Oklahoma City Metropolitan Area

Tree Canopy Assessment

2019

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Tree Canopy Assessment

2019

Prepared for:

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Acknowledgements:

This report is adapted from the standard i-Tree Ecosystem Analysis report that is generated upon submission of i-Tree Eco data. i-Tree Eco (formerly Urban Forest Effects model) was cooperatively developed by the USDA Forest Service Northeastern Research Station (NRS), USDA State and Private Forestry's Urban and Community Forestry Program and Northeastern Area, Davey Tree Expert Company, and SUNY College of Environmental Science and Forestry.

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Executive Summary

The Oklahoma City Metropolitan Area Study Area sits within the Cross Timbers forest which is located where the eastern forest meets the upland Prairie grasslands. This forest cover type spreads across most of Oklahoma City Metropolitan Area continuing into Kansas and Texas.

This Tree Canopy Assessment is the first of its kind conducted within a 536 square mile study area in this part of the state. This assessment was conducted during the spring and summer of 2019. This area includes portions of or all boundaries within the communities of Oklahoma City, City of Edmond, City of Bethany, City of Moore, City of Mustang, Midwest City, City of Yukon, Lake Aluma, Town of Forest Park, Del City, City of Spencer, The Village, Nichols Hills, City of Warr Acres, Valley Brook, City of Norman, Woodlawn Park, Smith Village, and Tinker Air Force Base.

Understanding the location, makeup and extent of the forest canopy contained in this area is key to developing and implementing sound management strategies that promote the sustainability and growth of the study area's forest resource and the benefits it provides.

This comprehensive assessment identifies and quantifies the area's land cover, structure and numerous environmental benefits, which include energy savings, air and water quality improvements, stormwater interception, quality of living, human benefits and other socioeconomic benefits. Trees also provide additional aesthetics and beautification back to neighborhoods and the community at large.

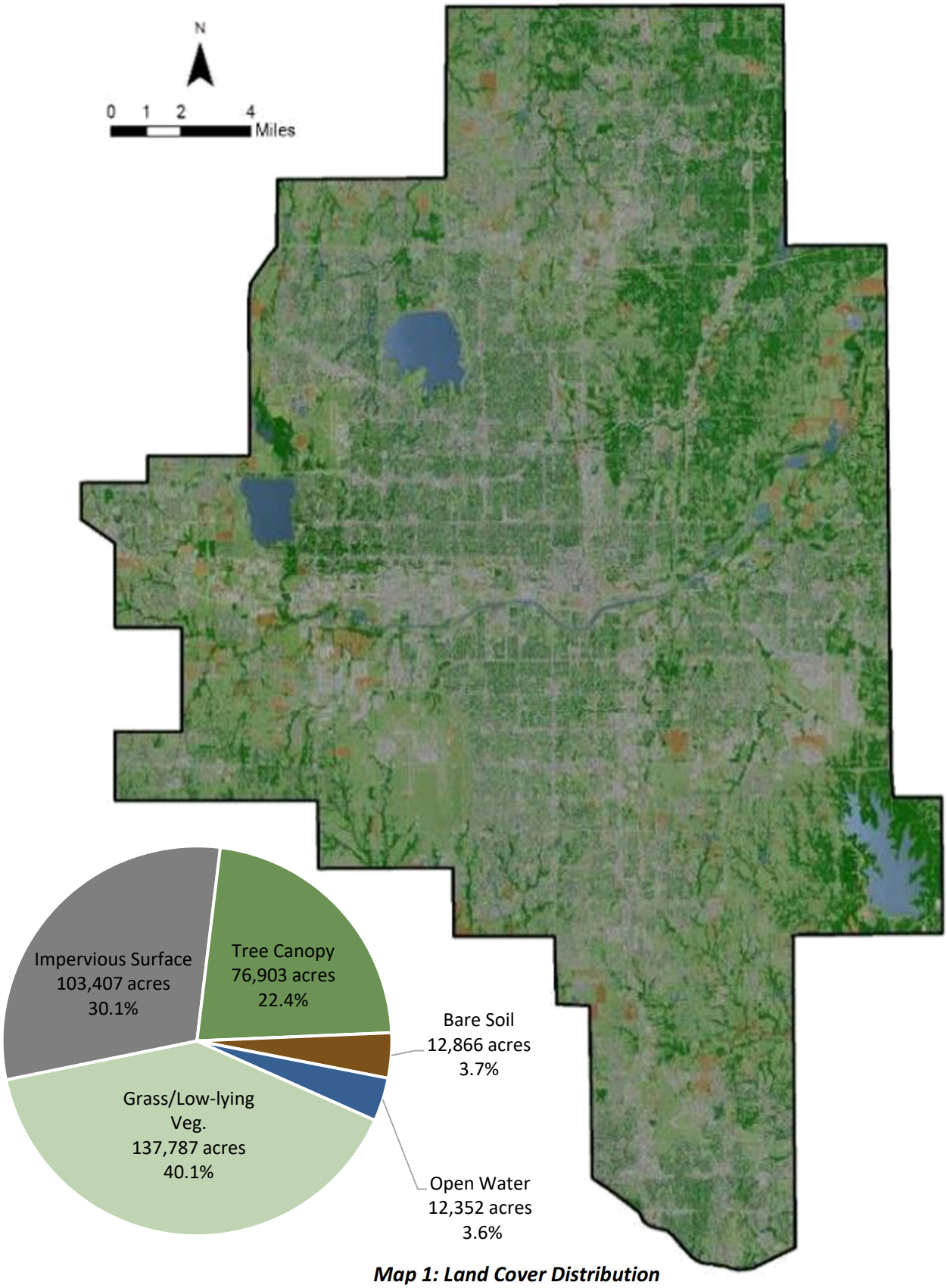
In recognition of this valuable resource, Oklahoma City Community Foundation (OCCF) in partnership with the Association of Central Oklahoma Governments (ACOG) and Oklahoma Forestry Services contracted with Davey Resource Group Inc. (DRG) to conduct this assessment.

Part of the assessment included using high resolution satellite imagery to provide a birds-eye view of the entire forest within the study area showing the land cover type and distribution of existing tree canopy and its relationship to the developed areas in Oklahoma City Metropolitan Area. Along with the land cover assessment, a planting priority analysis was conducted to provide guidance and recommendations for future plantings to help mitigate the impacts of urban heat islands, improve human health benefits, help mitigate stormwater runoff and provide other valuable environmental and aesthetic benefits.

To better understand the structure, composition and value of the benefits provided from the trees vegetation and forest, a sample inventory of public and private trees combined with the i-Tree *Eco* modeling formula was conducted. Through this analysis, it was determined that the study area has an estimated 65 million (SE[1] 10 million) trees annually providing as much as $150 million dollars in environmental benefits within this study area.

In addition to this assessment, a review of select ordinances impacting tree planting was conducted for the City of Oklahoma City. Ordinances were reviewed to determine the strengths and weakness in utilizing trees to help address environmental and aesthetics benefits and services. Resulting recommendations can be used as resources for providing guidance for pro-active planning, implementation and maintenance objectives communities might be considering.

[1] SE or standard error is a measure of the statistical accuracy of an estimate (Appendix B)



Map 1: Land Cover Distribution

Table 1: Benchmark Values for the Study Area's Urban Forest Resource

Land Cover (2016)	
Overall Canopy Cover	22.40%
Impervious Surfaces	30.10%
i-Tree *Eco* (2019)	
Estimated total number of trees	64.7 million (SE 10 million)
Urban Forest Benefits (2019)	
Annual Carbon Sequestered	$35 million
Annual Pollution Removal	$77.7 million
Annual Energy Benefits	$14.2 million
Annual Avoided Runoff	$22.7 million
Species Diversity (2019)	
Estimated Total Number of Unique Species	74
Prevalence of Top Five Species	47.90%
Species Exceeding Recommended 10%	1
Carbon Stored (2019)	4.8 million tons

Urban Forest Resource Summary

Landcover

The Tree Canopy Assessment encompasses 536.4 square miles (343,314 acres). Excluding impervious surface (103,407 acres) and open water (12,866 acres), this area contains approximately 197 square miles (125,832 acres) which has the potential to support tree canopy. The following information characterizes land cover within the study area (Map 1):

- 76,903 acres (22.4%) of tree canopy, including trees and shrubs
- 137,787 acres (40.1%) of grass and low-lying vegetation
- 103,407 acres (30.1%) of impervious surface, including roads and structures
- 12,866 acres (3.7%) of bare soil
- 12,352 acres (3.6%) of water
- A maximum tree canopy potential of 59.1%

Structure

A sample inventory of 300 randomly selected 1/10 acre plots conducted on public and private lands was used with the i-Tree Ecosystem services modeling application. Through this analysis, it was determined that the study area has an estimated 65 million (SE 10 million) trees.

