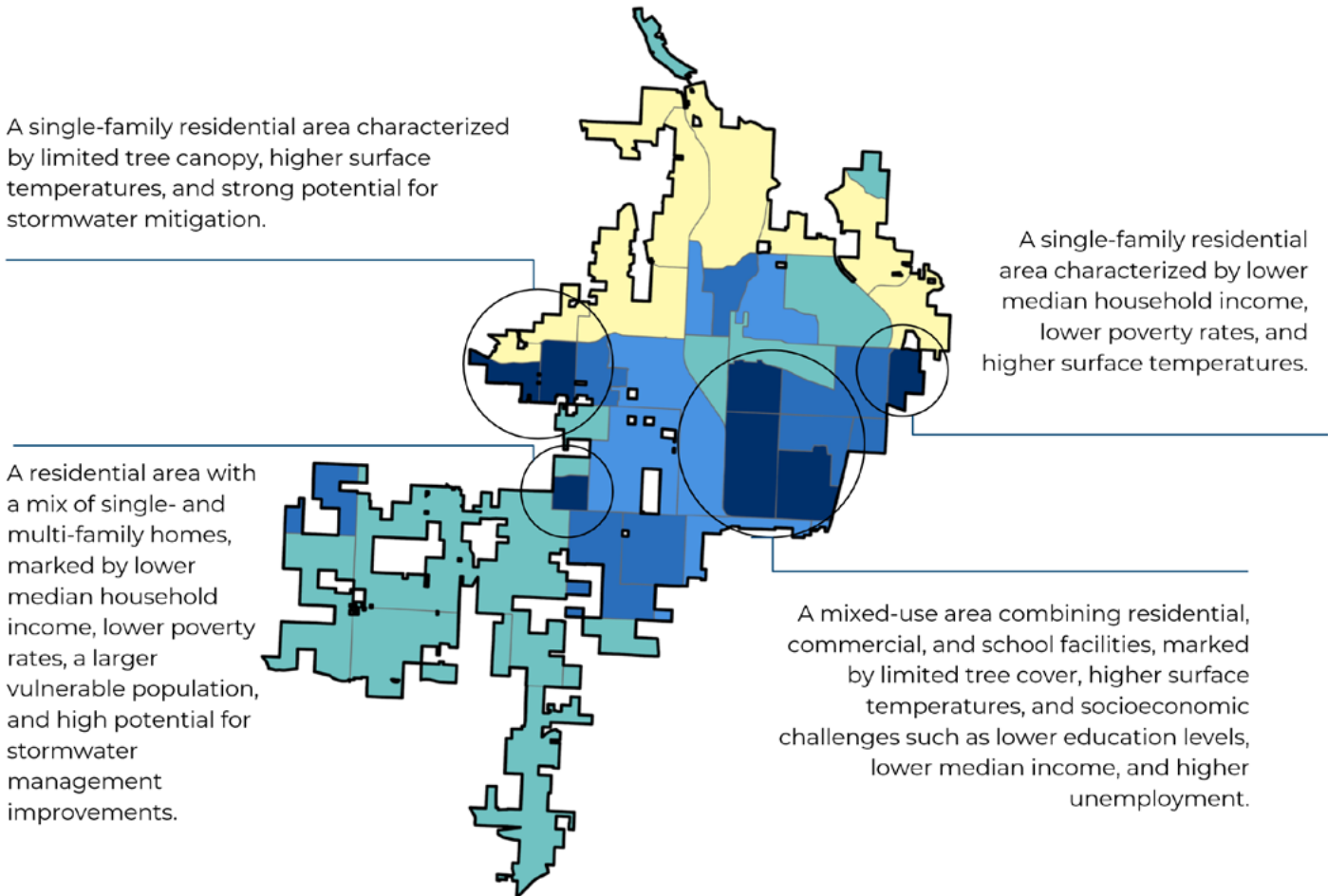
ALIGN WITH TRANSECT ZONING

GOAL 1: EQUITABLE CANOPY COVER

Prioritizing tree equity fosters a stronger, healthier community in Bentonville and aligns with the vision and guiding principles of the Bentonville Community Plan (2025). The tree planting prioritization analysis used five socioeconomic variables (poverty rate, unemployment, vulnerable populations, median household income, and educational attainment) with the distribution of urban tree canopy throughout Bentonville, providing recommended areas to address replanting first (Figure ##). Planting in these areas will have the greatest impact on public health, climate resilience, and quality of life for residents who need it most.

This approach also supports both near-term and long-term planning by providing a data-driven framework for setting goals, tracking progress, and ensuring accountability. In the short term, this prioritization assessment targets immediate planting efforts in high-need neighborhoods, maximizing the return on investment in terms of social and environmental benefits. Over the long term, integrating socioeconomic and canopy data helps guide sustained efforts to grow and maintain urban forests, adapt to changing demographics, and build more resilient, equitable cities.

Tree Planting Prioritization



GOAL 2:

CLIMATE RESILIENCE

Prioritizing tree equity fosters a stronger, healthier community in Bentonville and aligns with the vision and guiding principles of the Bentonville Community Plan (2025). The tree planting prioritization analysis used five socioeconomic variables (poverty rate, unemployment, vulnerable populations, median household income, and educational attainment) with the distribution of urban tree canopy throughout Bentonville, providing recommended areas to address replanting first (Figure ##). Planting in these areas will have the greatest impact on public health, climate resilience, and quality of life for residents who need it most.

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Tree Planting Prioritization

The tree species lists developed for this planting plan are well-adapted to both the current and projected climate of Bentonville is essential for ensuring the long-term health and sustainability of the urban forest. As temperatures rise and precipitation patterns shift, trees that can tolerate heat, drought, and variability in seasonal moisture are more likely to thrive. Healthy, thriving trees are better equipped to provide shade, reduce urban heat islands, and sequester carbon, all while requiring less maintenance and replacement. Trees less suited to changing conditions may suffer from stress, increased susceptibility to pests and diseases, and higher mortality, leading to increased removal and replanting costs. By prioritizing climate-resilient species, communities can cultivate a robust tree canopy that supports environmental and public health goals.

Bentonville is prone to severe weather events, including tornadoes and strong thunderstorms, which can cause significant damage to trees. Trees with high wind resistance have strong root systems, flexible wood, and sturdy branch architecture, making them less likely to uproot or break during storms. Wind-resistant species help protect people, homes, and infrastructure from falling limbs and debris, reducing the risk of injury and property damage. Additionally, these trees are more likely to survive extreme weather events, maintaining the benefits they provide to the community, such as shade, stormwater management, and wildlife habitat.

While winter ice storms are not a frequent occurrence in the area, they have the potential to cause extensive damage to tree canopies. Trees that are resistant to ice damage typically have flexible branches, strong wood, and a crown shape that sheds ice efficiently. Ice-resistant species are less likely to suffer from branch breakage or complete failure, which can lead to hazardous conditions on roads, sidewalks, and damage buildings. By planting trees that better withstand ice accumulation, communities can reduce cleanup costs, minimize safety risks, and preserve the aesthetic and ecological value of their urban forests.

Many areas of Northwest Arkansas are subject to periodic flooding, particularly along rivers and in low-lying regions. Flood-tolerant trees can survive, and even thrive, in saturated soils thanks to specialized adaptations such as aerial roots or low oxygen tolerance. These species help stabilize streambanks, reduce erosion, and filter stormwater runoff, contributing to healthier waterways and landscapes.



Source: Adobe Stock

GOAL 3: RIGHT TREE RIGHT PLACE

The Right Tree Right Place is a principle for planting trees that emphasizes careful consideration of tree species and planting site conditions. Factors to consider when looking for the “right tree” include growth rate, mature size, canopy shape, shade potential, ornamental traits, wildlife value, disease and pest risk, species diversity, climate adaptation, and wind and ice resistance. “Right place” factors include sun exposure, soil type, drainage, salt exposure, and available growing space above and below ground. The built environment is often a tough place for trees to thrive. Aligning biological traits with planting site conditions sets up newly planted trees for a longer, healthier life.

Denser, downtown areas are usually the most in need of shade. However, they are complex and crowded environments where trees compete for space with other essential infrastructure. Identifying the right tree for the right place benefits both the tree and its surrounding hardscape, which saves the City time and money. The Right Tree Right Place principle helps avoid scenarios like these:



Overhead Utility Conflicts



Sidewalk Conflicts



Underground Utility Conflicts



Tree Grate Conflicts

High-maintenance trees that drop a significant amount of litter (large leaves, seed pods, nuts, or bark) and possess aggressive root systems can pose substantial risks and financial burdens in urban environments. The constant accumulation of debris requires frequent cleanup, increasing municipal or property maintenance costs and creating safety hazards on sidewalks, streets, and public spaces. Aggressive root systems can infiltrate underground utilities, leading to costly repairs for damaged water, sewer, or gas lines, and can also lift or crack sidewalks and pavement, requiring expensive reconstruction. For these reasons, it is not recommended to plant willows, poplars, silver maples, sweetgums, and birches near sidewalks, driveways, or underground utilities. These issues not only strain public budgets but also reduce the overall value and attractiveness of urban landscapes. Ultimately, such trees demand more resources for upkeep and repair than low-maintenance species, making them a poor choice for densely populated or infrastructure-rich urban areas.

Trees and Utilities

There's a paradox around utilities and trees. On one hand, keeping trees and utilities far away from each other is simpler and safer. Fallen trees, drooping limbs, and overgrown vegetation was the number one cause of power outages for Arkansas' largest electric utility over the last five years. On the other hand, trees are the perfect tool for screening views of unsightly utility infrastructure.

One part of the solution is to minimize the visual impact of utilities through placement. The Bentonville Community Plan recommends relocating overhead utilities to alleys at the rear of properties or underground, as opportunities occur. This is effective, but also expensive. The other part of the solution is to have clear standards for safely planting trees around utilities. The Bentonville Municipal Code currently requires trees to be planted a minimum of 5' from any water or sewer mains. Additional tree utility guidance is included in the Draft Bentonville Tree Preservation and Protection Manual (TPPM). It is recommended that the following requirements be updated in the TPPM and adopted within the municipal code:

- ▶ Trees shall not be planted within the following distances of the infrastructure listed below:
 - ▶ 20' of light poles
 - ▶ 10' of fire hydrants
 - ▶ 5' of water or gas meters, valve boxes, water or sewer mains, and other underground utilities
- ▶ Only trees with a mature tree height of 20' or less may be planted within 20' of overhead utilities or within 5' of underground utilities.

In addition to these requirements, where possible it is recommended that trees be planted as many feet from the pole-to-pole center line as the anticipated mature height of the tree to be planted. For example, an American Smoketree (*Cotinus obovatus*) that can grow 35 feet tall should be planted 35 feet from the pole-to-pole center line.

To turn the updated utility planting guidelines into actionable steps, we adjusted the Possible Planting Area (PPA) to include a five-foot buffer from utility lines. This adjustment removed 746 acres, or about 6.8% of the city-wide PPA, giving us a more accurate picture of where trees can be planted.



Source: *Georgia Power*

In this image, a buffer is maintained between the utility lines and adjacent large-canopy trees. Only small-canopy, utility-compatible tree species are recommended for planting directly beneath the wires.

GOAL 4: INNOVATIVE DESIGN

Following ISA’s Best Management Practices and Industry Standards ensure healthy tree growth, reduce infrastructure conflicts, and maximize the benefits of urban trees. Specifically, standards for street tree planting and site design are pivotal to growing a healthy and resilient urban forest that can thrive with the built environment. The table below outlines some recommended minimum standards for Bentonville’s trees, and additional information is outlined in the Urban Forest Management Plan.

MINIMUM PLANTING SPECIFICATION			
TREE SIZE	MIN. STRIP WIDTH	MIN. SPACING	SOIL VOLUM (CU FT)
Small	4 ft	15-20 ft	400-600
Medium	6 ft	20-25 ft	600-1,000
Large	8 ft	25-25 ft	1,000-1,500+

One of the most common challenges for urban forestry programs are tree and hardscape conflicts. As tree roots grow in search of water and nutrients, they lift, crack, or otherwise damage hard surfaces such sidewalks, curbs, and paved plazas. The consequences of these conflicts are costly hardscape repairs and sometimes root pruning or complete tree removal. The examples of alternatives to traditional hardscape design below provide information and resources regarding sidewalk solution options.

It is helpful to have standard operating procedures for handling tree and hardscape conflicts that establish which staff are involved, potential outcomes, and decision-making guidance. A defined process like the demonstrated below helps reduce uncertainty while keeping decisions fair and efficient. There is also a need to clarify specifications for repairing trees and sidewalk conflicts when keeping or removing the tree. The methodology outlined in the Urban Forest Management Plan is recommended for the City of Bentonville.

GREEN STORMWATER INFRASTRUCTURE

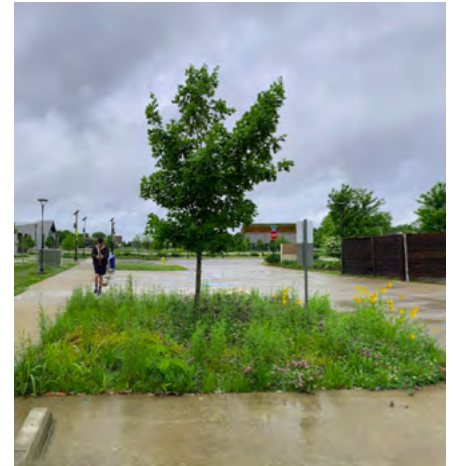
Green stormwater infrastructure (GSI) is an approach to urban design that uses natural processes and landscape elements to manage and treat stormwater runoff, helping cities mimic natural hydrology and reduce the impacts of urbanization on water systems. Unlike conventional "gray" infrastructure that relies on pipes and concrete to remove water rapidly, GSI interventions support infiltration, evaporation, and on-site water treatment, resulting in ecological and social benefits.

The role of green stormwater infrastructure in Bentonville’s Tree Planting Plan is multi-faceted. It enhances water quality by slowing, absorbing, and filtering runoff, thereby reducing pollution that enters rivers and streams. GSI mitigates localized flooding, improves climate resilience, provides wildlife habitat, and creates more attractive, walkable public spaces. When integrated thoughtfully into the City’s parks, streets, and neighborhoods, these systems transform hardscape-dominated environments into greener, healthier places.

Design elements of green stormwater infrastructure are diverse and context dependent. Common examples include rain gardens, rain barrels and cisterns for rainwater harvesting, bioswales, permeable pavements, stormwater planters along sidewalks, tree trenches, and green roofs. Each element uses a combination of vegetation, soil, and engineered media to treat water and provide added benefits such as cooling and aesthetic improvements. Incorporating these elements into urban design helps create resilient, livable cities for people and nature.

Project Example: Thaden School

The 30-acre campus of the Thaden School brims with sustainable design touches. The school's landscape is a "living laboratory" that mirrors the region's natural ecosystems and includes several GSI strategies. Bioswales along streets and curb-less parking lot islands capture storm runoff and irrigate trees at the same time.



Key GSI Elements and Definitions

- ▶ A rain garden is a shallow, landscaped basin that collects, filters, and absorbs runoff from impervious surfaces, recharging groundwater and supporting native plants.
- ▶ Rain barrels and cisterns are storage containers that capture rooftop runoff, which can later be used for watering gardens, washing vehicles, or other non-potable uses. Cisterns are often used for larger rooftops and can be placed above or below ground, storing substantial amounts of rainwater to reduce runoff and support water conservation.
- ▶ Permeable pavement refers to paving materials—such as interlocking pavers, pervious concrete, or porous asphalt—that allow stormwater to pass through to the soil below, reducing surface runoff and supporting infiltration, retention, and detention of rainwater at the source.
- ▶ Bioswales, or vegetated swales, are gently sloped channels with vegetation designed to convey, filter, and infiltrate stormwater. They slow the flow of water, remove pollutants, and encourage infiltration into the ground. Check dams are sometimes included to promote detention and further water quality improvements.
- ▶ Stormwater planters are built containers set into sidewalks or streets that are filled with soil, stone, and vegetation. They collect and temporarily store street or sidewalk runoff, filter pollutants, and slowly release stormwater into the ground or storm sewer system, while also beautifying urban spaces.
- ▶ Tree trenches are bioretention systems that include one or more trees planted within engineered soil and aggregate substrates. These trenches store and filter stormwater runoff, supporting healthy tree growth and enhancing urban ecosystems by reducing runoff and improving infiltration.
- ▶ Green roofs consist of layers of soil and plants installed on rooftops. They absorb rainfall, slow drainage, reduce heat island effects, and help filter air pollutants. Green roofs also contribute to building energy efficiency and can offer habitat for urban wildlife.

ALTERNATIVES TO TRADITIONAL HARDSCAPE DESIGN

A variety of solutions for mitigating tree/sidewalk conflicts. As resources and specifications allow, new strategies should be trialed for effectiveness and feasibility.

ASPHALT



A cheaper, flexible sidewalk fix, but requires more upkeep and doesn't last as long as concrete.

EXPANSION JOINTS



Joints allow better concrete movement due to temperature and moisture variation.

PAVERS / RUBBER



A flexible surface that offers room for continued tree root growth under the sidewalk.

PERVIOUS CONCRETE



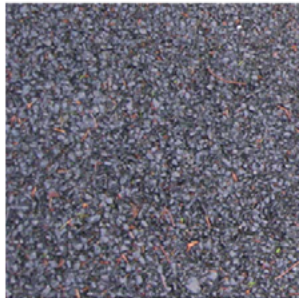
By allowing air and water to pass through to the soil below it may deter shallow root growth.

BEVELING



Cutting down raised concrete edges to reduce tripping hazards.

POROUS ASPHALT



A flexible material that allows water to pass through the pavement.

SHIMS



A temporary measure to smooth a cracked or lifted sidewalk, typically done with asphalt.

TREE GUARDS / RAILS



A guard protects the trunk from damage, while rails around the pit help prevent soil compaction.

DECOMPOSED GRANITE



A flexible, porous walkway material that won't be suitable for all areas.

MUDJACKING



A technique for lifting concrete panels when they have sunk or collapsed.

BRIDGING



A section of sidewalk that supports itself from the ends, on piers, without the need for compacted subgrade below.

BULB-OUTS



Curb bulb-outs provide additional root growth area while improving pedestrian crossings.

CURB REALIGNMENT



A shift in curb location for that widens the planting strip, often for whole blocks.

EASEMENT



Allows construction of a sidewalk on private property to provide more growing space.

SUSPENDED PAVEMENT



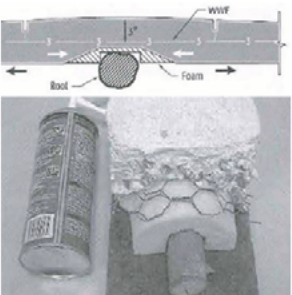
Structurally supported pavement that still provides space for roots to grow.

ROOT BARRIERS



A barrier, often plastic, that deters root growth near the surface.

FOAM UNDERLAY



A foam layer adds flexibility between roots and pavement to help prevent damage.

MOD. GRAVEL LAYER



An open-graded gravel base course under the sidewalk to discourage root growth.

STRUCTURAL SOILS



Specially designed to provide space and porosity while still supporting pavement

ROOT PATHS



Narrow trenches in compacted subgrade to channel root growth.

CORRECTIVE PRUNING



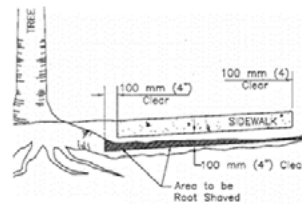
Above-ground pruning to establish good structural form.

ROOT PRUNING



Removal of roots damaging sidewalk damage, overseen by a qualified arborist.

ROOT SHAVING



Removing a portion of a root to allow pavement repairs.

SOURCE



These strategies were sourced from Seattle DOT Trees and Sidewalks Plan.

GOAL 5:

ALIGN WITH TRANSECT ZONING

The City of Bentonville uses Transect Districts and Special Purpose Districts to guide development. These district-based regulations are outlined in the City’s ordinances, and they’re intended to form walkable streets and neighborhoods, support thriving rural areas, embrace the activity of the downtown center, and drive economic development for businesses and services in Bentonville. The transect zones are outlined below, and recommendations in the following section of Tree Planting Project Types align with these districts.

T2.1	T2.2	T3.1	T3.2	T4.1	T4.2	T5.1	T5.2	T6.1	R-1	HC	LI	LFI	MH
------	------	------	------	------	------	------	------	------	-----	----	----	-----	----

T2.1: RURAL

T2.1 applies to rural areas with large lots, few homes, and mostly open space or farmland. It is used for very low-intensity development.

T2.2: RURAL NODE

T2.2 is meant for small shops, services, and public buildings in rural areas. It allows for small activity centers that serve nearby homes and farms.

T3.1: NEIGHBORHOOD EDGE

T3.1 is a residential zone for low-intensity neighborhoods with single-family homes on medium to large lots.

T3.2: NEIGHBORHOOD TRANSITION

T3.2 is a residential zone for low to medium-intensity neighborhoods with single-family homes on medium sized lots.

T4.1: NEIGHBORHOOD GENERAL

T4.1 is a residential zone for medium-intensity neighborhoods with up to four dwellings per lot, including townhomes, and small-scale lodging.

T4.2: NEIGHBORHOOD NODE

T4.2 is a primarily residential zone for medium to high-intensity neighborhoods, allowing up to eight dwellings per lot, medium-scale lodging, and limited small-scale businesses.

T5.1: TOWN CENTER LOW

T5.1 is for walkable areas with a mix of shops, restaurants, and other non-residential uses, along with multifamily housing and townhomes.

T5.2: TOWN CENTER HIGH

T5.2 is a walkable district with a broad mix of uses in moderately tall buildings. It reflects the look and feel of downtown Bentonville and supports new active, compact places.

T6: URBAN CENTER

T6 is the highest-intensity district in the City, focused on employment, entertainment, and large-format multifamily housing within vibrant, walkable areas.

R-1: SUBURBAN SINGLE-FAMILY

R-1 is a residential zone for neighborhoods with larger lots and single-family homes where parking is almost exclusively accessed from the street. Nonresidential uses are not allowed, other than home occupations.

HC: HIGHWAY COMMERCIAL

The HC district includes primarily low-scale commercial development in a strip format. The standards allow existing conditions to continue while encouraging infill of underutilized areas with more active uses.

LI: LIGHT INDUSTRIAL

LI is an industrial and employment district for uses that have limited off-site impacts and can be located near or within mixed-use areas without conflict.

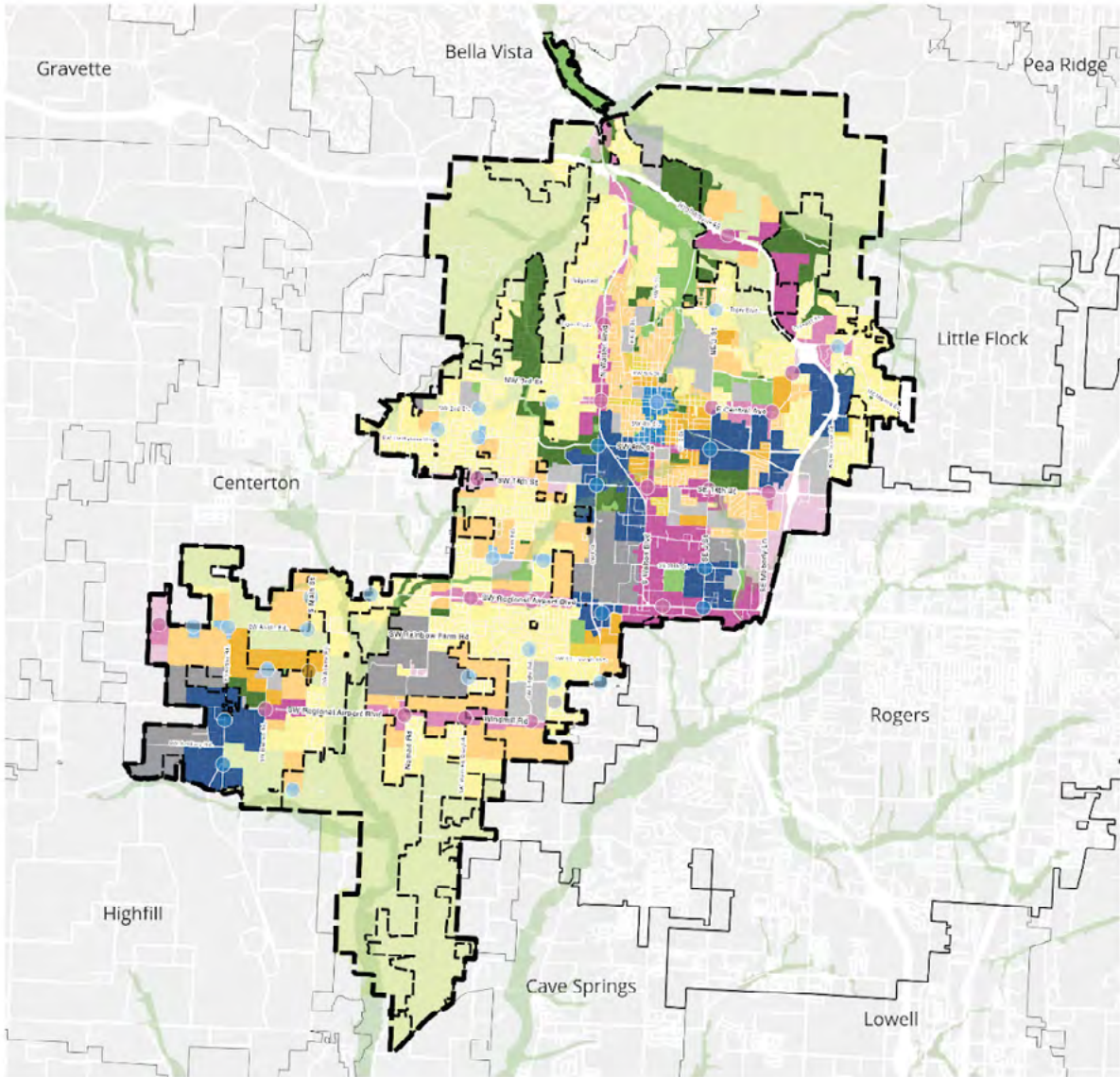
LFI: LARGE FORMAT INDUSTRIAL

LFI is an industrial district for uses with limited off-site impacts but require separation from other uses, typically involving large buildings, warehousing, distribution, and the frequent movement of goods and materials.

MH: MANUFACTURED HOUSING

MH allows medium-density residential development with manufactured homes. It supports both individual lots and manufactured home parks, and may permit up to three homes per lot based on setbacks and lot coverage.

Future Land Use Map



- Centers**
- Regional (1,868 acres)
- City (108 acres)
- Neighborhood (120 acres)
- Neighborhoods**
- Urban (658 acres)
- Walkable (3,006 acres)
- Traditional (165 acres)
- Suburban (2,156 acres)
- Corridors**
- Urban (1,248 acres)
- Walkable (717 acres)
- Suburban (819 acres)

- Recreation**
- Outdoor Entertainment
- Parks and Public Spaces
- Other**
- Rural and Estates
- Industry & Technology
- Civic and Institutional
- Boundaries and Overlays**
- Hazard Overlay for Floodways
- City Boundary
- Planning Boundary



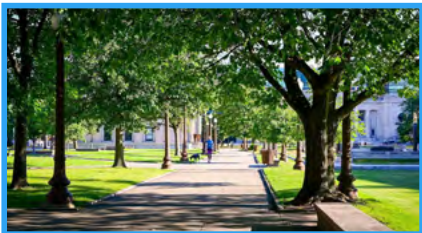
PROJECT TYPES



PROJECT TYPE 1:
RIPARIAN BUFFERS



PROJECT TYPE 2:
**NEIGHBORHOOD
STREETSCAPES**



PROJECT TYPE 3:
**COMMUNITY PARKS
AND GROVES**



PROJECT TYPE 4:
URBAN CORRIDORS



PROJECT TYPE 5:
CIVIC PLAZAS



PROJECT TYPE 6:
**MEDIANS AND
PARKING LOTS**



PROJECT TYPE 1: **RIPARIAN BUFFERS**

CHARACTERISTICS

These areas are dominated by moisture-loving, fast-growing trees and shrubs that can withstand wet roots and occasional inundation. They are critical for filtering runoff, reducing erosion, and supporting biodiversity. In Bentonville, the Osage Creek Trail is a riparian buffer area. Also included in this project type are man-made water features such as lakes, detention ponds, and bioswales. Some key features of this project type are:

- ▶ 10–15' spacing for dense planting along waterways
- ▶ 50-100' minimum riparian buffer width
- ▶ No height limitations
- ▶ Reduces sediment runoff and enhances aquatic habitat via shade and organic matter

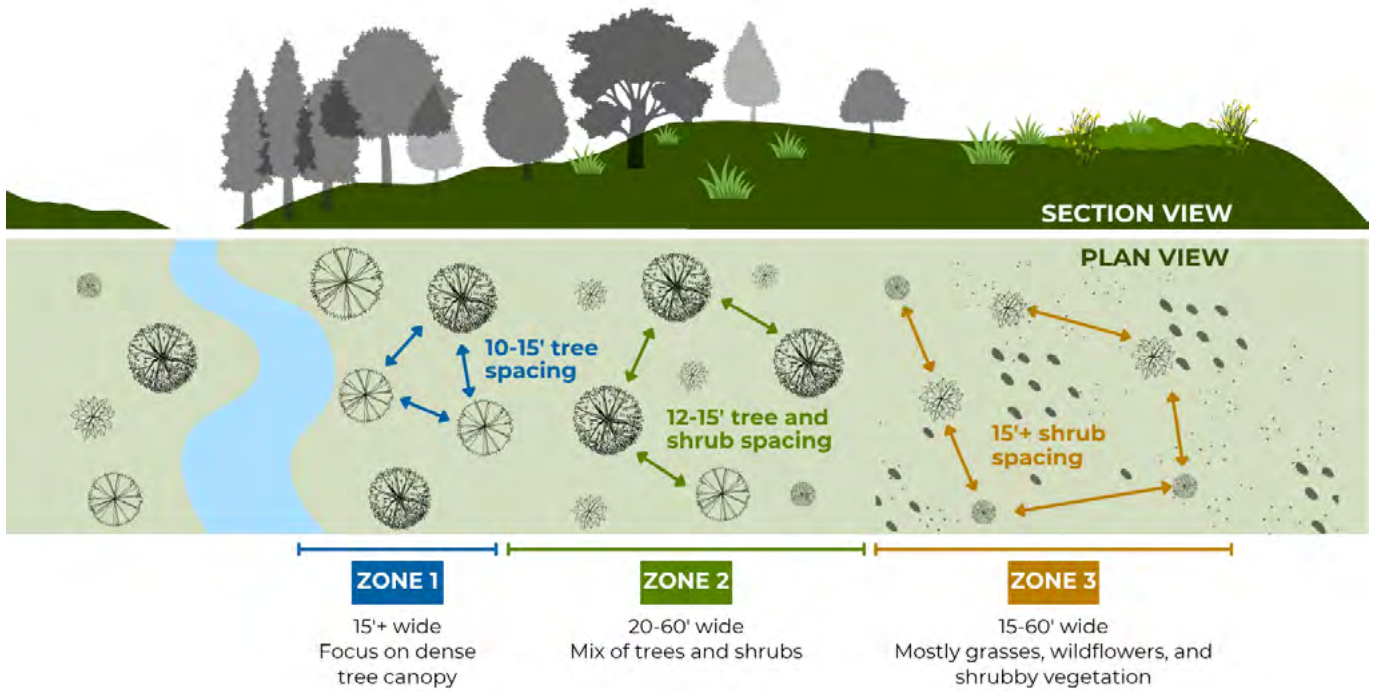
APPLICABLE TRANSECT AND SPECIAL PURPOSE DISTRICTS

T2.1	T2.2	T3.1	T3.2	T4.1	T4.2	T5.1	T5.2	T6.1	R-1	HC	LI	LFI	MH
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The rural and suburban districts (T2.1, T2.2, and R-1) are generally low-density with ample open space available for planting trees amidst natural features and water bodies. With suburban development comes detention ponds where tree planting should follow the model for riparian buffers outlined on the following pages.