A total of 2,237 trees were measured on the 300 plots. The following information characterizes the structure of the study area:

- Nearly 65 million total trees (SE 10 million trees)
- 74 tree species

- Eastern redcedar (*Juniperus virginiana*, 13.2%), slippery elm (*Ulmus rubra*, 9.7%), and western soapberry (*Sapindus saponaria ssp. drummondii*, 9.6%) are the most prevalent species
- 94% of trees are estimated to be less than 12 inches in diameter (DBH). Less than 1% of trees exceeding 24 inches in diameter (DBH)
- 4.8 million (SE 569,355) tons of carbon stored to date

Benefits

Annually, the study area's forest provides nearly $150 million in environmental benefits to the community. These benefits include (Figure 1):

- Reducing electricity (152,809 MwH) and natural gas (262,157 MBtu), valued at $14.2 million
- Intercepting nearly 340 million cubic feet of stormwater, valued at $22.7 million
- Removing 5,223 tons of air pollutants (CO, NO_2, O_3, $PM_{2.5}$, and SO_2) valued at $77.7 million
- Reducing atmospheric CO_2 by 205,160 (SE 20,864) tons, valued at $35 million

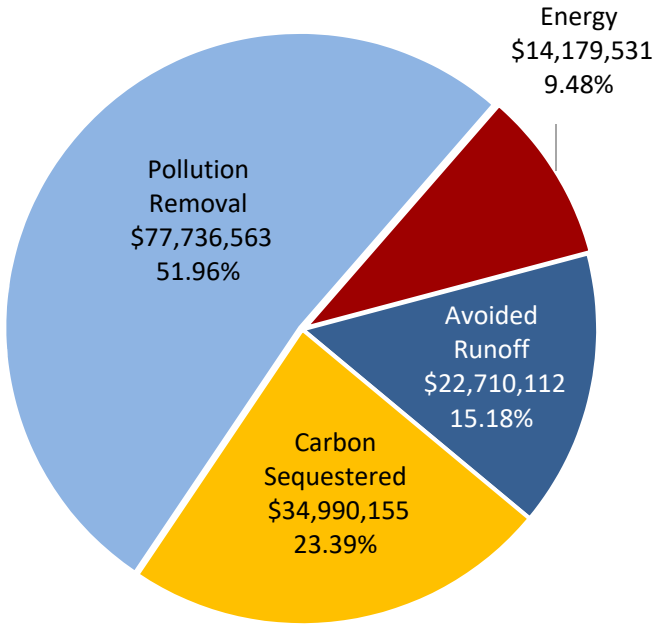


Figure 1: Annual Environmental Benefits of the Study Area's Urban Forest Resource

The study area's urban forest has beneficial effects on the environment, and annually contributes to nearly $150 million in benefits to the community. Table 2 summarize the annual benefits estimated by the i-Tree *Eco* assessment.

Table 2: Benefits of the Oklahoma City Metropolitan Area Study Area's Urban Forest Resource

Benefits	Total $	$/tree	$/capita
Energy	14,179,531	0.22	22.03
Gross Carbon Sequestration	34,990,155	0.54	54.36
Pollution Removal	77,736,563	1.20	120.77
Avoided Runoff	22,710,112	0.35	35.28
Total Benefits	**$149,616,362**	**$2.31**	**$232.45**

Composition and Diversity

Trees collected within the sample plots included 74 different tree species (Appendix C). The assessment estimates that the top 10 most common species represent nearly 75% of the overall urban forest population (Figure 2). The most prevalent species are eastern redcedar (*Juniperus virginiana*, 13.2%), slippery elm (*Ulmus rubra*, 9.7%), and western soapberry (*Sapindus saponaria ssp. drummondii,* 9.6%).

Maintaining diversity in a public tree resource is important. Dominance of any single species or genus can have detrimental consequences in the event of storms, drought, disease, pests, or other stressors that can severely affect a public tree resource. Catastrophic pests and pathogens, such as Dutch elm disease (*Ophiostoma ulmi*), Asian longhorned beetle (*Anoplophora glabripennis*), and sudden oak death (*Phytophthora ramorum*) are some examples of unexpected, devastating, and costly introduced species that highlight the importance of diversity and the balanced distribution of urban tree species and genera.

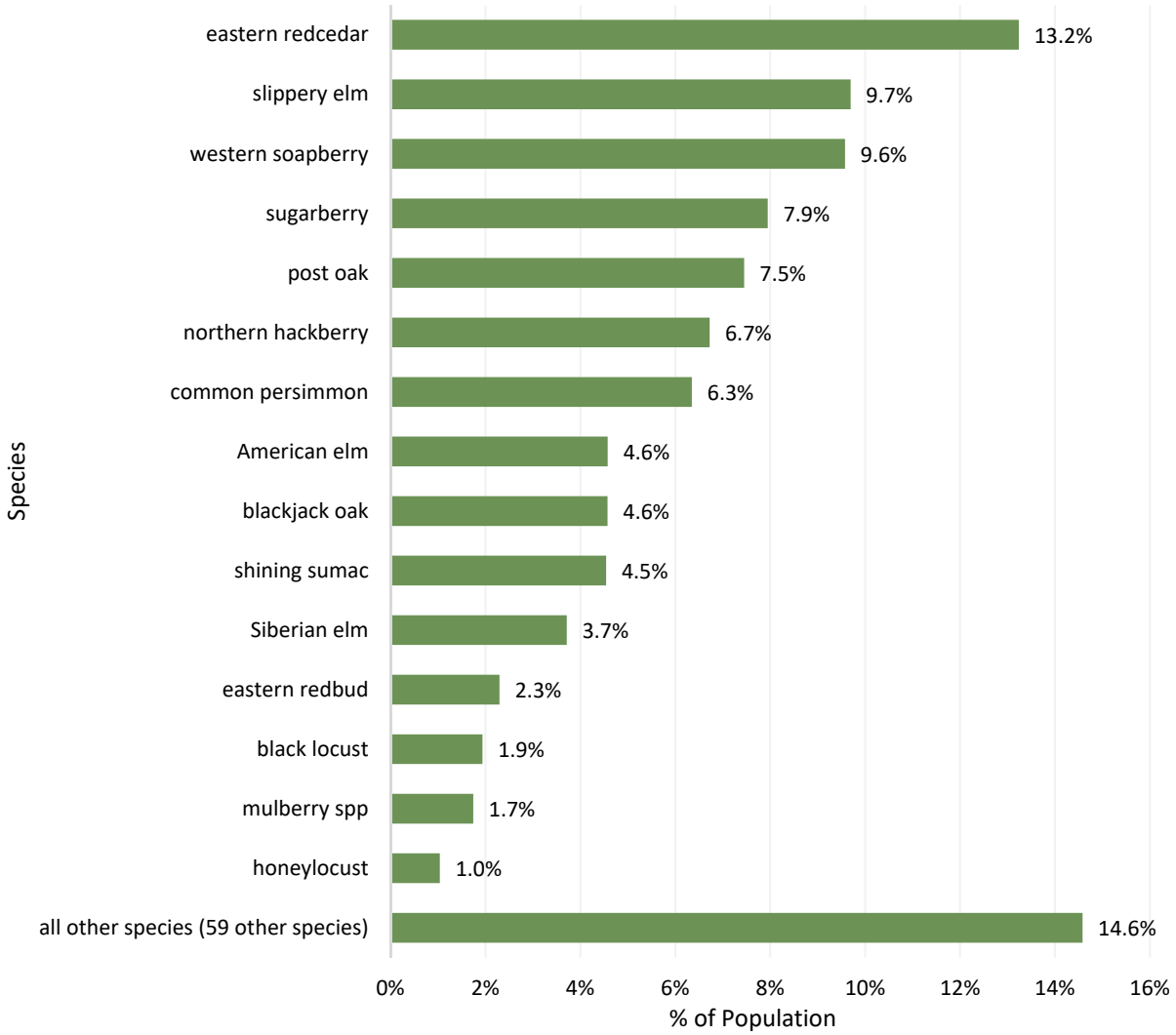


Figure 2: Species Diversity

Tree Condition

Tree condition is an indication of how well trees are managed and how well they are performing in each site-specific environment (e.g., street, median, parking lot, etc.). Condition ratings can help managers anticipate maintenance and funding needs. In addition, tree condition is an important factor in the calculation of public tree resource benefits. A condition rating of good assumes that a tree has no major structural problems, no significant mechanical damage, minor aesthetic, insect, or disease problems, and is in good health. When trees are performing at their peak, as those rated as good or better, the benefits they provide are maximized. This assessment provided condition ratings for trees in the study area (Figure 3).

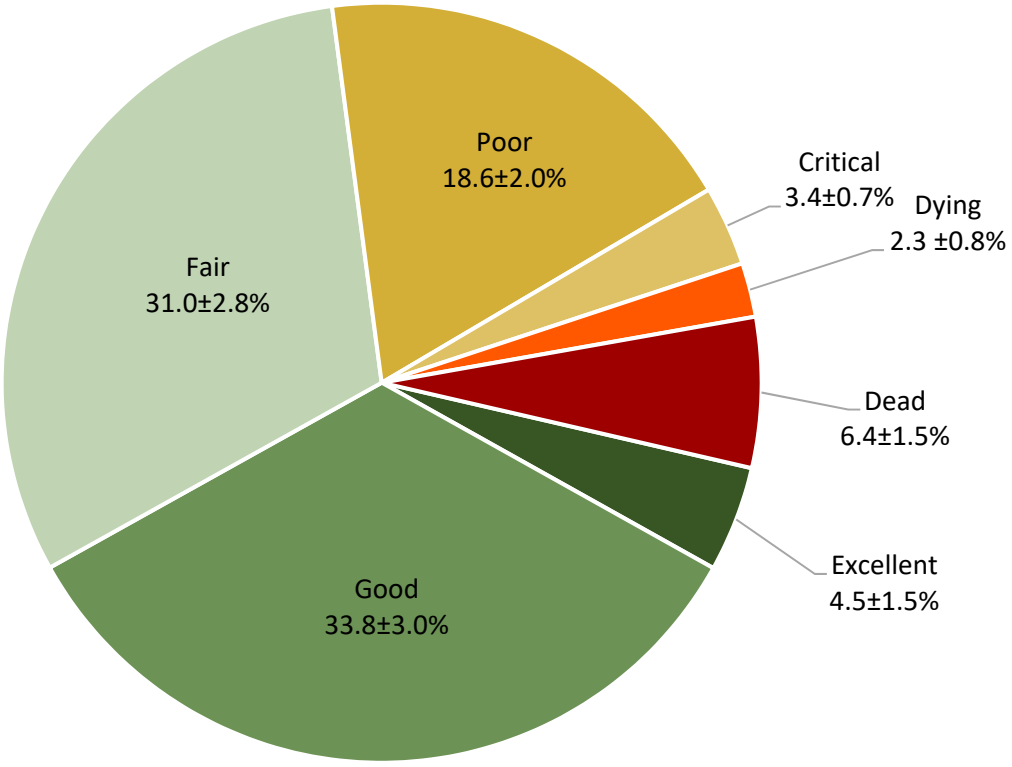


Figure 3: Tree Condition

Management Applications

Oklahoma City Metropolitan Area Study Area's urban forest resource is a dynamic resource that requires continued investment to maintain and realize its full benefit potential. Trees are one of the few community assets that have the potential to increase in value with time and proper management.