PLANTING SPECIFICATIONS

Riparian buffers require species that tolerate periodic or prolonged flooding, stabilize soil, and provide habitat for wildlife and aquatic species. Planting should be dense near the water's edge (Zone 1) with species like bald cypress, river birch, and black willow, transitioning to more upland species in Zones 2 and 3. Spacing should be closer (10–15 feet) near water for rapid canopy closure and erosion control, and wider (12–20 feet) farther back for root development and diversity.



MAINTENANCE NEEDS

Riparian buffers require regular monitoring of invasive species, removal of dead or diseased vegetation, and supplemental watering during establishment. Chemical use should be avoided near waterways. A buffer width of at least 35–100 feet should be maintained for ideal ecological function.

RECOMMENDED TREE SPECIES FOR RIPARIAN BUFFERS										
Common Name	Scientific Name	Avg. Mature Height	Height Class	Soil Volume (cu ft)	Planting Area (sq ft)	Native	Street Tree	Under Utilities	Evergreen Status	Usage
Red Maple	<i>Acer rubrum</i>	65	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous	Shade, Ornamental
Autumn Brilliance Serviceberry	<i>Amelanchier x grandiflora</i>	25	Small (<30')	400–600	50-150	✓		✓	Deciduous	Ornamental
River Birch	<i>Betula nigra</i>	45	Medium (30-45')	600–1,000	150-300	✓			Deciduous	Ornamental, Erosion Control
Eastern Redbud	<i>Cercis canadensis</i>	30	Medium (30-45')	600–1,000	150-300	✓	✓		Deciduous	Ornamental
Silky Dogwood	<i>Cornus obliqua</i>	10	Small (<30')	400–600	50-150	✓		✓	Deciduous	Ornamental, Screen
Persimmon	<i>Diospyros virginiana</i>	45	Medium (30-45')	600–1,000	150-300	✓			Deciduous	Edible Fruit, Shade
Water Tupelo	<i>Nyssa aquatica</i>	65	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous	Wet Sites, Wildlife
Black Gum / Black Tupelo	<i>Nyssa sylvatica</i>	50	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous	Shade, Fall Color
Sycamore	<i>Platanus occidentalis</i>	100	Large (>45')	1,000–1,500+	300+	✓			Deciduous	Shade, Floodplains
Swamp White Oak	<i>Quercus bicolor</i>	55	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous	Shade, Floodplains
Overcup Oak	<i>Quercus lyrata</i>	35	Medium (30-45')	600–1,000	150-300	✓	✓		Deciduous	Wet Sites, Shade
Swamp Chestnut Oak	<i>Quercus michauxii</i>	70	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous	Shade, Timber
Carolina Willow	<i>Salix caroliniana</i>	20	Small (<30')	400–600	50-150	✓		✓	Deciduous	Wet Sites, Erosion Control
Missouri Willow	<i>Salix eriocephala</i>	20	Small (<30')	400–600	50-150	✓		✓	Deciduous	Wet Sites, Wildlife
Black Willow	<i>Salix nigra</i>	35	Medium (30-45')	600–1,000	150-300	✓			Deciduous	Erosion Control, Wet Sites
Bald cypress	<i>Taxodium distichum</i>	70	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous Conifer	Wet Sites, Ornamental
American Elm	<i>Ulmus americana</i>	75	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous	Shade, Urban



Red Maple



Autumn Brilliance Serviceberry



River Birch



Eastern Redbud



Silky Dogwood



Persimmon



Water Tupelo



Black Gum/Black Tupelo



Sycamore



Swamp White Oak



Overcup Oak



Swamp Chestnut Oak



Carolina Willow



Missouri Willow



Black Willow



Bald Cypress



American Elm



PROJECT EXAMPLE: OSAGE PARK

Osage Park in Bentonville stands out as a dynamic urban oasis and a superb example of riparian buffer and wetland conservation within a city setting. Encompassing a 12-acre wetland ecosystem and featuring extensive boardwalks that allow visitors to experience the water's edge up close, Osage Park demonstrates how thoughtfully restored and maintained natural areas can thrive in partnership with community recreation. The park's green infrastructure uses native wetland plants to filter runoff, control erosion, and provide vital habitat for birds, pollinators, and aquatic wildlife, all core ecological functions of a riparian buffer. Its boardwalks allow visitors to observe and appreciate the constant change of wetland flora and fauna, reinforcing the value and beauty of functional riparian and wetland systems. By integrating walking trails, wildlife viewing opportunities, and sustainable landscaping that mimics natural water filtration and habitat, Osage Park serves as an educational model and an inviting public space, highlighting the importance of wetlands and buffers for urban biodiversity and water quality in northern Arkansas.



PROJECT EXAMPLE: COLER CREEK

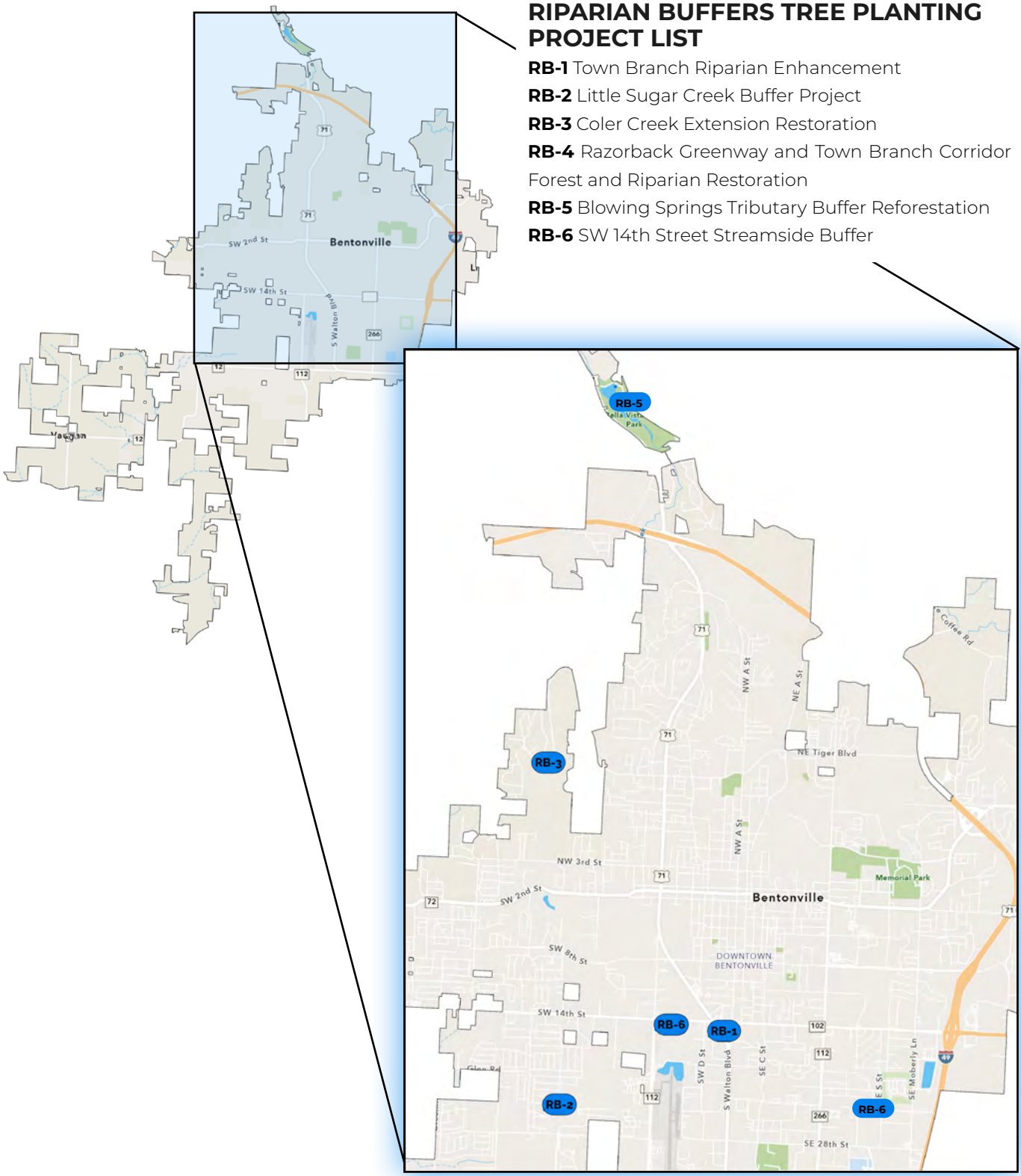
The Coler Creek restoration in Bentonville used a combination of innovative and naturalistic methods aimed at both ecological and recreational benefits. Restoration techniques included the creation of grade control structures from large boulders to manage stream flow and prevent erosion, the strategic re-establishment of native riparian vegetation to further stabilize the banks and create wildlife habitat, and selective removal or retention of in-stream wood to mimic natural water flow patterns. The project also involved breaching a pond dam to restore the stream to its original state, repairs of bridge structures to improve accessibility without harming the stream, and integration of boardwalks and trails to encourage public interaction with the restored habitat. The outcome of these efforts was a more resilient stream system with improved water quality, stabilized banks, increased biodiversity, and the successful transformation of former pastures into pollinator meadows. Coler Creek is now considered an environmental and recreational asset for Bentonville, functioning both as a natural stormwater buffer and as a living classroom where visitors can learn about stream ecology and sustainable land management.



RIPARIAN BUFFER TREE PLANTING PROJECT LIST

Map Label	Tree Planting Project Name	Location Description	Estimated Trees to Plant	Description
RB-1	Town Branch Riparian Enhancement	Multiple segments along Town Branch Stream	400	Further bank stabilization, invasive species removal, and new native buffer plantings to stabilize banks and improve water quality.
RB-2	Little Sugar Creek Buffer Project	Along Little Sugar Creek and side channels	600	Planned or needed erosion control, new tree and shrub buffers for filtration and wildlife, targeting urban and developing stream edges.
RB-3	Coler Creek Extension Restoration	Side channels and undeveloped areas near Coler Park	200	Expansion of restoration beyond current trails, adding trees and shrubs for trail protection, stormwater buffer, and biodiversity.
RB-4	Razorback Greenway and Town Branch Corridor Forest and Riparian Restoration	Priority urban creeks and tributaries (per network map)	700	Part of the NWA Green Network Forest Corridors - Large-scale urban forestry and stormwater projects aiming to reconnect fragmented riparian habitat in rapidly growing areas.
RB-5	Blowing Springs Tributary Buffer Reforestation	Along trail crossings in NW Bentonville, Blowing Springs Rd area	200	Coordinate with Beaver Watershed Alliance for replanting and invasive removal where trails cross or parallel riparian corridors.
RB-6	SW 14th Street Streamside Buffer	Crossings of SW 14th St near AR-112/SW I St	150	Bond-funded drainage/ street project area where new vegetated buffers can be installed along tributaries near major intersections.

All estimates of trees to plant are based on standard densities for riparian buffers (ranging from 200–400+ trees per linear mile, depending on site conditions and buffer width), and descriptions reflect known goals for ecological function and community benefit noted in recent plans and restoration reports.





PROJECT TYPE 2:

NEIGHBORHOOD STREETSCAPES

CHARACTERISTICS

The residential areas of Bentonville make up the Neighborhood Streetscape planting project type, making it the most prevalent of the six types. Planting priorities include replenishing storm-damaged trees in the older, northern neighborhoods and bolstering canopy coverage near newer residential developments. Streetscapes benefit from shade, aesthetics, and pedestrian comfort. Species like Shumard oak, red maple, and serviceberry are preferred for their adaptability and low maintenance.

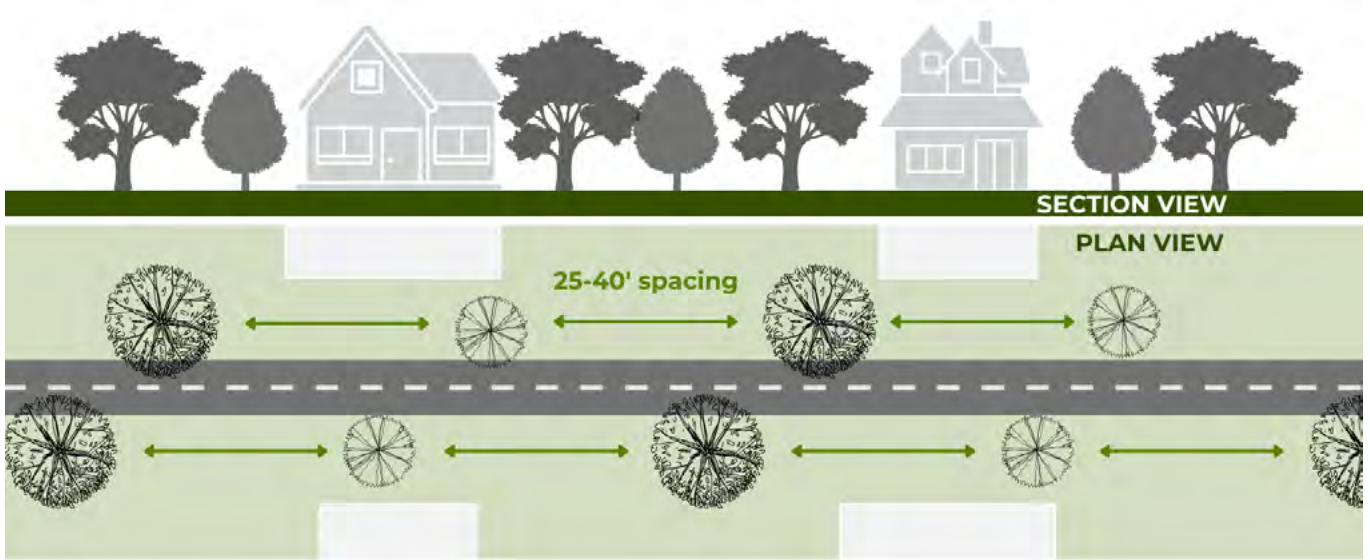
APPLICABLE TRANSECT AND SPECIAL PURPOSE DISTRICTS

T2.1	T2.2	T3.1	T3.2	T4.1	T4.2	T5.1	T5.2	T6.1	R-1	HC	LI	LFI	MH
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In Bentonville, residential districts (T3.1, T3.2, T4.1, T4.2, R-1, and MH) range from low- to high-intensity neighborhoods with varying requirements for vegetation and landscaping. Trees are encouraged to be planted in the right-of-way, as well as within property lines.

PLANTING SPECIFICATIONS

Neighborhood streets are best shaded by medium-sized trees with low litter, strong structure, and tolerance for urban stressors such as compacted soils and pollution. Planting areas should be at least 3 feet wide, with structural soil or raised curbs to protect roots from vehicles. Trees should be spaced 25–40 feet apart, depending on mature canopy size.



MAINTENANCE NEEDS

Neighborhood trees need regular pruning to maintain healthy structure. It is especially important in these districts to maintain adequate clearance over sidewalks and roads to support the variety of foot traffic and vehicular traffic. Monitoring trees for pests and diseases is especially important in residential areas where species diversity may be low or unknown. In most cities, the majority of tree canopy exists on residential land. Some of the existing tree canopy will mature to senescence, or deterioration with age. Mitigation and replanting should be encouraged with community outreach and stewardship efforts.

RECOMMENDED TREE SPECIES FOR NEIGHBORHOOD STREETSAPES

Common Name	Scientific Name	Avg. Mature Height	Height Class	Soil Volume (cu ft)	Planting Area (sq ft)	Native	Street Tree	Under Utilities	Evergreen Status	Usage
Red Maple	<i>Acer rubrum</i>	65	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous	Shade, Ornamental
Downy Serviceberry	<i>Amelanchier arborea</i>	25	Small (<30')	400–600	50-150	✓	✓	✓	Deciduous	Ornamental
American Hornbeam / Ironwood	<i>Carpinus caroliniana</i>	25	Small (<30')	400–600	50-150	✓	✓	✓	Deciduous	Shade, Ornamental
Pignut hickory	<i>Carya glabra</i>	50	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous	Shade, Timber
Eastern Redbud	<i>Cercis canadensis</i>	30	Medium (30-45')	600–1,000	150-300	✓	✓		Deciduous	Ornamental
Fringe Tree	<i>Chionanthus virginicus</i>	15	Small (<30')	400–600	50-150	✓	✓	✓	Deciduous	Ornamental, Screen
Yellowwood	<i>Cladrastis kentuckea</i>	40	Medium (30-45')	600–1,000	150-300	✓	✓		Deciduous	Ornamental, Shade
Flowering Dogwood	<i>Cornus florida</i>	20	Small (<30')	400–600	50-150	✓	✓	✓	Deciduous	Ornamental
American Smoketree	<i>Cotinus obovatus</i>	35	Medium (30-45')	600–1,000	150-300	✓	✓		Deciduous	Ornamental
Ginkgo	<i>Ginkgo Biloba (male)</i>	75	Large (>45')	1,000–1,500+	300+		✓		Deciduous	Shade, Ornamental
Thornless Honeylocust	<i>Gleditsia triacanthos</i>	50	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous	Shade, Urban
Possumhaw	<i>Ilex decidua</i>	25	Small (<30')	400–600	50-150	✓	✓	✓	Deciduous	Ornamental, Wildlife
Black Gum / Black Tupelo	<i>Nyssa sylvatica</i>	50	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous	Shade, Fall Color
Hop hornbeam	<i>Ostrya virginiana</i>	30	Medium (30-45')	600–1,000	150-300	✓	✓		Deciduous	Shade, Ornamental
Chinquapin Oak	<i>Quercus muehlenbergii</i>	50	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous	Shade, Limestone Soils
Northern Red Oak	<i>Quercus rubra</i>	60	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous	Shade, Timber
Shumard Oak	<i>Quercus shumardii</i>	55	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous	Shade, Urban
Carolina Buckthorn	<i>Rhamnus caroliniana</i>	20	Small (<30')	400–600	50-150	✓	✓	✓	Deciduous	Screen, Wildlife
Bald cypress	<i>Taxodium distichum</i>	70	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous Conifer	Wet Sites, Ornamental



Red Maple



Downy Serviceberry



American Hornbeam/Ironwood



Pignut Hickory



Eastern Redbud



Fringe Tree



Yellowwood



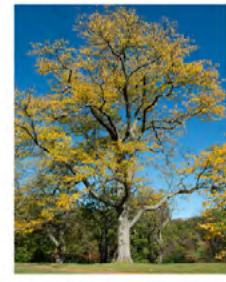
Flowering Dogwood



American Smoketree



Ginkgo



Thornless Honeylocust



Possumhaw



Black Gum/Black Tupelo



Hop Hornbeam



Chinquapin Oak



Northern Red Oak



Shumard Oak



Carolina Buckthorn



Bald Cypress



EXAMPLE PROJECT: SW BRIGHT ROAD NEAR CREEKSIDE PARK

The City of Bentonville’s Parks Department contracted with Ecological Design Group (EDG) to make significant improvements to SW Bright Road near Creekside Park. The project included constructing an approximately half-mile, three-lane roadway segment from SW Regional Airport Boulevard to SW 28th Street featuring upgraded pedestrian and bicycle facilities consistent with the city’s Bicycle and Pedestrian Master Plan.

In addition to standard road improvements, one of the distinguishing features of the project was its green infrastructure approach: instead of traditional stormwater piping, SW Bright Road now uses landscaped bioswales and strategic curb cuts within the road’s median and edges to slow, capture, and infiltrate stormwater. This approach reduces downstream stormwater load, helps treat runoff, and connects with the park’s extensive trail network.

Some of the tree species featured in this project are *Quercus nuttallii* (Nuttall Oak), *Quercus shumardii* (Shumard Oak), *Ulmus americana* (American Elm), *Taxodium distichum* (Baldcypress), *Asimina triloba* (Pawpaw), and *Amelanchier × grandiflora* (Serviceberry).



CITY OF BENTONVILLE
MAYOR
 Stephanie Orman
TRANSPORTATION DIRECTOR
 Dennis Birge
PARKS & RECREATION DIRECTOR
 David Wright

ARCHITECT
 Ecological Design Group
CONTRACTOR
 Flintco

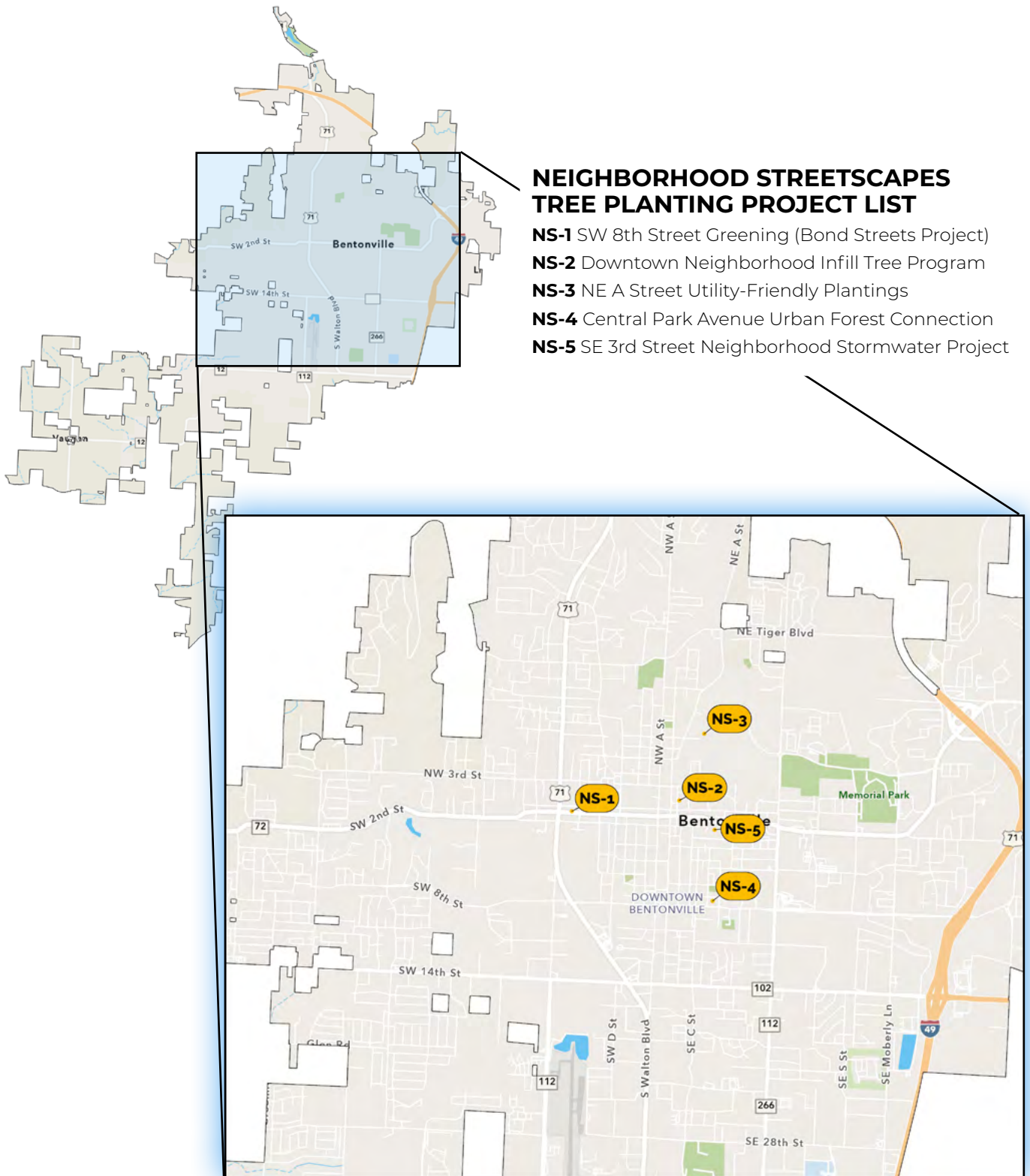
FUNDING
STREET
 2021 Transportation Bond
PARK
 Parks impact and capacity fees

www.bentonvillear.com



CREEKSIDE PARK | SW BRIGHT ROAD EXTENSION
 35 acre park | 1.6 mile trail | .25 mile extension to SW 28th Street

NEIGHBORHOOD STREETSCAPES TREE PLANTING PROJECT LIST				
Map Label	Tree Planting Project Name	Location	Estimated Trees to Plant	Description
NS-1	SW 8th Street Greening (Bond Streets Project)	SW 8th St from SW I St to Walton Blvd	120	Plant shade trees and manage green infrastructure as part of the planned SW 8th St. improvements.
NS-2	Downtown Neighborhood Infill Tree Program	Residential streets blocks south and east of square	80	Target older neighborhoods and new ADU developments with canopy expansion programs.
NS-3	NE A Street Utility-Friendly Plantings	NE A St between Central Ave and Park Springs Park	60	Select small-maturing trees under utility lines as part of street maintenance and sidewalk renewal.
NS-4	Central Park Avenue Urban Forest Connection	Central Park Ave from Tiger Blvd to Central Ave	90	Connect existing canopy gaps and infill with trees through park-adjacent residential blocks.
NS-5	SE 3rd Street Neighborhood Stormwater Project	SE 3rd St, east of Main to Old Farmington Rd	70	Combine tree planting and new bioswale/raingarden installations in coordination with drainage upgrades





PROJECT TYPE 3: **COMMUNITY PARKS & GROVES**

CHARACTERISTICS

These public green spaces offer the friendliest conditions for tree growth and can support a greater diversity of tree species. Planting priorities include improving visitor comfort and aesthetics, while allowing suitable space for recreation and wildlife habitat. These areas are designed for recreation, wildlife habitat, and aesthetic value. Species like white oak, tulip poplar, and black walnut are common, providing food and shelter for wildlife.

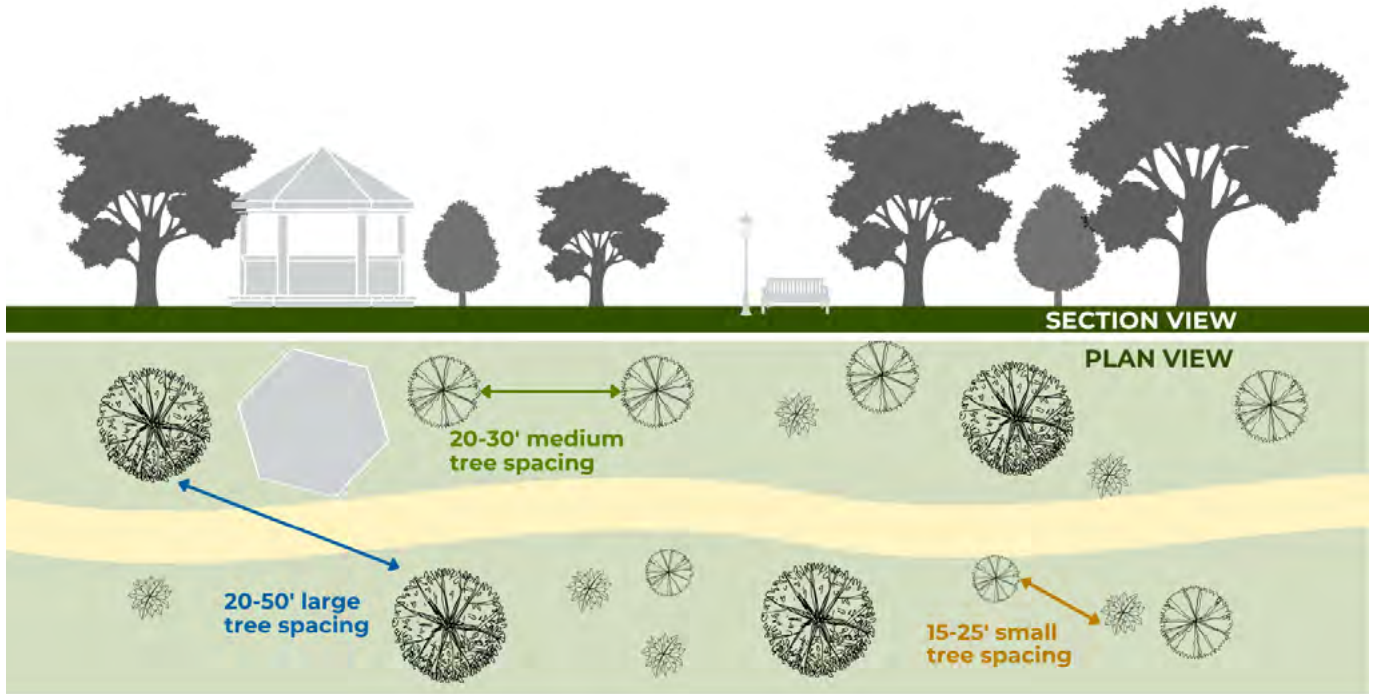
APPLICABLE TRANSECT AND SPECIAL PURPOSE DISTRICTS

T2.1	T2.2	T3.1	T3.2	T4.1	T4.2	T5.1	T5.2	T6.1	R-1	HC	LI	LFI	MH
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In Bentonville, many districts support community parks and groves, including low- to high-intensity neighborhoods as well as town center districts. Trees are ideally planted with pedestrians in mind for recreational use and enhanced character for experiencing public and private spaces.

PLANTING SPECIFICATIONS

Diverse canopy layers with a mix of large, medium, and small trees, as well as understory shrubs, to support wildlife and provide shade. Planting should be in clusters or groves, with spacing that allows for mature canopy development (20–50 feet for large trees, 15–30 feet for smaller species).