Characterizing the tree canopy and using this information to support management goals such as age, structure, species diversity, and locations of priority planting is important for the sustainability of the Oklahoma City Metropolitan Area Study Area's urban forest resource. The canopy data, combined with existing and emerging research, enables managers to balance urban growth with tree preservation and aids in identifying and assessing urban forestry opportunities. A spatial understanding of tree canopy helps urban forest managers and city leadership align urban forestry objectives with community vision. Identifying priority planting areas that yield the most return on investment is especially important.

The study area has an existing tree canopy cover of 22.4% and a maximum potential for 59.1% canopy. To help identify the most beneficial sites for expanding canopy, potential sites were mapped and then prioritized based on soils, slope, and existing canopy. These maps are valuable tools for guiding tree planting projects.

Appropriate tree species selection, site consideration, planting installation and timely short- and long-term tree care can substantially increase lifespan. When trees live longer, they provide greater benefits. As individual trees continue to mature and aging trees are replaced, the overall value of the community forest and the amount of benefits provided grow as well. This vital, living resource is, however, vulnerable to a host of stressors and requires ecologically sound and sustainable best management practices to ensure a continued flow of benefits for future generations.

Based on the i-Tree *Eco* assessment, the urban forest in the study area is a young resource in fair to good condition (see Appendix C for methodology). With an estimated more than 65 million trees (SE 10 million), proactive management, planning, and new and replacement tree planting are all critical for sustaining the benefits from this resource.

Based on the land cover and i-Tree *Eco* assessments, DRG recommends the following:

- Promote species diversity for greater resilience and pest resistance.
- Ensure that new tree plantings include a variety of suitable species and prevent an unduly increased reliance on prevalent species for greater resilience and pest resistance.
- Consider incorporating more species with Relative Performance Index (RPI) values of 1.0 or higher.
- Explore the use of species that have been successful in other parts of Oklahoma, including:
    - Shumard oak (*Quercus shumardii*)
    - bald cypress (*Taxodium distichum*)
    - pond cypress (*Taxodium ascendens*)

    - chinkapin oak (*Quercus muehlenbergii*)
    - Freeman maple (*Acer freemanii*)
    - trident maple (*Acer buergerianum*)
    - cedar elm (*Ulmus crassifolia*)
    - Arizona cypress (*Cupressus arizonica*)
    - Buckley oak (*Quercus buckleyi*)
    - escarpment live oak (*Quercus fusiformis*)
- Support the longevity of existing trees to preserve and increase benefits and to preserve a stable benefit stream.
- Use planting priority maps to strategically focus planting to increase trees and canopy that will support stormwater management, preserve soil, reduce urban heat islands, and complement the existing urban infrastructure for the greatest impact and return on investment.
- Strive for a more balanced and equitable urban forest by targeting low-income areas for planting priority.
- Prioritize planting trees in parks. The study area's 313 parks and open spaces have 2,163 acres that have the potential to support additional tree plantings.
- As land use zones designated for planned uses are developed, preserve existing tree canopy as much as possible.
- Consider adopting and/or revising guidelines and ordinances that enhance opportunities to utilize trees in addressing, public health, aiding in stormwater management and address other vital environmental issues.
- Whenever feasible, incorporate trees into trails and pedestrian thoroughfares in communities within the study area. Increased canopy cover can encourage cycling and pedestrian foot-traffic which translates to positive indicators for public health and reduced demand for other modes of transportation.
- Use tree plantings in watershed floodways with lower canopy cover to mitigate "peak flows" for future flood events.
- Consider incentives for tree planting on private property, particularly in high and very high priority planting areas and in neighborhood associations with lower tree canopy cover.

With adequate protection and planning, the value of the urban forest resource in the study area will increase over time. Proactive management and an ongoing tree replacement plans are critical. Along with new tree installation and replacement planting, funding for tree maintenance and inspection is vital to preserving benefits, prolonging tree life, and managing risk. Existing healthy mature trees should be maintained and protected whenever possible since the greatest benefits accrue from the continued growth and longevity of existing canopy. All citizens can take pride in knowing that the study area's trees help support the quality of life, improve community well-being and contribute to improved human health for all residents across the entire region.

Tree Canopy and Geographic Information Systems

Tree Canopy is the layer of leaves, branches, and stems that cover the ground when viewed from above. Trees provide benefits to the community that extend beyond property lines, therefore the land cover assessment includes all tree canopy within the borders of the community and does not distinguish between publicly-owned and privately-owned trees. To place tree canopy in context and better understand its relationship within the community, the assessment contains other primary landcover classifications, including impervious surfaces, pervious surfaces, bare soils, and water.

As more communities focus attention on environmental sustainability, community forest management has become increasingly dependent on geographic information systems (GIS). GIS is a powerful tool for urban tree canopy mapping and analysis. Understanding the extent and location of the existing canopy is integral to identifying various types of community forest management opportunities, including:

- Future planting plans
- Stormwater management
- Water resource and quality management
- Impact and management of invasive species
- Preservation of environmental benefits
- Outreach and education

High-resolution aerial imagery (2016) and infrared technology remotely map tree canopy and land cover (Figure 4). The results of this assessment provide a clear picture of the extent and distribution of tree canopy within study area. The data developed during this assessment will become an important part of the GIS database for the region and will provide a foundation for developing community goals and urban forest policies. With this data, managers can determine:

- Study area's progress towards local and regional canopy goals
- Changes in tree canopy over time and in relation to growth and development
- The location and extent of canopy at virtually any level, including land use, zoning, and parks
- The location of available planting space to develop strategies for increased canopy in underserved areas

In addition to quantifying existing urban tree canopy, this assessment illustrates the potential for increasing tree canopy across the study area. The data, combined with existing and emerging urban forestry research and applications, can provide additional guidance for determining a balance between growth and preservation and aid in identifying and assessing urban forestry opportunities.

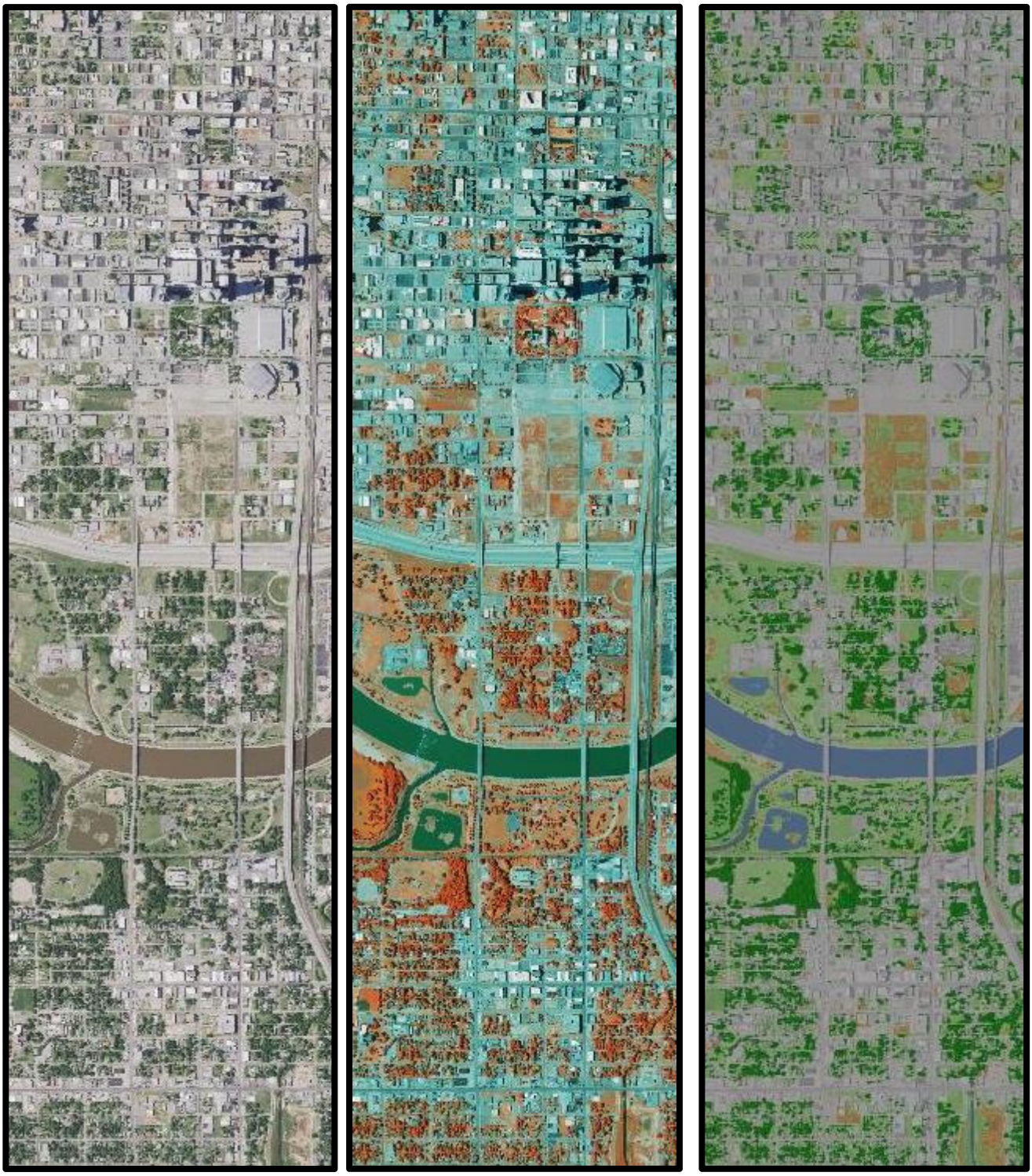


Figure 4: Land Cover Mapping

High-resolution aerial imagery (left) is used to remotely identify existing land cover. Infrared technology delineates living vegetation including tree canopy (middle). Remote sensing software identifies and maps tree canopy and other land cover (right).

Land Cover

Overall Canopy

The study area encompasses an area of approximately 536.4 square miles (343,314 acres), of which approximately 120.2 square miles (76,903 acres) are tree canopy (Table 3). In addition to the 22.4% tree canopy, the study area's land cover is comprised of 30.1% impervious surface, 40.1% grass and low-lying vegetation, 3.7% bare soil, and 3.6% open water.

The following characterizes land cover in the study area:

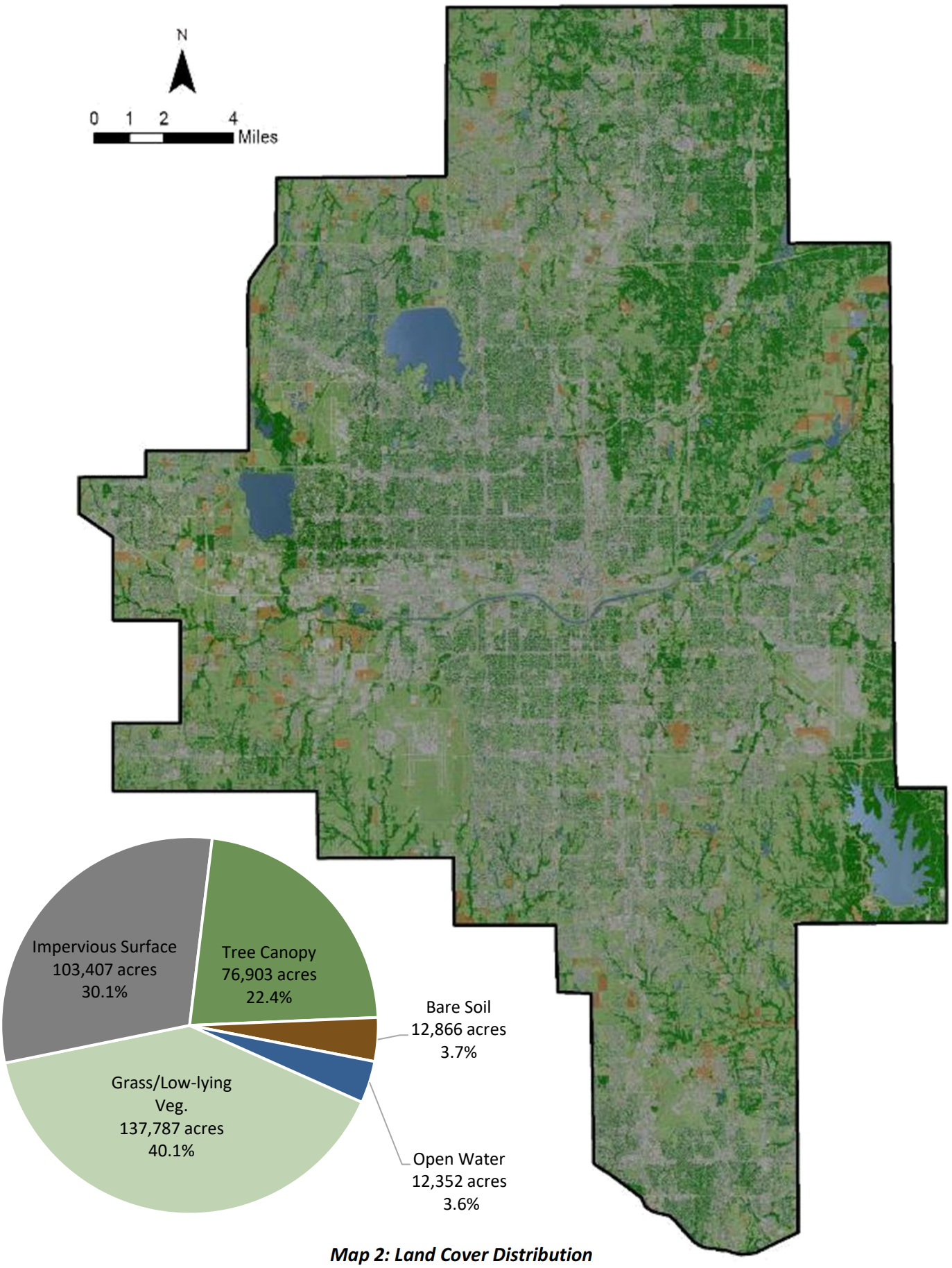
- 2,163 acres of tree canopy in parks, 25.3% average canopy cover
- 22.4% average canopy cover in watersheds
- All communities in the study area, with the exception of Tinker Air Force Base, have the potential to support more than 50% canopy cover
- A maximum canopy potential of 59.1%

Considering the existing tree canopy and possible tree canopy cover over impervious areas, the canopy potential of the study area is 59.1%, although the actual potential may be higher where tree canopy can shade impervious surfaces such as roads, parking lots and buildings.

The potential future tree canopy can be estimated by comparing the areas of existing canopy to the area of low-lying vegetation and impervious surface. This analysis excludes sports fields, cemeteries, and other sites not suitable for trees. Based on this methodology, the analysis found an additional 196.6 square miles (125,832 acres) where trees could be planted to augment existing canopy. If communities in the study area were to plant trees to cover all this area, then the overall tree canopy could be increased to 59.1%.

Table 3: Land Cover Classification Summary

Land Cover Class	Acres	% of Land Cover
Grass/Low-lying Vegetation	137,787	40.13
Impervious Surface	103,407	30.12
Tree Canopy	76,903	22.40
Bare Soil	12,866	3.75
Open Water	12,352	3.60
All Land Cover Class Total	**343,314**	**100%**



Map 2: Land Cover Distribution

Tree Canopy by Parks, Schools, and Trails

The study area has a wide variety of parks, trails, school grounds, and other open and public spaces that function as public parks (Map 3). These parks, schools, and trails are an integral part of the communities within the study area and tree canopy cover within these areas provides numerous benefits to users and help to soften the urban landscape.

Parks

The sum of these park acres total 2,163 acres of tree canopy and an average canopy cover of 25.30% (Table 4). Of the study area's top ten largest parks, Stinchcomb Wildlife Refuge is the largest at 965 acres of which 860 acres are located within the study area. With nearly 566 acres covered by tree canopy or 65.8% of the 860 acres, it has the highest canopy cover of the top ten parks. The next largest, Trosper Park, is comprised of 367 acres and has 216 acres of tree canopy. In contrast, Sutton Wilderness Park is comprised of 150 acres, with 72.8 acres of tree canopy resulting in 48.4% canopy cover. Nearly all the top ten parks have the potential to achieve greater than 50% canopy cover, aside from Kickingbird Golf Course, which has a potential canopy cover of nearly 30%, this is likely attributable to tree plantings not being desirable in areas such as fairways.

Table 4: Tree Canopy Cover Summary for Top 10 Largest Parks

Park	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Stinchcomb Wildlife Refuge	Yukon	859.78	565.91	65.82	6.37	136.42	1.47	149.60	70.11
Trosper Park	Oklahoma City	367.31	216.03	58.81	30.83	106.54	13.45	0.47	88.48
John Conrad Regional Park	Midwest City	292.81	58.02	19.82	38.88	184.58	10.01	1.31	42.74
Bluff Creek Park	Oklahoma City	292.51	154.25	52.73	7.34	118.78	5.62	6.52	95.25
Mitch Park	Edmond	276.81	86.57	31.28	35.13	152.64	1.34	1.13	76.69
Griffin Memorial Community Park	Norman	158.15	29.39	18.58	17.51	102.53	4.74	3.99	50.34
Wild Horse Park	Mustang	153.77	8.79	5.71	30.70	98.31	12.34	3.63	46.74
Dolese Youth Park	Oklahoma City	152.78	55.63	36.41	17.83	55.94	4.45	18.93	56.13
Sutton Wilderness Park	Norman	150.41	72.79	48.40	1.75	61.31	4.34	10.21	92.01
Kickingbird Golf Course	Edmond	148.04	42.46	28.68	8.95	93.45	1.10	2.09	29.53
All Other Parks		3,979.88	873.18	24.92	588.81	2,218.22	185.94	113.72	75.11
All Parks Total		**6,832.24**	**2,163.02**	**25.30%**	**784.11**	**3,328.72**	**244.79**	**311.58**	**74.78%**

Schools

Access to green infrastructure has been shown to heighten student performance by increasing attention spans and reducing stress levels. Furthermore, tree canopy has been shown to increase activity levels and reduced the risk of physical and mental health illnesses (Li and Sullivan, 2016).

The study area includes 252 schools, encompassing 4,193 acres for an average canopy cover of 7.5%. Among the top 10 largest schools within the study area, Edmond Santa Fe High School has the highest canopy cover at 28.8% (Table 5). The school with the second highest canopy cover among the top 10 largest schools is Westmoore High School with 6.9% canopy cover. The largest school by acreage, is Yukon High School, which has a canopy cover of 6.3%. All of the top 10 largest schools have the potential to support more than 20% canopy cover.