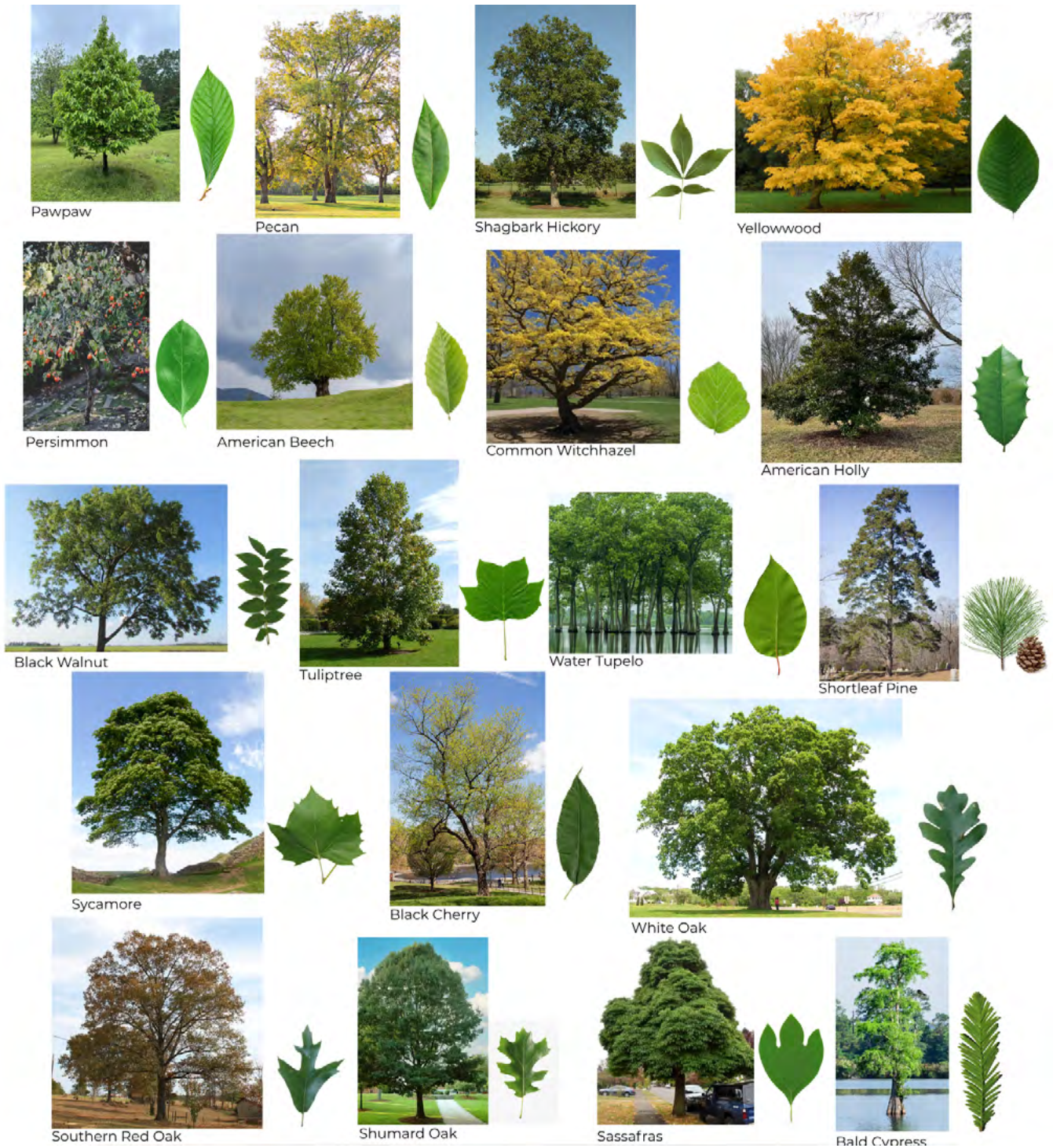


MAINTENANCE NEEDS

Regular pruning for safety and health, removal of invasive species, and monitoring for disease. Mulching and watering during establishment, and periodic thinning to reduce competition and promote growth.

RECOMMENDED TREE SPECIES FOR COMMUNITY PARKS & GROVES

Common Name	Scientific Name	Avg. Mature Height	Height Class	Soil Volume (cu ft)	Planting Area (sq ft)	Native	Street Tree	Under Utilities	Evergreen Status	Usage
Pawpaw	<i>Asimina triloba</i>	25	Small (<30')	400-600	50-150	✓		✓	Deciduous	Edible Fruit, Shade
Pecan	<i>Carya illinoensis</i>	70	Large (>45')	1,000-1,500+	300+	✓			Deciduous	Shade, Edible Nuts
Shagbark Hickory	<i>Carya ovata</i>	80	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous	Shade, Timber
Yellowwood	<i>Cladrastis kentuckea</i>	40	Medium (30-45')	600-1,000	150-300	✓	✓		Deciduous	Ornamental, Shade
Persimmon	<i>Diospyros virginiana</i>	45	Medium (30-45')	600-1,000	150-300	✓			Deciduous	Edible Fruit, Shade
American Beech	<i>Fagus grandifolia</i>	70	Large (>45')	1,000-1,500+	300+	✓			Deciduous	Shade, Timber
Common Witchhazel	<i>Hamamelis virginiana</i>	13	Small (<30')	400-600	50-150	✓		✓	Deciduous	Ornamental, Medicinal
American Holly	<i>Ilex opaca</i>	35	Medium (30-45')	600-1,000	150-300	✓			Evergreen	Screen, Ornamental
Black Walnut	<i>Juglans nigra</i>	75	Large (>45')	1,000-1,500+	300+	✓			Deciduous	Timber, Shade
Tuliptree	<i>Liriodendron tulipifera</i>	80	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous	Shade, Timber
Water Tupelo	<i>Nyssa aquatica</i>	65	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous	Wet Sites, Wildlife
Shortleaf Pine	<i>Pinus echinata</i>	70	Large (>45')	1,000-1,500+	300+	✓			Conifer	Timber, Wildlife
Sycamore	<i>Platanus occidentalis</i>	100	Large (>45')	1,000-1,500+	300+	✓			Deciduous	Shade, Floodplains
Black Cherry	<i>Prunus serotina</i>	60	Large (>45')	1,000-1,500+	300+	✓			Deciduous	Wildlife, Timber
White Oak	<i>Quercus alba</i>	75	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous	Shade, Timber
Southern Red Oak	<i>Quercus falcata</i>	70	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous	Shade, Drought-Tolerant
Shumard Oak	<i>Quercus shumardii</i>	55	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous	Shade, Urban
Sassafras	<i>Sassafras albidum</i>	45	Medium (30-45')	600-1,000	150-300	✓			Deciduous	Ornamental, Wildlife
Bald cypress	<i>Taxodium distichum</i>	70	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous Conifer	Wet Sites, Ornamental

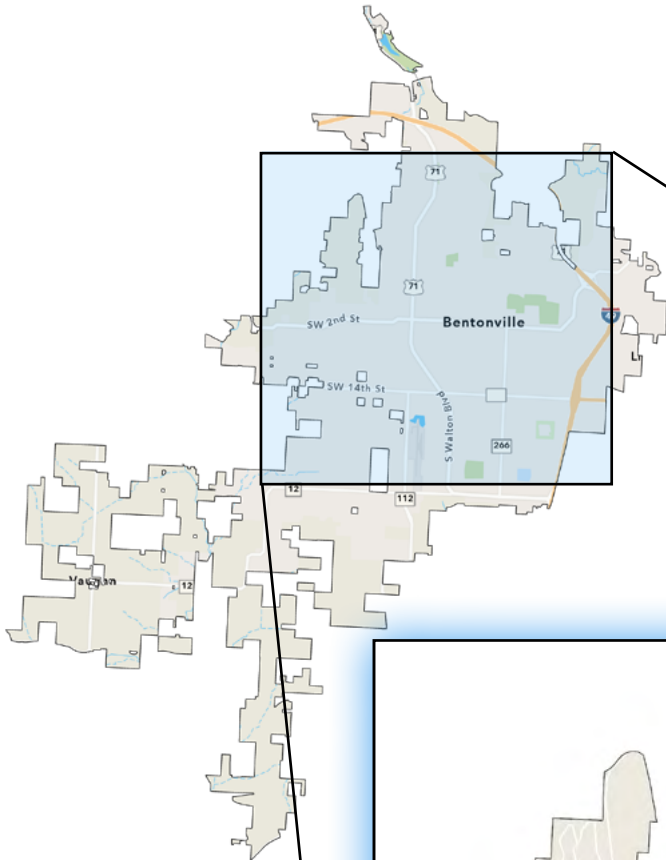


EXAMPLE PROJECT: 8TH STREET GATEWAY PARK

The 8th Street Gateway Park, which is expected to open in 2026, will feature nearly 100 acres of community recreation opportunities and ample urban nature. Ecology is one of the four core aspects of the park master plan, and trees and forested areas will be used to complement the trails, play areas, and gathering spaces.

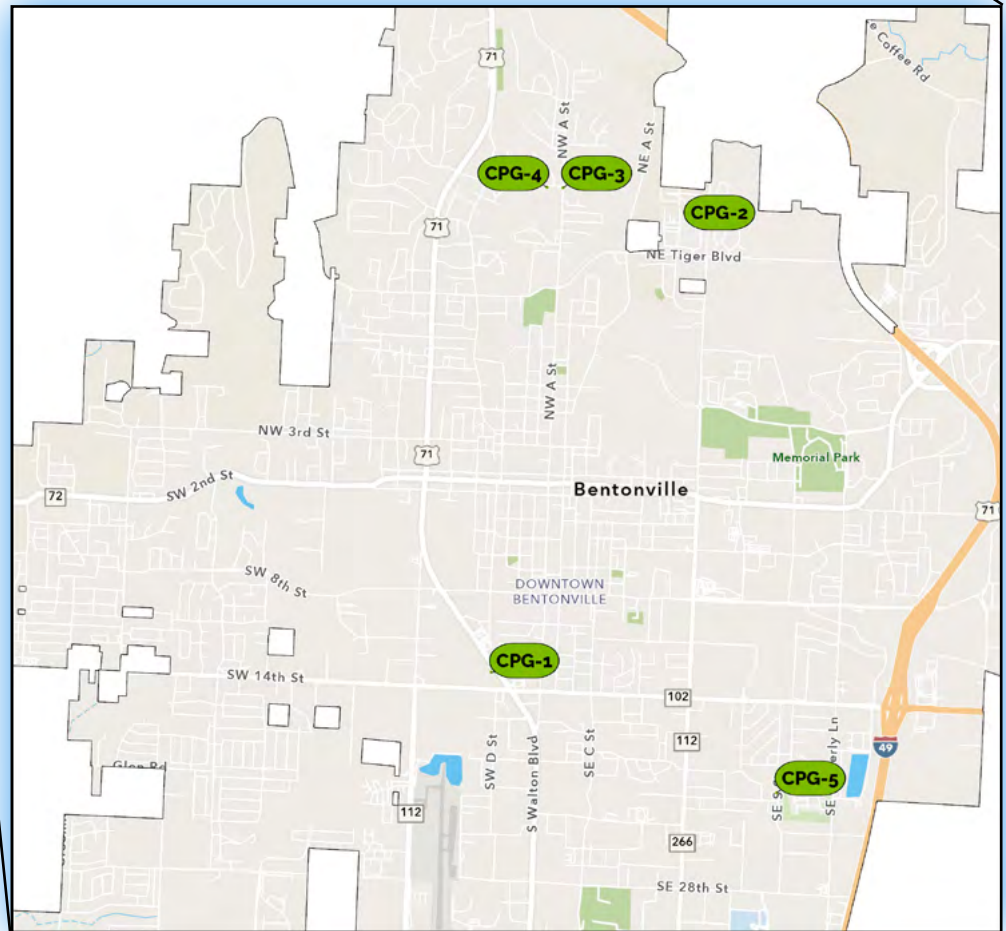


COMMUNITY PARKS & GROVES TREE PLANTING PROJECT LIST				
Map Label	Tree Planting Project Name	Location	Estimated Trees to Plant	Description
CPG-1	Osage Park Meadow Edge Plantings	Osage Park, southern and eastern meadow boundaries	180	Fill edges with shade and wildlife-supporting trees for canopy and ecological diversity.
CPG-2	Orchard Park Oak & Hickory Grove	Orchard Park, expansion areas on NW & N sides	120	Add groves of native trees for beauty and wildlife in expansion areas.
CPG-3	Memorial Park Native Arboretum	Memorial Park, along walking trails	100	Develop larger plantings of Arkansas oaks, pines, and beeches for educational outreach.
CPG-4	Gilmore Park Pollinator & Shade Grove	Gilmore Park, interior and perimeter groves	80	Expand existing native habitat plantings with diverse, resilient trees.
CPG-5	Phillips Park Creekside Restoration Grove	Phillips Park, along creek and stormwater swales	110	Restore riparian woodlands along park streams, integrating trees with trailside vegetation.



COMMUNITY PARKS & GROVES TREE PLANTING PROJECT LIST

- CPG-1** Osage Park Meadow Edge Plantings
- CPG-2** Orchard Park Oak & Hickory Grove
- CPG-3** Memorial Park Native Arboretum
- CPG-4** Gilmore Park Pollinator & Shade Grove
- CPG-5** Phillips Park Creekside Restoration Grove





PROJECT TYPE 4: **URBAN CORRIDORS**

CHARACTERISTICS

These are tree planting opportunities within the rights-of-way of non-residential streets, such as Walton Boulevard and SE 14th Street. These corridors connect neighborhoods and commercial centers and present an excellent opportunity for tree plantings to shade pedestrian access and screen traffic. Urban corridors require robust, resilient species that can thrive in harsh conditions and provide shade, visual interest, and stormwater management. Examples include honeylocust, zelkova, and swamp white oak.

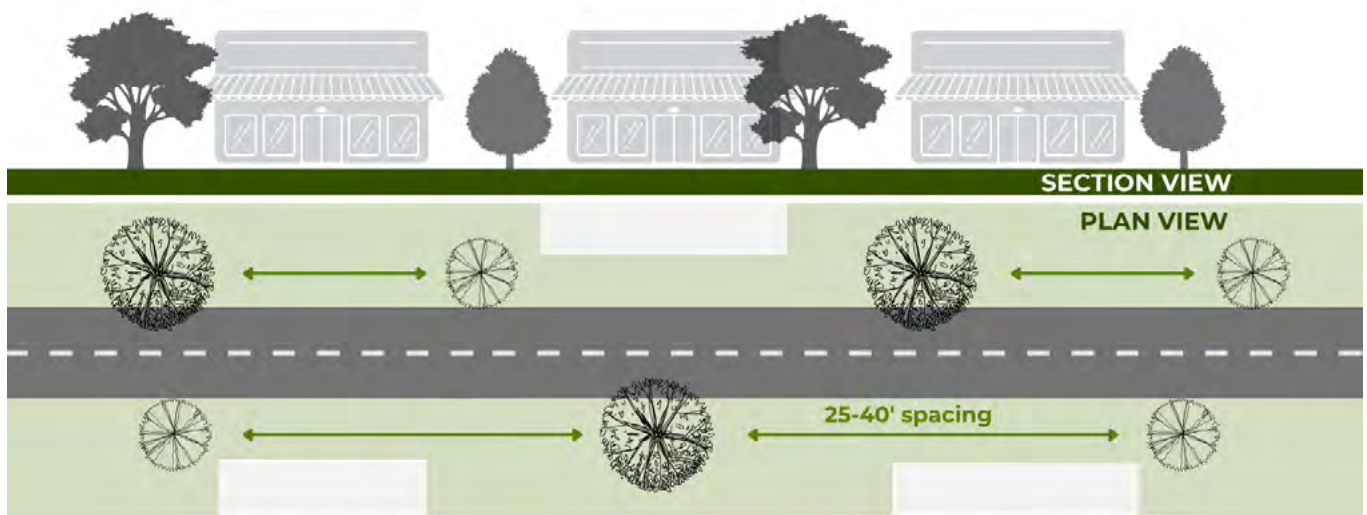
APPLICABLE TRANSECT AND SPECIAL PURPOSE DISTRICTS

T2.1	T2.2	T3.1	T3.2	T4.1	T4.2	T5.1	T5.2	T6.1	R-1	HC	LI	LFI	MH
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In Bentonville, urban and high-density districts (T4.2, T5.1, T5.2, and T6.1) should focus on tree planting for shade and beautification for the pedestrian and bicycle experience, while also providing adequate clearance for vehicular traffic.