Table 5: Tree Canopy Cover Summary for Top 10 Largest Schools

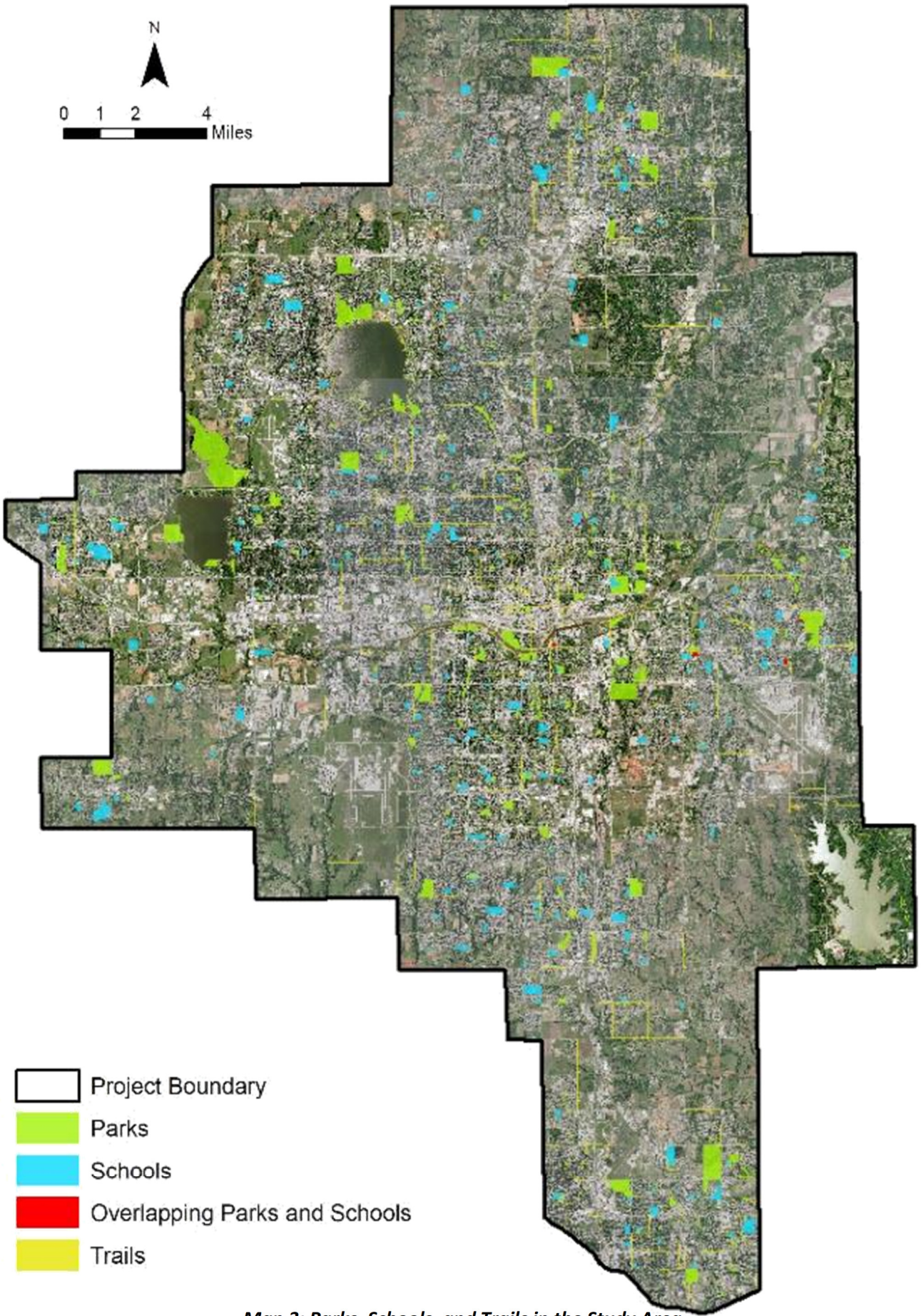
School Name	Municipality	School District	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Yukon HS	OKC	Yukon	111.29	6.33	5.69	45.01	53.95	3.17	2.83	50.79
Edmond Santa Fe HS	Edmond	Edmond	105.15	23.82	22.65	35.85	43.30	2.17	0.00	58.82
Mustang MS/IS/HS	Mustang	Mustang	105.08	2.57	2.44	63.30	36.08	1.99	1.14	29.06
Irving MS	Norman	Norman	83.20	4.80	5.77	12.63	57.90	7.86	0.00	76.69
Dennis Es/Putnam City North HS	OKC	Putnam City	80.86	4.76	5.88	37.64	35.49	2.97	0.00	31.56
Southmoore Hs	Moore	Moore	80.47	0.28	0.35	29.10	46.26	4.82	0.00	53.22
Putnam City ECC	OKC	Putnam City	77.33	6.74	8.72	35.81	33.15	0.05	1.58	51.61
Edmond North Hs/John Ross ES	Edmond	Edmond	68.08	2.50	3.67	33.75	30.43	1.40	0.00	20.60
Norman North HS	Norman	Norman	63.39	3.15	4.97	30.00	26.80	2.26	1.18	25.80
Westmoore HS	OKC	Moore	60.24	6.88	11.43	25.87	26.76	0.72	0.00	46.09
All Other Schools			3,307.86	248.37	7.51	1,513.97	1,404.78	135.68	5.06	40.35
All schools total			**4,142.94**	**310.21**	**7.49%**	**1,862.93**	**1,794.91**	**163.10**	**11.79**	**41.37%**

Trails

The study area includes 964.75 miles of trails which include 4,538.2 acres with an average canopy cover of 12.6%, based on a buffer of 20 feet from the center of the trail. Among the top 10 largest trails by acreage, Lake Draper Trail has the highest canopy cover at 47.98. The Greenway Link Trail has the second highest canopy cover among the top 10 largest trails at 38.6%. In contrast, Heffner Road and I-35 Frontage Trails, both have canopy cover less than 1%. Between the top 10 largest trails, all could support additional tree canopy cover, in fact the top three largest trails have the potential to support canopy cover in excess of 50%.

Table 6: Tree Canopy Cover Summary for Top 10 Largest Trails

Trail Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Greenway Link Trail	Oklahoma City	73.12	28.20	38.57	6.96	32.44	3.74	1.77	84.39
Lake Hefner Trail	Oklahoma City	66.84	7.74	11.58	31.07	27.76	0.01	0.26	50.12
Lake Draper Trail	Oklahoma City	64.88	31.13	47.98	3.92	27.50	2.03	0.31	93.23
Oklahoma River Trail	Oklahoma City	64.68	2.90	4.49	31.65	28.14	1.27	0.71	49.80
Newcastle Rd	Oklahoma City	58.05	2.73	4.70	41.43	13.66	0.24	0.00	28.43
Stanley Draper Dr	Oklahoma City	56.03	0.99	1.77	47.43	7.06	0.55	0.00	14.75
Hefner Rd	Oklahoma City	54.20	0.42	0.77	49.88	3.80	0.11	0.00	7.81
S Grand Blvd Trail	Oklahoma City	50.58	5.50	10.88	23.05	21.60	0.41	0.02	54.02
Walker Ave	Oklahoma City	46.74	3.51	7.52	41.80	1.41	0.03	0.00	10.44
I-35 Frontage	Oklahoma City	45.83	0.36	0.78	40.28	4.92	0.28	0.00	11.98
All Other Trails		3,957.22	489.19	12.36	2,807.08	617.64	32.05	11.26	27.68
All Trails Total		**4,538.17**	**572.68**	**12.62%**	**3,124.53**	**785.93**	**40.71**	**14.32**	**29.74%**



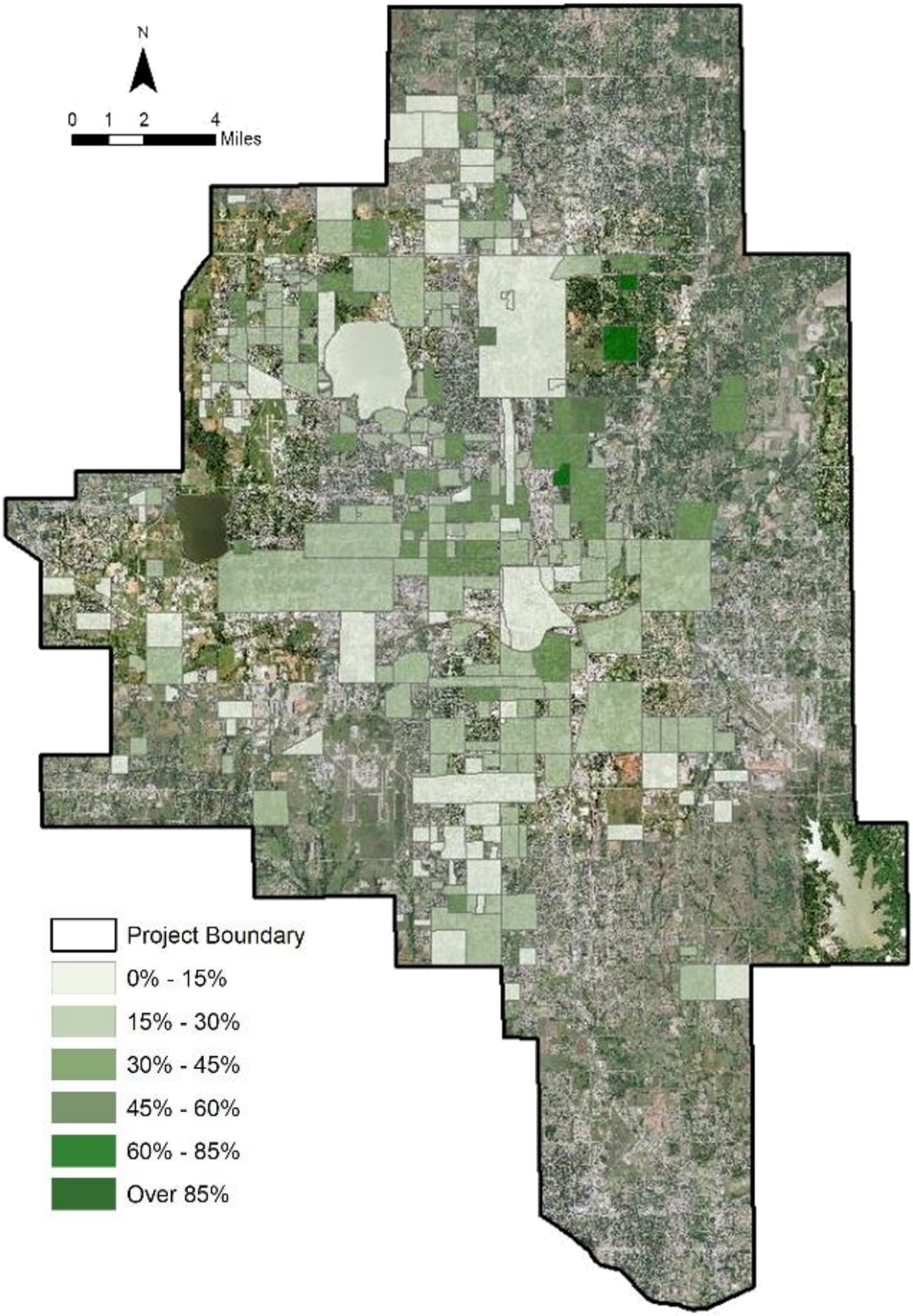
Map 3: Parks, Schools, and Trails in the Study Area

Tree Canopy by Oklahoma City Neighborhood Associations

This assessment looked at a subset of the study area concentrated in Oklahoma City. Data from the City of Oklahoma City identified 393 neighborhoods in a partial listing of neighborhood associations (Appendix C). Oklahoma City neighborhood associations encompass 89,762 acres with 18,586 acres of tree canopy and an average tree canopy cover of 20.4% (Table 7). Among the ten largest identified neighborhoods, Mustard Seed Development Corporation is the largest with 5,385 total acres. Of this, nearly 754 acres are tree canopy for a canopy cover of 14.0%. Shidler-wheeler has 273 acres of tree canopy and has the highest canopy cover among the top 10 largest associations with 30.1%. All but one neighborhood has the potential to achieve more than 50% canopy cover. Lake Hefner Boat Owners Association has potential canopy cover of 12.8%. This is likely a result of the association having 3,314 total acres and nearly 2,533 acres of open water, which restricts available planting space for additional trees.

Table 7: Tree Canopy for the Top 10 Largest Oklahoma City Neighborhood Associations

Neighborhood	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass / Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Mustard Seed Development Corporation	5,384.79	753.55	13.99	1,707.23	2,721.13	122.17	80.70	62.73
Friends of 10th Street	4,227.91	947.94	22.42	1,866.53	1,274.28	87.34	51.83	52.85
Lake Hefner Boat Owners Association	3,313.78	144.37	4.36	153.61	479.63	3.31	2,532.86	12.84
Garden Neighborhood Council	2,551.08	720.84	28.26	529.24	1,003.21	95.52	202.27	70.27
Brandywine NA	2,116.78	341.93	16.15	625.86	969.59	120.75	58.65	62.28
Pasadena Heights Security Association	1,363.90	389.18	28.53	558.07	371.96	42.15	2.53	58.77
Meridian	1,330.78	150.99	11.35	716.84	397.78	16.04	49.13	40.77
Quail Creek Area	1,186.06	343.02	28.92	466.14	359.93	4.81	12.15	50.08
Akers Park NWA	1,166.90	190.26	16.30	420.44	471.54	53.21	31.46	61.21
Shidler-Wheeler NA	907.78	273.21	30.10	354.81	216.36	28.11	35.30	56.39
All Other Neighborhood Associations	66,212.61	14,330.43	20.38	27,868.33	21,842.25	1,399.43	772.18	47.61
All Neighborhood Associations Total	**89,762.37**	**18,585.72**	**20.37%**	**35,267.10**	**30,107.64**	**1,972.84**	**3,829.08**	**47.74%**



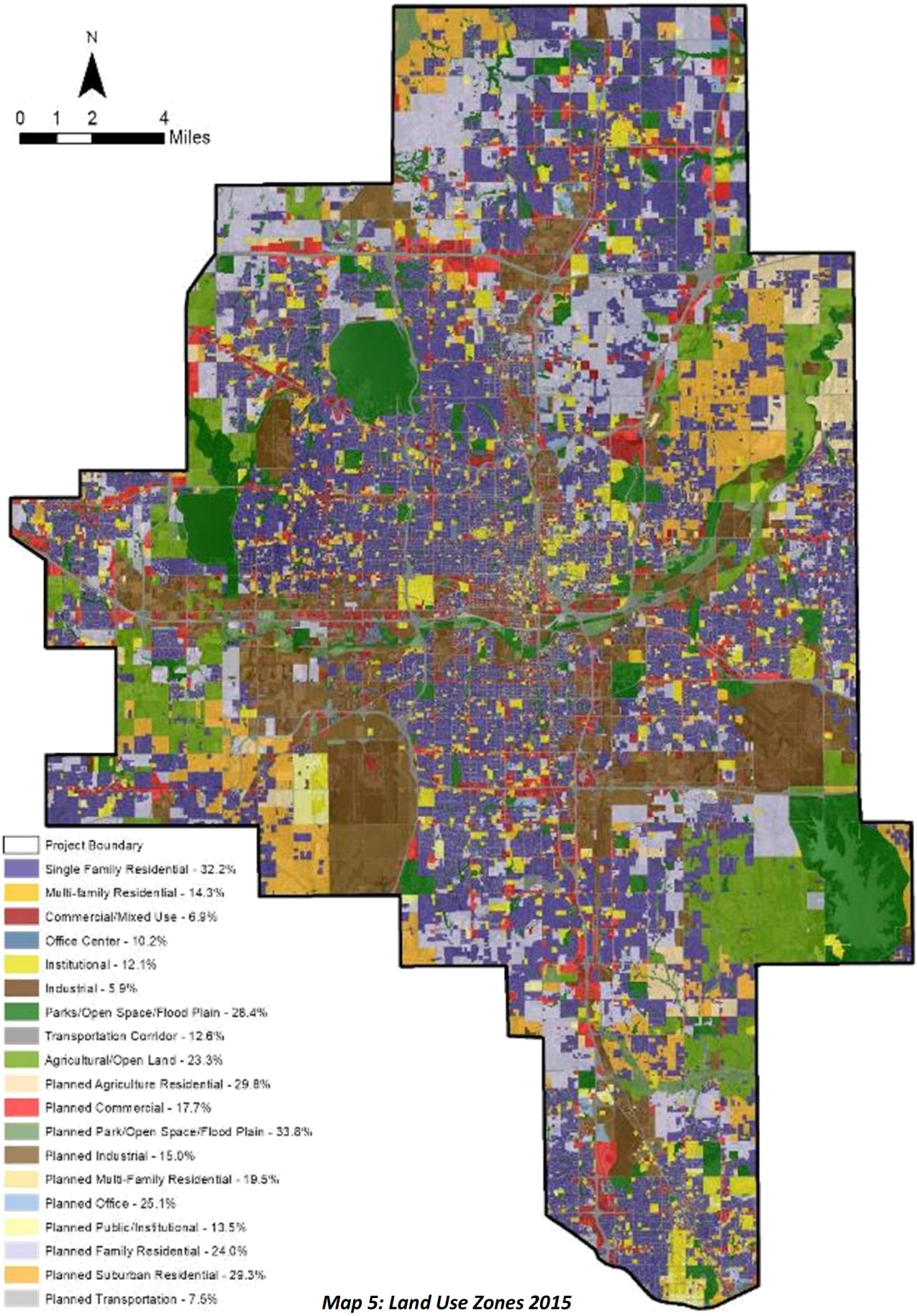
Map 4: Tree Canopy by Oklahoma City Neighborhood Associations

Tree Canopy by Land Use

Tree canopy and other land cover often varies according to zoned land use. Each land use designation is defined in Appendix C. Of the Land Use Zones in the study area, Single Family Residential encompasses the most acreage with 90,969 acres (Table 8). Single Family Residential has 29,281 acres of tree canopy for a canopy cover of 32.2%. Commercial/Mixed Use zones have the lowest canopy cover with 6.9%, but this land use, which makes up 12,692 acres has the potential to support 23.7% canopy cover. Land Use Zones with planned uses (agriculture residential, commercial, etc.) have an average canopy cover of 21.5% and all these zones, beside planned transportation, have the potential to support more than 50% canopy cover. However, the potential canopy cover does not consider areas that are planned for future development; therefore, the actual potential canopy cover percentages could be lower than projected.