PLANTING SPECIFICATIONS

It is recommended that the City of Bentonville plants trees with high tolerance for pollution, compacted soils, and limited root space within urban corridors. Planting areas should be wide enough to support root growth, with structural soil or tree grates for paved areas. Trees should be spaced 25–40 feet apart, depending on mature size.



MAINTENANCE NEEDS

Regular pruning for clearance over sidewalks and roads, monitoring for pests and diseases, and replacement of failed trees. Supplemental watering and fertilization may be needed due to poor soils.

RECOMMENDED TREE SPECIES FOR URBAN CORRIDORS

Common Name	Scientific Name	Avg. Mature Height	Height Class	Soil Volume (cu ft)	Planting Area (sq ft)	Native	Street Tree	Under Utilities	Evergreen Status	Usage
Trident Maple	<i>Acer buergerianum</i>	30	Medium (30-45')	600-1,000	150-300		✓		Deciduous	Ornamental, Small Spaces
Downy Serviceberry	<i>Amelanchier arborea</i>	25	Small (<30')	400-600	50-150	✓	✓	✓	Deciduous	Ornamental
Red Chokecherry	<i>Aronia arbutifolia</i>	12	Small (<30')	400-600	50-150	✓	✓	✓	Deciduous	Screen, Wildlife
American Hornbeam / Ironwood	<i>Carpinus caroliniana</i>	25	Small (<30')	400-600	50-150	✓	✓	✓	Deciduous	Shade, Ornamental
Pignut hickory	<i>Carya glabra</i>	50	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous	Shade
Eastern Redbud	<i>Cercis canadensis</i>	30	Medium (30-45')	600-1,000	150-300	✓	✓		Deciduous	Ornamental
Texas Redbud	<i>Cercis canadensis subsp. texensis</i>	18	Small (<30')	400-600	50-150	✓	✓	✓	Deciduous	Ornamental
Fringe Tree	<i>Chionanthus virginicus</i>	15	Small (<30')	400-600	50-150	✓	✓	✓	Deciduous	Ornamental, Screen
Yellowwood	<i>Cladrastis kentuckea</i>	40	Medium (30-45')	600-1,000	150-300	✓	✓		Deciduous	Ornamental, Shade
Flowering Dogwood	<i>Cornus florida</i>	20	Small (<30')	400-600	50-150	✓	✓	✓	Deciduous	Ornamental
American Smoketree	<i>Cotinus obovatus</i>	35	Medium (30-45')	600-1,000	150-300	✓	✓		Deciduous	Ornamental
Ginkgo	<i>Ginkgo Biloba (male)</i>	75	Large (>45')	1,000-1,500+	300+		✓		Deciduous	Shade, Ornamental
Thornless Honeylocust	<i>Gleditsia triacanthos</i>	50	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous	Shade, Urban
Umbrella Magnolia	<i>Magnolia tripetala</i>	30	Medium (30-45')	400-600	50-150	✓	✓		Deciduous	Ornamental
White Oak	<i>Quercus alba</i>	75	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous	Shade
Bur Oak	<i>Quercus macrocarpa</i>	70	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous	Shade, Drought-Tolerant
Chinquapin Oak	<i>Quercus muehlenbergii</i>	50	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous	Shade
Carolina Buckthorn	<i>Rhamnus caroliniana</i>	20	Small (<30')	400-600	50-150	✓	✓	✓	Deciduous	Screen, Wildlife
Blackhaw Viburnum	<i>Viburnum prunifolium</i>	15	Small (<30')	400-600	50-150	✓	✓	✓	Deciduous	Screen, Wildlife



Trident Maple



Downy Serviceberry



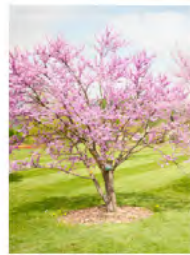
Red Chokeberry



American Hornbeam/Ironwood



Pignut Hickory



Eastern Redbud



Texas Redbud



Fringe Tree



Yellowwood



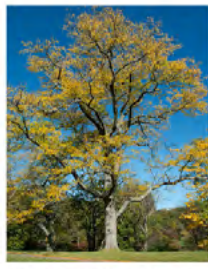
Flowering Dogwood



American Smoketree



Ginkgo



Thornless Honeylocust



Umbrella Magnolia



White Oak



Bur Oak



Chinquapin Oak



Carolina Buckthorn



Blackhaw Viburnum

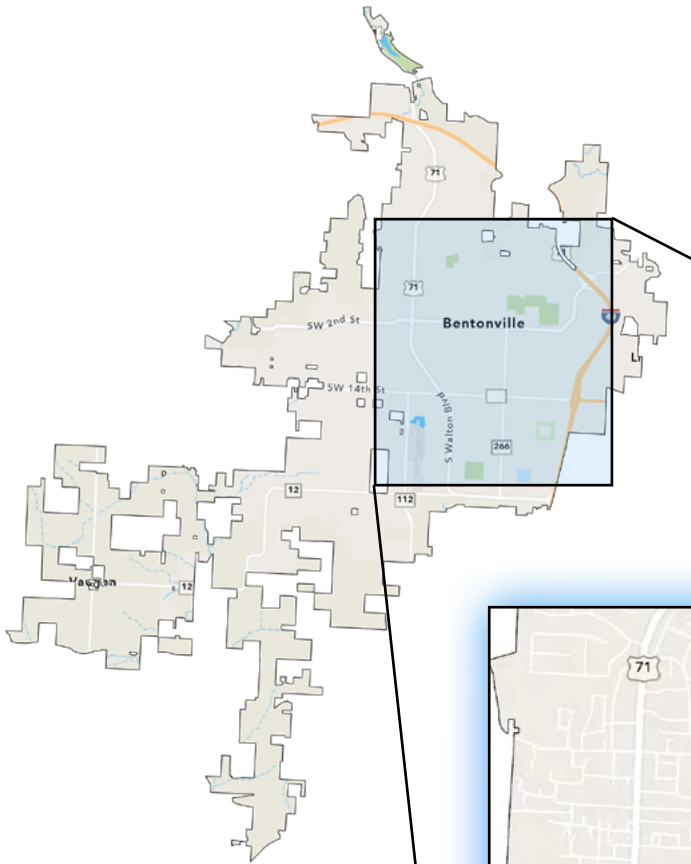


EXAMPLE PROJECT: 8TH STREET CORRIDOR IMPROVEMENTS

In 2024, the City completed major improvements to 1.4 miles of the 8th Street corridor. The project included expansion of the roadway, a new bicycle track, and a vegetated median, and new tree plantings, all of which support a more complete street that pedestrians, cyclists, and drivers can use safely.

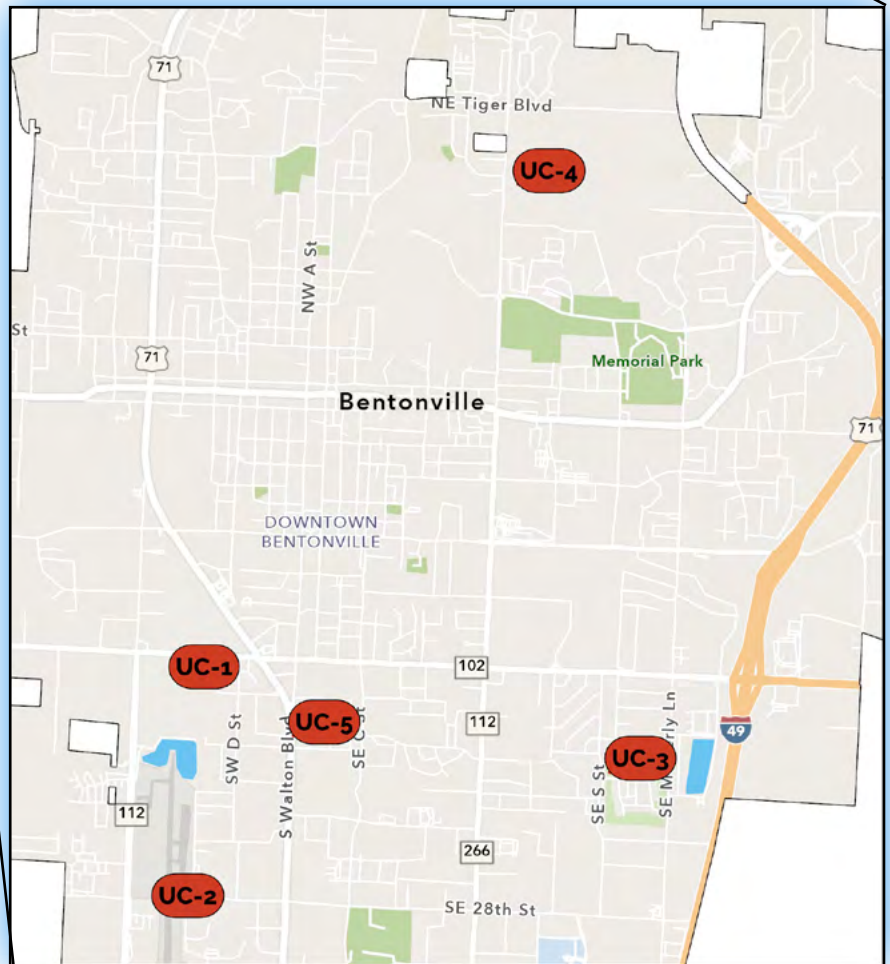


URBAN CORRIDORS TREE PLANTING PROJECT LIST				
Map Label	Tree Planting Project Name	Location	Estimated Trees to Plant	Description
UC-1	Walton Boulevard Re-treeing Initiative (Bond Project)	Walton Blvd medians & sides from Tiger to SE 14th	180	Replace aging/invasive median and roadside trees with native and adapted species along this key corridor.
UC-2	Regional Greenway South Canopy Enhancement	Razorback Greenway, S Bentonville Trail segments	100	Target points where the Razorback Greenway loses canopy for street tree and buffer fillings.
UC-3	SE Moberly Lane Streetscape Retrofit	SE Moberly Lane from Central Ave to SE 14th	120	Integrate tree pits, permeable curb extensions, and shade trees as part of road and bike lane upgrades.
UC-4	NE J Street Improvement Program	NE J St from Central Ave to NE 12th St	90	Combine drainage, curb, and tree improvements through new ginkgo, oak, and zelkova plants.
UC-5	14th Street Gateway Tree Planting	SW & SE 14th St between downtown & AR-112/149	150	Improve aesthetics and stormwater capture along approaching blocks with coordinated tree planting.



URBAN CORRIDORS TREE PLANTING PROJECT LIST

- UC-1** Walton Boulevard Re-treesing Initiative (Bond Project)
- UC-2** Regional Greenway South Canopy Enhancement
- UC-3** SE Moberly Lane Streetscape Retrofit
- UC-4** NE J Street Improvement Program
- UC-5** 14th Street Gateway Tree Planting





PROJECT TYPE 5: **CIVIC PLAZAS**

CHARACTERISTICS

gathering place for social interaction and events. The Bentonville City Square is an example of a civic plaza area. Plazas are focal points for community gatherings and should feature attractive, durable trees like fringetree, redbud, and serviceberry. Evergreen or flowering species can add year-round interest.

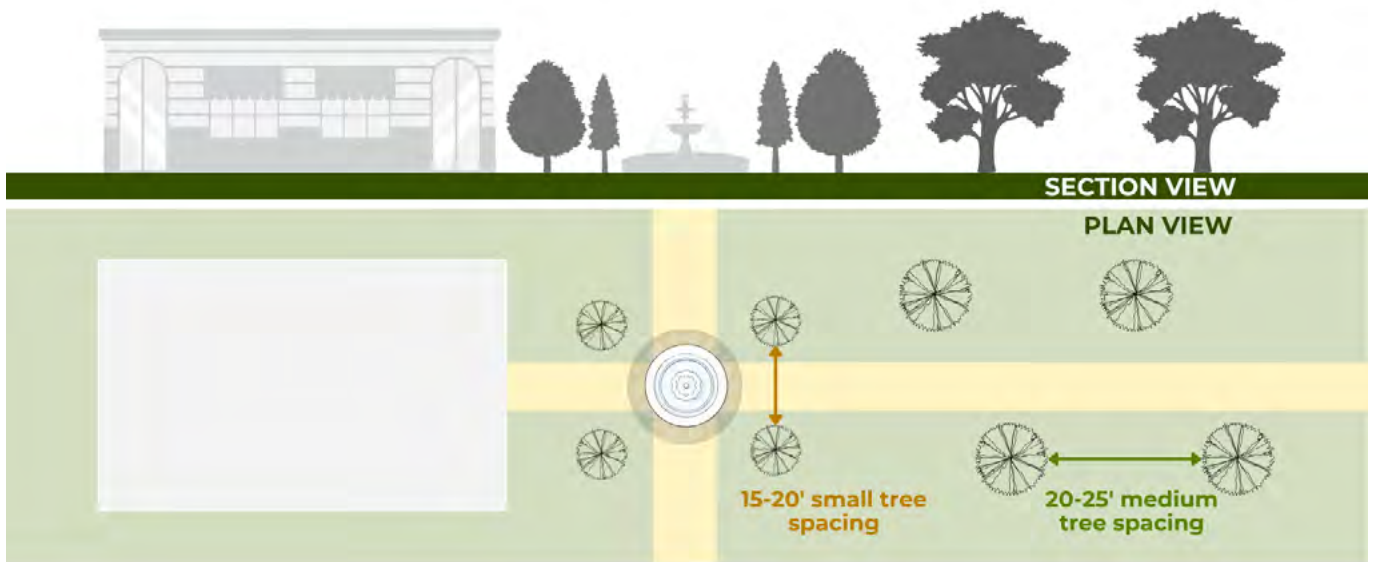
APPLICABLE TRANSECT AND SPECIAL PURPOSE DISTRICTS

T2.1	T2.2	T3.1	T3.2	T4.1	T4.2	T5.1	T5.2	T6.1	R-1	HC	LI	LFI	MH
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In Bentonville, civic plazas are most commonly found in the downtown core districts (T5.1, T5.2, T6.1, and HC). With this in mind, it is recommended that tree planting efforts should focus on replacing dead and dying trees quickly and consider species that lend themselves to community activity.

PLANTING SPECIFICATIONS

It is recommended that Bentonville plant ornamental, compact, and low-litter species in Civic Plazas that enhance public spaces without creating maintenance burdens. Planting areas should be at least 3 feet wide, with raised curbs or protective barriers. Trees should be spaced to allow for mature canopy development without overcrowding.



MAINTENANCE NEEDS

Regular pruning for shape and safety, removal of litter, and monitoring for pests and diseases. Watering and mulching are essential during the establishment of young trees, and prompt replacement of failing trees as needed.

RECOMMENDED TREE SPECIES FOR CIVIC PLAZAS

Common Name	Scientific Name	Avg. Mature Height	Height Class	Soil Volume (cu ft)	Planting Area (sq ft)	Native	Street Tree	Under Utilities	Evergreen Status	Usage
Trident Maple	<i>Acer buergerianum</i>	30	Medium (30-45')	600-1,000	150-300		✓		Deciduous	Ornamental, Small Spaces
Red Buckeye	<i>Aesculus pavia</i>	15	Small (<30')	400-600	50-150	✓		✓	Deciduous	Ornamental, Wildlife
Autumn Brilliance Serviceberry	<i>Amelanchier x grandiflora</i>	25	Small (<30')	400-600	50-150	✓		✓	Deciduous	Ornamental
Pawpaw	<i>Asimina triloba</i>	25	Small (<30')	400-600	50-150	✓		✓	Deciduous	Edible Fruit, Shade
River Birch	<i>Betula nigra</i>	45	Medium (30-45')	600-1,000	150-300	✓			Deciduous	Ornamental, Erosion Control
American Hornbeam / Ironwood	<i>Carpinus caroliniana</i>	25	Small (<30')	400-600	50-150	✓	✓	✓	Deciduous	Shade, Ornamental
Fringe Tree	<i>Chionanthus virginicus</i>	15	Small (<30')	400-600	50-150	✓	✓	✓	Deciduous	Ornamental, Screen
Yellowwood	<i>Cladrastis kentuckea</i>	40	Medium (30-45')	600-1,000	150-300	✓	✓		Deciduous	Ornamental, Shade
American Smoketree	<i>Cotinus obovatus</i>	35	Medium (30-45')	600-1,000	150-300	✓	✓		Deciduous	Ornamental
Thornless Honeylocust	<i>Gleditsia triacanthos</i>	50	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous	Shade, Urban
Possumhaw	<i>Ilex decidua</i>	24	Small (<30')	400-600	50-150	✓		✓	Deciduous	Ornamental, Wildlife
American Holly	<i>Ilex opaca</i>	35	Medium (30-45')	600-1,000	150-300	✓			Evergreen	Screen, Ornamental
Black Gum / Black Tupelo	<i>Nyssa sylvatica</i>	50	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous	Shade, Fall Color
Hop hornbeam	<i>Ostrya virginiana</i>	30	Medium (30-45')	600-1,000	150-300	✓	✓		Deciduous	Shade, Ornamental
White Oak	<i>Quercus alba</i>	75	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous	Shade, Timber
Blackjack Oak	<i>Quercus marilandica</i>	45	Medium (30-45')	600-1,000	150-300	✓			Deciduous	Shade, Poor Soils
Pin Oak	<i>Quercus palustris</i>	50	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous	Wet Sites, Shade
Shumard Oak	<i>Quercus shumardii</i>	55	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous	Shade, Urban
Bald cypress	<i>Taxodium distichum</i>	70	Large (>45')	1,000-1,500+	300+	✓	✓		Deciduous Conifer	Wet Sites, Ornamental
Nigra American Arborvitae	<i>Thuja occidentalis</i>	30	Medium (30-45')	600-1,000	150-300	✓		✓	Evergreen	Screen, Ornamental



Trident Maple



Red Buckeye



Autumn Brilliance Serviceberry



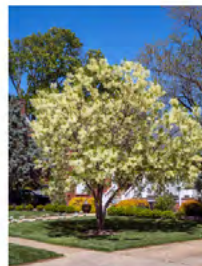
Pawpaw



River Birch



American Hornbeam/Ironwood



Fringe Tree



Yellowwood



American Smoketree



Thornless Honeylocust



Possumhaw



American Holly



Black Gum/Black Tupelo



Hop Hornbeam



White Oak



Blackjack Oak



Pin Oak



Shumard Oak



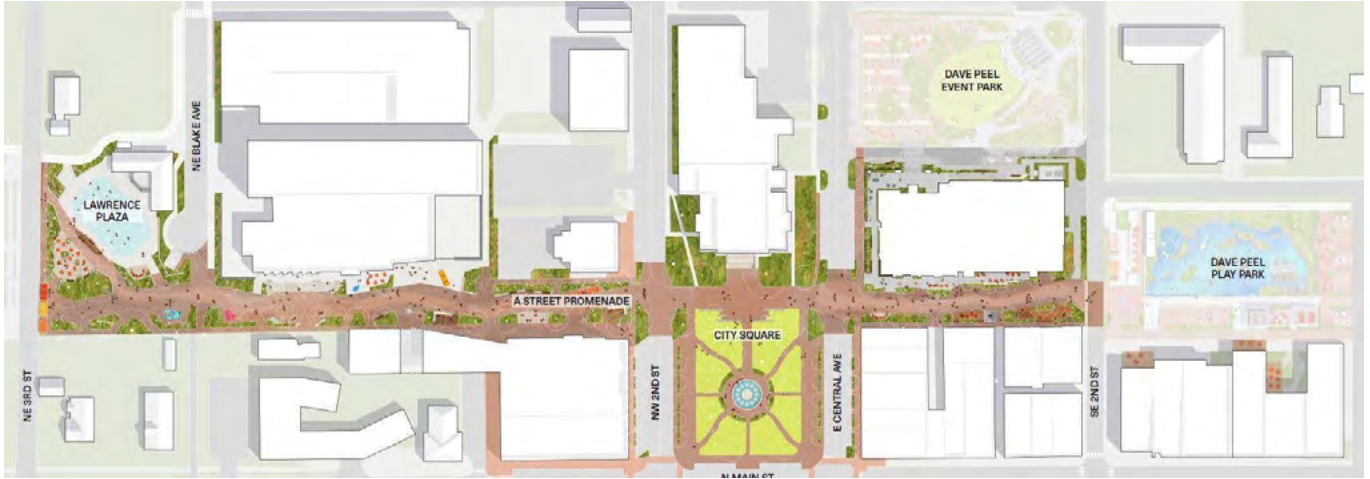
Bald Cypress



Nigra American Arborvitae

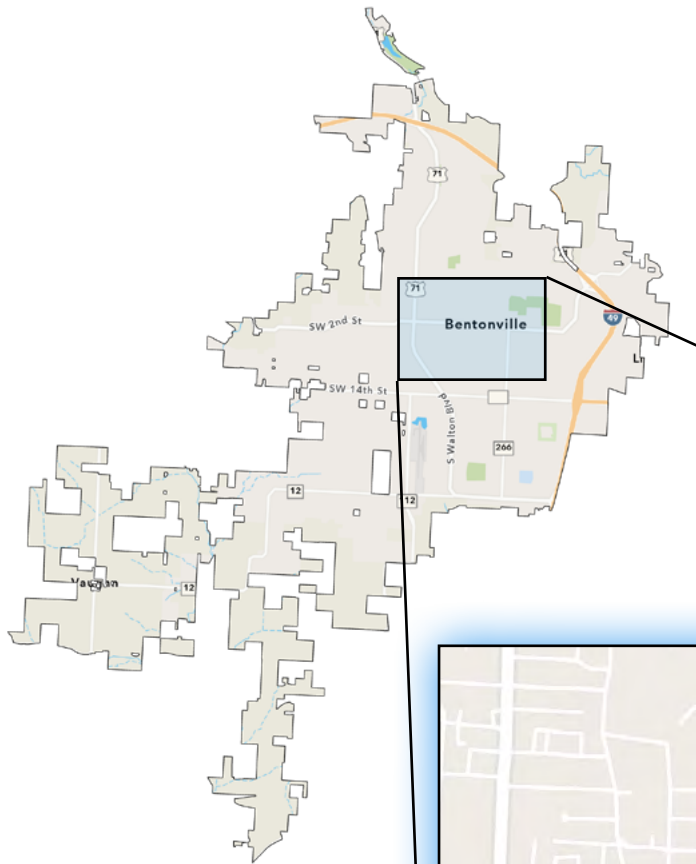
EXAMPLE PROJECT: A STREET PROMENADE

The A Street Promenade is one piece of Bentonville's innovative approach to connecting six parks and public spaces throughout downtown, referred to as The Quilt of Parks. A Street Promenade enhances the experience of pedestrians flowing between civic spaces with abundant large and medium shade trees.



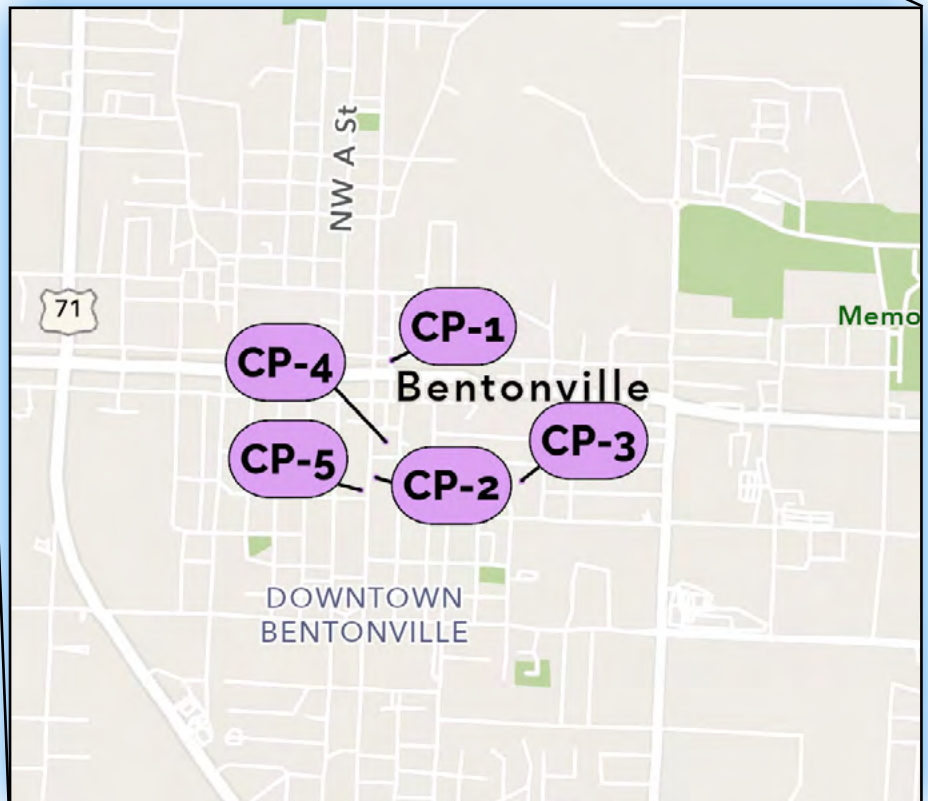
CIVIC PLAZAS TREE PLANTING PROJECT LIST

Map Label	Tree Planting Project Name	Location	Estimated Trees to Plant	Description
CP-1	Bentonville Square Tree Canopy Renewal	Bentonville Square (center and corners)	25	Maintain and expand historic plaza trees with resilient, low-litter shade species.
CP-2	Library Plaza Expansion	Bentonville Public Library plaza & lawn	30	Plant new shade and ornamental trees with seating, Wi-Fi, and community gathering improvements.
CP-3	Momentary Plaza Urban Grove	The Momentary, S side of main structure	40	Create shaded outdoor rooms and performance spaces using columnar and spreading trees.
CP-4	Downtown Market Plaza Greening	Downtown market area, SE A and Central	30	Infill market space with upright, durable trees for midday shade.
CP-5	Train Station Civic Breezeway	Bentonville Train Station (ped area)	20	Integrate plaza trees into the pedestrian way to connect neighborhoods and downtown.



CIVIC PLAZAS TREE PLANTING PROJECT LIST

- CP-1** Bentonville Square Tree Canopy Renewal
- CP-2** Library Plaza Expansion
- CP-3** Momentary Plaza Urban Grove
- CP-4** Downtown Market Plaza Greening
- CP-5** Train Station Civic Breezeway





PROJECT TYPE 6: **MEDIANS & PARKING LOTS**

CHARACTERISTICS

The narrow confines and nearby traffic of medians and parking lots present plenty of challenges to trees. These spaces also have some of the most to gain from healthy tree canopy and cooling shade. Medians and parking lots require trees that can withstand heat, reflected light, and limited soil volume.

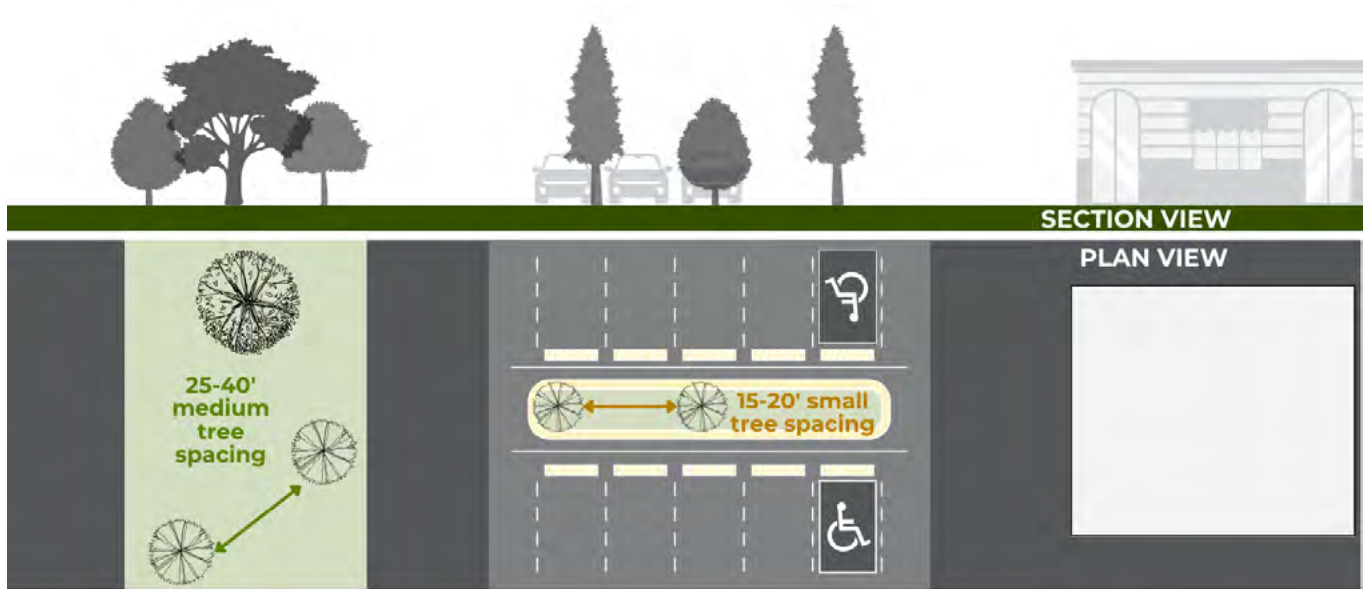
APPLICABLE TRANSECT AND SPECIAL PURPOSE DISTRICTS

T2.1	T2.2	T3.1	T3.2	T4.1	T4.2	T5.1	T5.2	T6.1	R-1	HC	LI	LFI	MH
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In Bentonville, development projects with parking lots are in various districts (most commonly T5.1, T5.2, T6.1, HC, LI, and LFI). These districts support a variety of commercial, office, and industrial development with a high amount of impervious surfaces compared to vegetative area.

PLANTING SPECIFICATIONS

It is recommended that the City of Bentonville selects compact, drought-tolerant, and pollution-resistant species that can thrive in confined spaces and harsh microclimates. Planting areas should be at least 3 feet wide, with structural soil or raised curbs to protect roots from vehicles. Trees should be spaced 15–30 feet apart, depending on mature size. Parking islands and bulb-outs typically support smaller species, while perimeter planting areas allow for larger species as well as green stormwater infrastructure improvements.