Table 8: Tree Canopy by Land Use

Land Use Designation 2015	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Single Family Residential	90,969	29,281	32.19	29,928	30,729	705	326	66.30
Multi-family Residential	4,817	691	14.35	3,086	992	30	18	35.10
Commercial/Mixed Use	12,692	877	6.91	9,549	2,035	204	28	23.70
Office Center	3,803	387	10.19	2,723	645	39	9	27.92
Public/Institutional	14,047	1,701	12.11	6,241	5,584	413	109	45.06
Industrial	22,375	1,320	5.90	10,926	8,693	1,073	361	28.22
Parks/Open Space/Flood Plain	29,946	8,500	28.38	1,714	9,561	709	9,461	50.83
Transportation Corridor	38,615	4,868	12.61	22,009	11,220	410	109	41.99
Agricultural/Open Land	21,247	4,953	23.31	953	12,245	2,584	512	73.48
Planned Agriculture Residential	5,360	1,599	29.83	185	3,093	384	99	81.01
Planned Commercial	9,016	1,597	17.71	2,289	4,501	564	66	70.45
Planned Park/Open Space/Flood Plain	6,080	2,053	33.77	438	2,970	386	233	69.63
Planned Industrial	19,269	2,893	15.01	3,250	11,426	1,494	207	67.76
Planned Multi-Family Residential	1,793	350	19.53	480	874	69	20	66.52
Planned Office	1,654	415	25.08	340	839	40	20	75.11
Planned Public/Institutional	2,705	365	13.50	458	1,761	94	27	71.67
Planned Single Family Residential	40,024	9,607	24.00	7,381	19,899	2,620	517	73.80
Planned Suburban Residential	18,293	5,356	29.28	1,160	10,506	1,040	230	80.67
Planned Transportation	448	34	7.54	227	180	7	1	48.86
All Land Use Designation Total	**343,153**	**76,847**	**19.01%**	**103,338**	**137,751**	**12,865**	**12,352**	**57.79%**



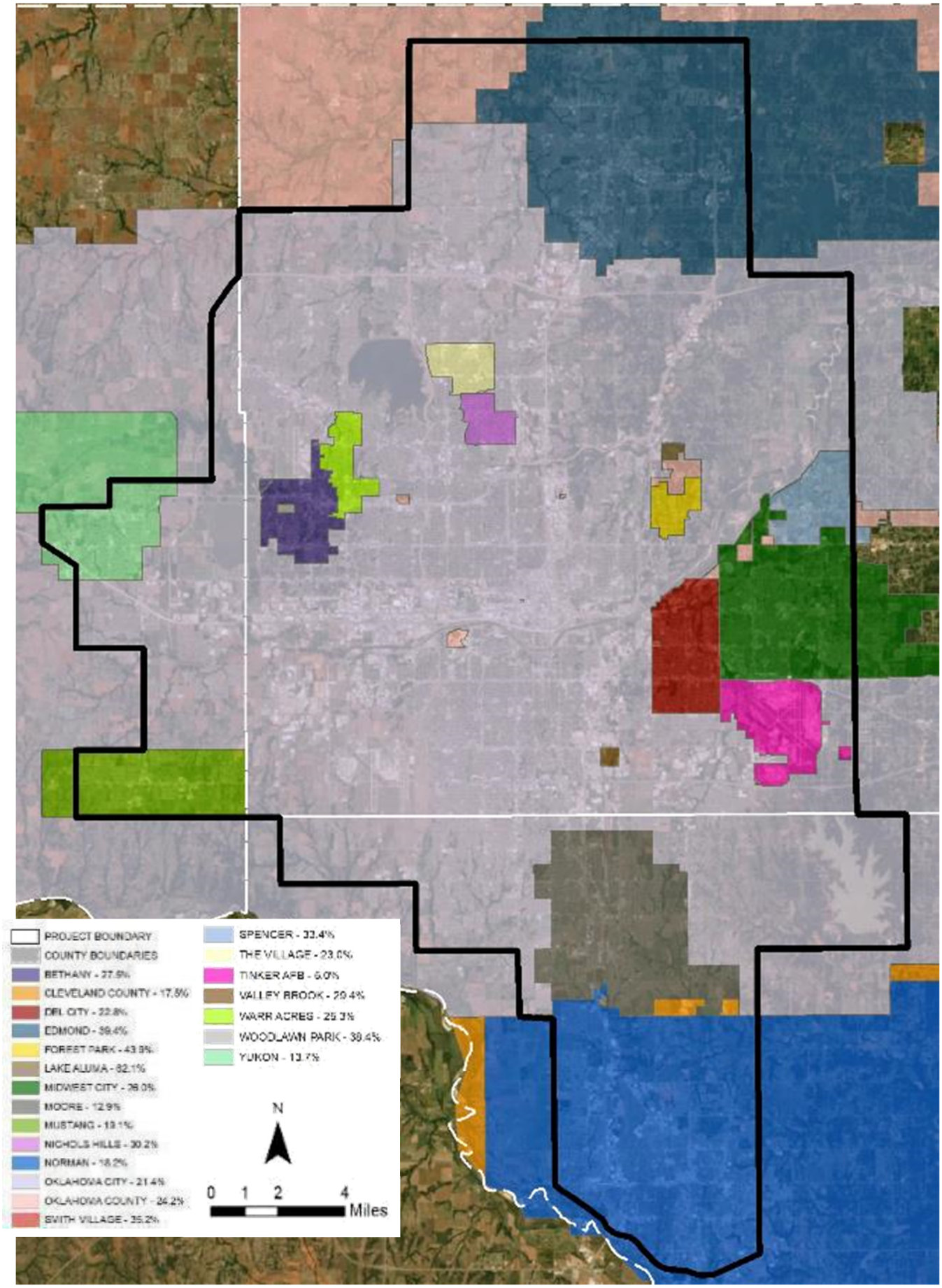
Map 5: Land Use Zones 2015

Tree Canopy by Community

The study area includes 343,193 acres with 76,890 acres of tree canopy (Table 9). The study area does not completely encompass the entire area of every community that was considered in the project (Map 6). Oklahoma City is the largest municipality in the study area, encompassing 224,311 acres with 47,894 acres of tree canopy and 21.4% canopy cover. In contrast, Smith Village is the smallest in the study area with 19.9 acres, of which 7.0 acres are tree canopy and 35.2% canopy cover. Together, all communities have an average canopy cover of 27.1% and the potential to support more than 50% canopy cover. Table 9 summarizes the land cover across all communities in the study area.

Table 9: Tree Canopy by Community

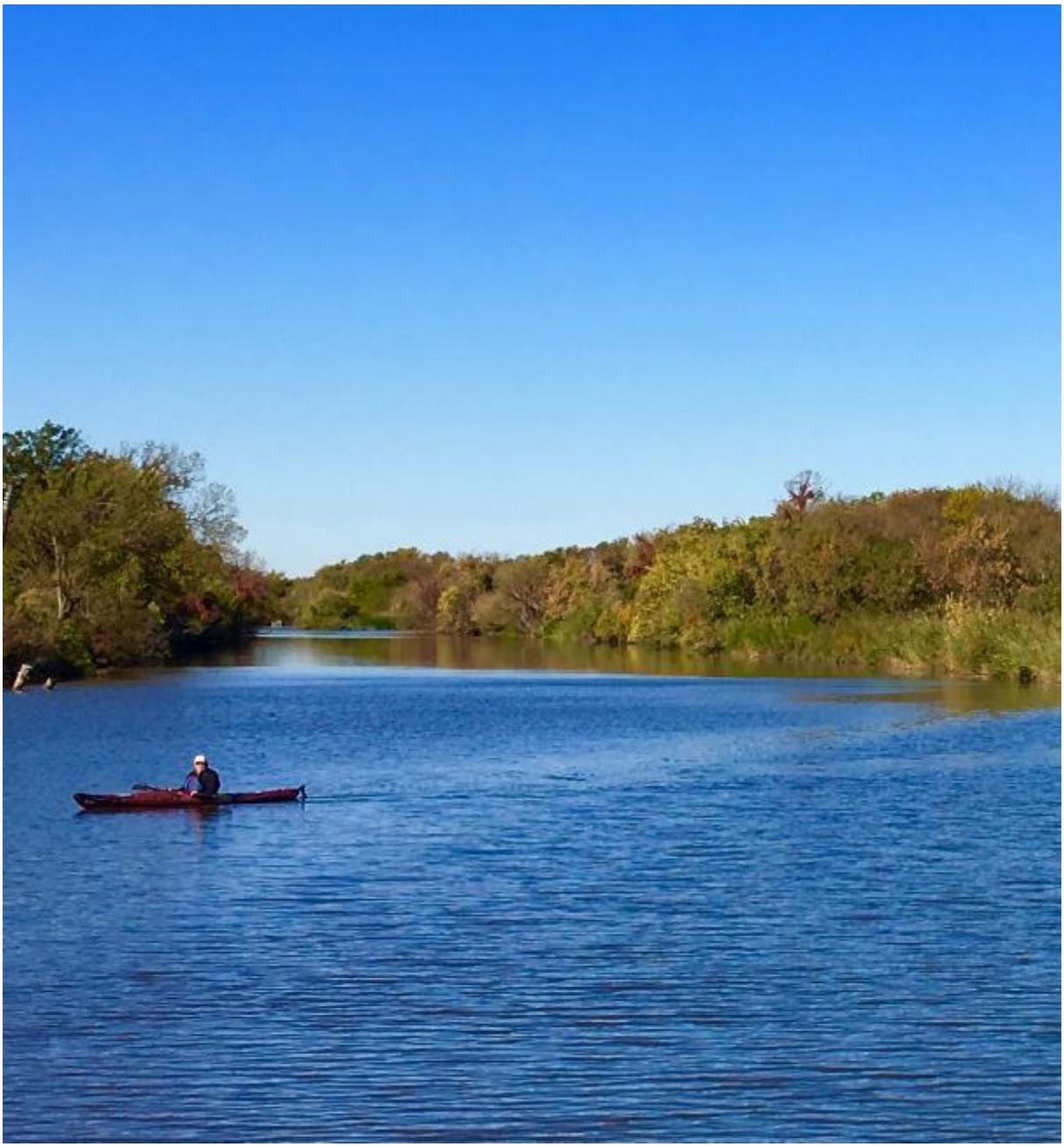
Area	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Oklahoma City	224,311	47,894	21.35	64,405	91,660	9,270	11,081	58.70
Edmond	27,701	10,918	39.42	7,964	8,067	502	249	67.91
Norman	26,807	4,888	18.23	9,044	11,342	1,214	319	56.06
Moore	14,213	1,835	12.91	5,300	6,268	566	244	57.01
Midwest City	10,758	2,801	26.04	3,994	3,566	339	58	57.75
Mustang	6,382	1,217	19.07	1,752	3,204	164	45	68.23
Unincorporated Oklahoma County	5,432	1,314	24.19	639	3,099	239	141	63.31
Yukon	4,940	677	13.71	2,075	2,075	82	30	53.88
Del City	4,817	1,097	22.77	1,979	1,576	92	74	54.07
Tinker Air Force Base	4,408	221	5.01	1,986	2,056	128	18	21.66
Bethany	3,349	920	27.48	1,352	1,057	17	2	58.08
Spencer	3,200	1,068	33.38	439	1,504	176	13	85.33
Warr Acres	1,821	461	25.29	861	471	7	22	50.34
The Village	1,626	374	23.01	729	497	17	9	53.44
Nichols Hills	1,272	384	30.16	500	365	16	7	54.09
Forest Park	1,180	518	43.87	134	517	8	4	81.29
Unincorporated Cleveland County	632	112	17.69	137	337	27	19	72.66
Valley Brook	186	55	29.37	79	51	1	0	56.95
Lake Aluma	184	114	62.08	14	39	0	17	83.21
Woodlawn Park	79	30	38.40	17	32	0	0	78.71
Smith Village	20	7	35.23	6	6	0	0	67.97
All Area Total	**343,194**	**76,902**	**27.07%**	**103,406**	**137,786**	**12,866**	**12,352**	**61.93%**