MAINTENANCE NEEDS

Regular pruning for clearance and safety, monitoring for pests and diseases, and replacement of failed trees. Supplemental watering and fertilization may be needed due to poor soils and limited root space.

RECOMMENDED TREE SPECIES FOR MEDIANS & PARKING LOTS

Common Name	Scientific Name	Avg. Mature Height	Height Class	Soil Volume (cu ft)	Planting Area (sq ft)	Native	Street Tree	Under Utilities	Evergreen Status	Usage
Trident Maple	<i>Acer buergerianum</i>	30	Medium (30-45')	600–1,000	150-300		✓		Deciduous	Ornamental, Small Spaces
Red Maple	<i>Acer rubrum</i>	65	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous	Shade, Ornamental
Downy Serviceberry	<i>Amelanchier arborea</i>	25	Small (<30')	400–600	50-150	✓	✓	✓	Deciduous	Ornamental
Autumn Brilliance Serviceberry	<i>Amelanchier x grandiflora</i>	25	Small (<30')	400–600	50-150	✓		✓	Deciduous	Ornamental
American Hornbeam / Ironwood	<i>Carpinus caroliniana</i>	25	Small (<30')	400–600	50-150	✓	✓	✓	Deciduous	Shade, Ornamental
Shagbark Hickory	<i>Carya ovata</i>	80	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous	Shade, Timber
Eastern Redbud	<i>Cercis canadensis</i>	30	Medium (30-45')	600–1,000	150-300	✓	✓		Deciduous	Ornamental
Yellowwood	<i>Cladrastis kentuckea</i>	40	Medium (30-45')	600–1,000	150-300	✓	✓		Deciduous	Ornamental, Shade
Flowering Dogwood	<i>Cornus florida</i>	20	Small (<30')	400–600	50-150	✓	✓	✓	Deciduous	Ornamental
American Smoketree	<i>Cotinus obovatus</i>	35	Medium (30-45')	600–1,000	150-300	✓	✓		Deciduous	Ornamental
Littlehip Hawthorn, Pasture Hawthorn	<i>Crataegus spathulata</i>	20	Small (<30')	400–600	50-150	✓		✓	Deciduous	Screen, Ornamental
Green Hawthorn	<i>Crataegus viridis</i>	30	Medium (30-45')	600–1,000	150-300	✓	✓		Deciduous	Screen, Ornamental
Ginkgo	<i>Ginkgo Biloba (male)</i>	75	Large (>45')	1,000–1,500+	300+		✓		Deciduous	Shade, Ornamental
Possumhaw	<i>Ilex decidua</i>	24	Small (<30')	400–600	50-150	✓		✓	Deciduous	Ornamental, Wildlife
American Holly	<i>Ilex opaca</i>	35	Medium (30-45')	600–1,000	150-300	✓			Evergreen	Screen, Ornamental
Hop hornbeam	<i>Ostrya virginiana</i>	30	Medium (30-45')	600–1,000	150-300	✓	✓		Deciduous	Shade, Ornamental
Carolina Buckthorn	<i>Rhamnus caroliniana</i>	20	Small (<30')	400–600	50-150	✓	✓	✓	Deciduous	Screen, Wildlife
Littleleaf Linden	<i>Tilia cordata</i>	60	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous	Shade, Ornamental
Kentucky Coffeetree	<i>Gymnocladus dioicus</i>	75	Large (>45')	1,000–1,500+	300+	✓	✓		Deciduous	Shade, Ornamental



Trident Maple



Red Maple



Downy Serviceberry



Autumn Brilliance Serviceberry



American Hornbeam/Ironwood



Shagbark Hickory



Eastern Redbud



Yellowwood



Flowering Dogwood



American Smoketree



Littlehip/Pasture Hawthorn



Green Hawthorn



Ginkgo



Possumhaw



American Holly



Hop Hornbeam



Carolina Buckthorn



Littleleaf Linden



Kentucky Coffeetree



EXAMPLE PROJECTS

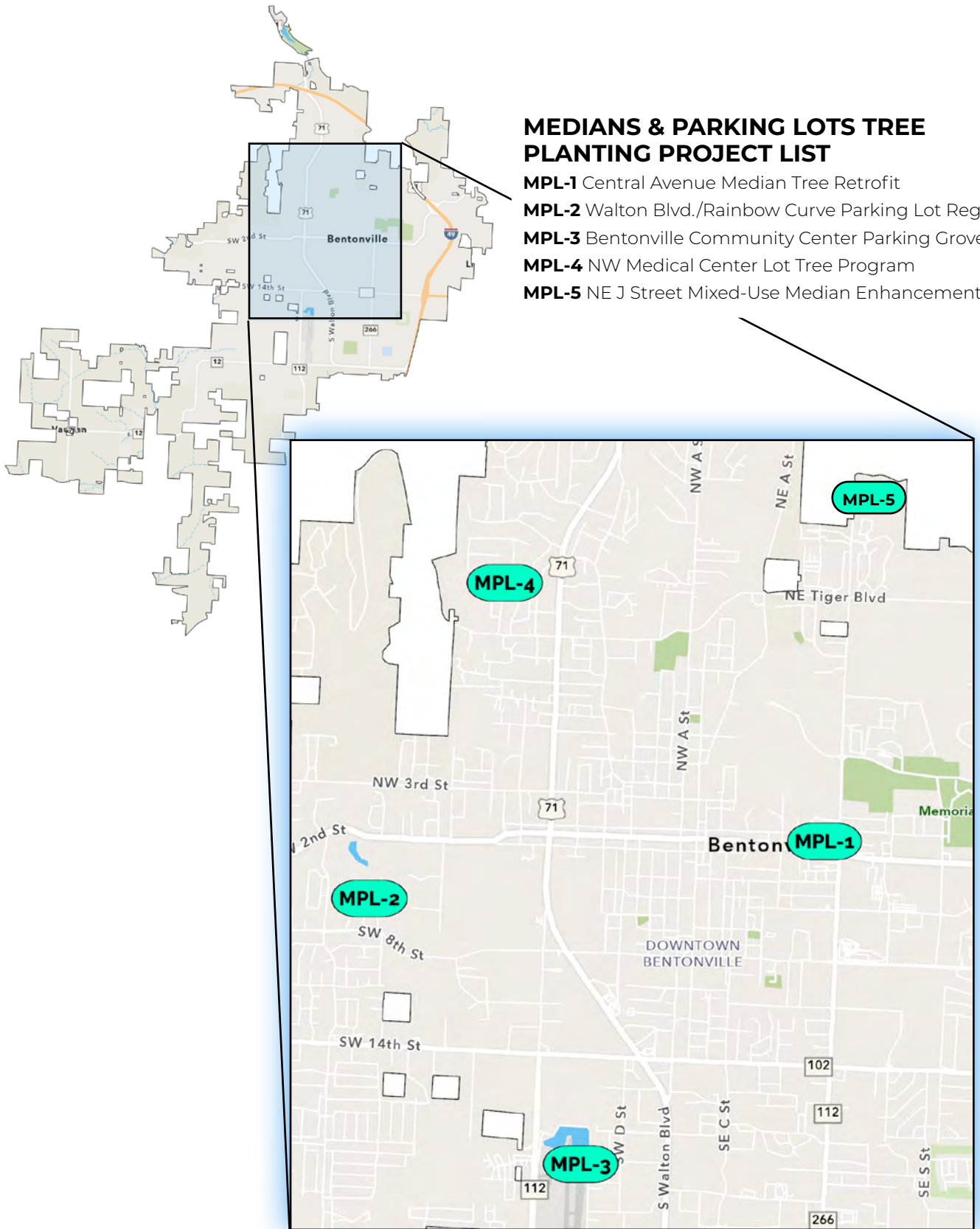
The Bentonville Community Center Parking Grove project (MPL-3) represents an excellent opportunity to transform a conventional parking lot into a more sustainable and climate-resilient landscape. Currently, the site includes scattered trees but remains dominated by asphalt. By reconfiguring the design to integrate additional shade trees and bioswales, the parking area could substantially reduce heat buildup, improve stormwater management, and enhance user comfort. Shade trees would help lower surface and air temperatures, extending pavement life and creating a more welcoming environment for visitors.

Meanwhile, bioswales would capture and filter runoff, directing it toward the trees to support their growth and reduce irrigation needs. This type of integrated green infrastructure illustrates how thoughtful design can turn typical parking areas into high-performing, multifunctional community assets.



Existing parking lot of MPL-3 (Source: google maps)

MEDIANS & PARKING LOTS TREE PLANTING PROJECT LIST				
Map Label	Tree Planting Project Name	Location	Estimated Trees to Plant	Description
MPL-1	Central Avenue Median Tree Retrofit	Central Ave from Walton Blvd to SE J St	90	Use stormwater-tolerant trees in raised medians for heat and runoff reduction.
MPL-2	Walton Blvd./ Rainbow Curve Parking Lot Regreen	Business lots along Rainbow Curve	60	Coordinate with businesses to plant durable trees in lot islands.
MPL-3	Bentonville Community Center Parking Grove	Bentonville Community Center main lot	60	Convert part of the lot into a planted shade grove and bioswale pilot.
MPL-4	NW Medical Center Lot Tree Program	NW Medical Center (north and west lots)	80	Add shade and screening trees using engineered soils for longevity.
MPL-5	NE J Street Mixed-Use Median Enhancement	NE J St medians, N of Central Ave	65	Install compact shade trees and raingarden species within narrow medians and adjacent sidewalk cutouts.



CONCLUSIONS AND RECOMMENDATIONS

Bentonville's urban forests are a cornerstone of the city's identity, nestled in the lush, rolling hills of Northwest Arkansas. These forests help keep the community cooler during hot, humid summers, improve air quality, and provide habitat for native Ozark wildlife. However, Bentonville's tree canopy faces local challenges, including spring and summer storms, occasional droughts, invasive pests, and the pressures of urban growth. Protecting and nurturing Bentonville's urban forest is essential for maintaining the city's natural beauty and resilience for generations to come.

Regular assessments of Bentonville's tree canopy serve multiple purposes: they establish a baseline, act as a report card, and provide a strategic guide for maintaining the city's long-term canopy health. The findings from these assessments help inform planning, investment, and management strategies, ensuring that the communities most in need of forest benefits receive targeted support and access to critical resources.

POLICY RECOMMENDATIONS

1. Promote a Resilient Community Forest

The findings from this assessment provide valuable data to support the development of a more resilient community forest in Bentonville, Arkansas. This information can strengthen state, county, and local budget requests, as well as enhance grant applications aimed at improving the city's resilience. Urban forests are essential for addressing regional challenges, such as mitigating heat and managing stormwater to lessen strain on infrastructure during heavy rains. Strategically placed trees enhance air quality by filtering pollutants and provide shade to help alleviate urban heat island effects. Additionally, trees protect buildings and infrastructure by buffering against high winds and contribute to a more sustainable and livable community.

2. Balance Development and Green Infrastructure

As Bentonville grows, it is important to ensure that new development positively contributes to the urban forest. Integrate tree canopy and green infrastructure goals into development review processes by encouraging developers to preserve mature trees, plant new ones, and incorporate innovative site design that supports both built and natural environments. Require new development and redevelopment projects to demonstrate how they will maintain or increase canopy cover, and consider establishing incentives for projects that go above minimum standards. This approach will help balance economic growth with the community's need for a healthy, resilient tree canopy.

3. Tree Protections and Planting in the Right-of-Way

Focusing tree planting and preservation efforts within rights-of-way offers a highly effective strategy for expanding Bentonville's urban canopy, especially along streets and sidewalks where visibility and community impact are greatest. Although ROW areas comprise only 10% of the city's land area, they contribute 8% of the total tree canopy and are largely impervious, making new plantings especially valuable for shade, beauty, and coverage. Targeting ROWs can help address areas with limited street tree presence, particularly in block groups where canopy coverage has been lost, is below average, or where at least 30% of the ROW is classified as potential planting area. Strategic planting in these locations can mitigate heat, enhance walkability, and provide equitable access to urban forest benefits. Additionally, focusing on ROWs supports citywide

canopy goals by leveraging highly visible spaces to maximize the benefits of new plantings and address canopy loss. To protect existing trees in the right-of-way, implement a tree removal permit process that requires applicants to justify removals, consider alternatives, and, where appropriate, provide replacement or mitigation plantings. This measure will help ensure that trees are only removed when necessary and that Bentonville's urban forest remains robust.

4. Integrate Tree Canopy Goals into City Planning

As Bentonville grows and urbanizes, it's crucial to preserve and expand the existing canopy. Use this assessment to establish short- and long-term goals, such as:

- ▶ Annual tree planting targets.
- ▶ Increasing diversity by planting a wider variety of large, maturing trees.
- ▶ Setting specific canopy coverage goals for future years.
- ▶ Review long-term land-use and development plans, to include policies to protect mature trees and enforce canopy ordinances for new developments.

5. Engage the Community and Partner with Private Landowners

Since much of Bentonville's plantable space is on private land, community involvement is key to increasing canopy and mitigating canopy losses. Develop outreach programs to engage residents, schools, and local businesses in tree planting and care. Initiatives like Arbor Day celebrations, workshops, and volunteer planting events can educate the public about the benefits of trees and encourage participation. Pair these programs with tree giveaways, private property planting initiatives, and tree maintenance events to boost canopy growth on private land.

6. Continue to Monitor Progress and Adapt Strategies

Regular canopy assessments using updated imagery are essential to tracking progress and revising strategies as needed. Recurring assessments allow community forest stakeholders to stay informed about areas of canopy growth and loss, ensuring that management efforts remain effective and aligned with Bentonville's goals. This continuous monitoring will provide the feedback needed to maintain a thriving, resilient urban forest. Bentonville should conduct a tree canopy assessment every 3 years, the next one utilizing 2027 imagery.



REPORT

APPENDIX

GLOSSARY/KEY TERMS

Land Acres: Total land area, in acres, of the assessment boundary (excludes water).

Non-Canopy Vegetation: Areas of grass and open space where tree canopy does not exist.

Possible Planting Area - Vegetation: Areas of grass and open space where tree canopy does not exist, and it is biophysically possible to plant trees.

Shrub: Areas of shrub or other leafy and woody vegetation (smaller than 6ft tall) that are not classified as tree canopy.

Soil/Dry Vegetation: Areas of bare soil and/or dried, dead vegetation.

Total Acres: Total area, in acres, of the assessment boundary (includes water).

Unsuitable Impervious: Areas of impervious surfaces that are not suitable for tree planting. These include buildings and roads and all other types of impervious surfaces.

Unsuitable Planting Area: Areas where it is not feasible to plant trees. Airports, ball fields, golf courses, etc. were manually defined as unsuitable planting areas.

Unsuitable Soil: Areas of soil/dry vegetation considered unsuitable for tree planting. Irrigation and other modifiers may be required to keep a tree alive in these areas.

Unsuitable Vegetation: Areas of non-canopy vegetation that are not suitable for tree planting due to their land use.

Urban Tree Canopy (UTC): The "layer of leaves, branches and stems that cover the ground" (Raciti et al., 2006) when viewed from above; the metric used to quantify the extent, function, and value of the urban forest. Tree canopy was generally taller than 10-15 feet tall.

Water: Areas of open, surface water not including swimming pools.

MARCH | 2026

TREE CANOPY

ASSESSMENT & REFORESTATION PLAN

BENTONVILLE, ARKANSAS