Map 6: Tree Canopy by Community

Tree Canopy by Sub Watershed

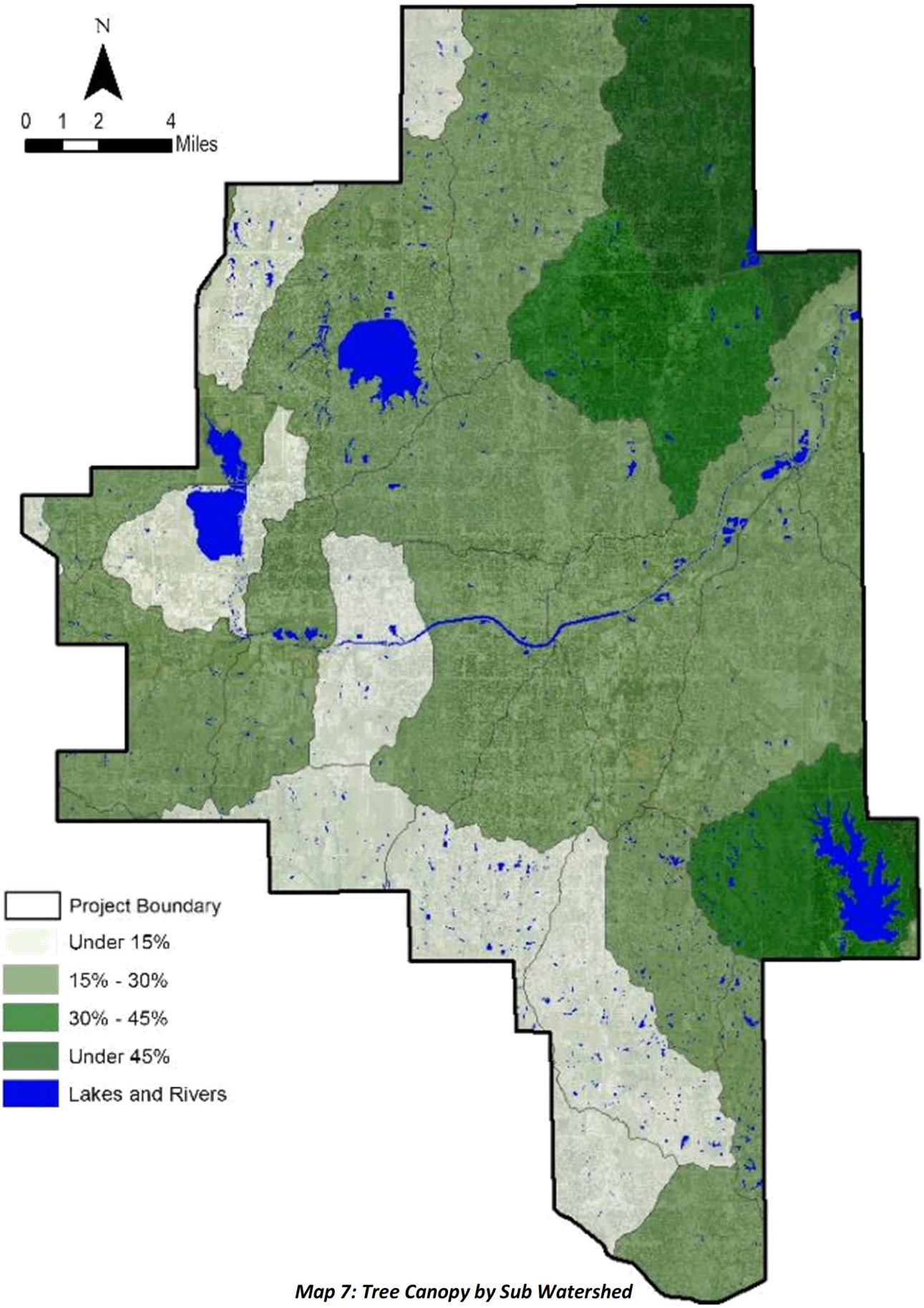
There are six watersheds present in the study area. Together they cover 343,314 acres and with 76,903 acres of tree canopy. Within the six watersheds there are 33 sub watersheds. The largest sub watershed, Bluff Creek has more than 24,252 acres with 4,186 acres of tree canopy for a total canopy cover of 17.3%. The Upper Hog River (part of the Upper Little River Watershed) has the highest canopy cover at 60.2%. All sub watersheds have the potential to support tree canopy cover in excess of 43%.



Trees, like these pictured at Stinchcomb wetlands, north of Overholser, can play a role in mitigating the effects of flooding through their stormwater capture capabilities.

Table 10: Tree Canopy by Sub Watershed

Sub Watershed	Watershed	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Bluff Creek	Cottonwood Creek	24,252.23	4,186.02	17.26	8,622.21	8,077.41	353.48	3,013.12	45.91
Chisholm Creek	Cottonwood Creek	24,119.40	5,150.78	21.36	8,889.63	9,116.68	639.08	323.23	58.75
Crutcho Creek	Oklahoma City-North Canadian River	23,226.89	4,512.68	19.43	8,908.04	8,785.56	887.04	133.57	52.68
Deep Fork of Canadian River	Lake Arcadia-Deep Fork of Canadian River	44,129.62	14,791.96	33.52	13,277.88	14,702.00	896.97	460.81	65.21
Crooked Oak Creek-North Canadian River	Oklahoma City-North Canadian River	20,927.61	4,390.21	20.98	6,113.82	8,583.06	1,102.63	737.88	63.56
Elm Creek	Upper Little River	17,628.25	6,100.85	34.61	830.26	7,321.62	587.97	2,787.54	77.34
Mussel School Lake	Upper Little River	15,803.89	1,929.95	12.21	5,229.62	7,426.14	936.30	281.88	55.54
Brock Creek-North Canadian River	Oklahoma City-North Canadian River	14,353.27	2,324.04	16.19	6,925.21	4,516.90	344.08	243.04	45.05
Mustang Creek	Lake Overholser-North Canadian River	13,735.86	2,077.85	15.13	3,560.57	7,160.83	815.60	121.00	63.48
Arcadia Lake-Deep Fork of Canadian River	Lake Arcadia-Deep Fork of Canadian River	13,677.67	6,668.97	48.76	2,984.01	3,612.83	180.98	230.88	75.24
Campbell Creek-North Canadian River	Lake Overholser-North Canadian River	12,216.11	2,107.57	17.25	4,240.73	4,870.25	808.90	188.66	56.40
Lake Overholser-North Canadian River	Lake Overholser-North Canadian River	11,320.45	1,546.46	13.66	2,854.52	4,705.68	473.47	1,740.32	49.09
North Canadian River	Oklahoma City-North Canadian River	10,797.96	1,437.34	13.31	4,772.94	4,196.82	241.54	149.32	43.58
Pond Creek-Canadian River	City of Tuttle-Canadian River	10,671.87	1,575.68	14.76	3,822.82	4,614.96	439.42	218.99	51.71
North Fork	Upper Little River	10,648.73	1,630.60	15.31	2,669.80	5,487.12	611.87	249.34	67.45
Silver Creek-North Canadian River	Oklahoma City-North Canadian River	9,756.00	2,657.95	27.24	775.15	4,562.24	1,285.31	475.35	65.00
Lightning Creek-North Canadian River	Oklahoma City-North Canadian River	9,128.87	1,555.87	17.04	4,336.64	3,042.04	163.26	31.06	50.13
Coal Creek-Canadian River	City of Tuttle-Canadian River	8,962.86	1,338.47	14.93	1,014.55	6,310.40	240.91	58.52	54.77
North Canadian River	Lake Overholser-North Canadian River	8,204.14	1,420.06	17.31	2,359.93	3,732.63	400.60	290.92	98.02
Coffee Creek	Lake Arcadia-Deep Fork of Canadian River	7,621.07	3,492.98	45.83	1,545.27	2,310.88	202.57	69.38	76.28
Middle Deer Creek	Cottonwood Creek	7,384.26	1,054.78	14.28	1,804.19	3,863.80	442.40	219.09	64.42
Bishop Creek-Canadian River	City of Tuttle-Canadian River	7,311.82	1,713.03	23.43	3,415.93	2,062.19	115.55	5.11	49.90
Boggy Creek-Canadian River	City of Tuttle-Canadian River	6,738.52	990.36	14.70	2,911.24	2,668.00	119.84	49.08	48.26
Rock Creek	Upper Little River	4,807.07	1,047.42	21.79	801.02	2,557.79	239.75	161.08	73.43
Lower Deer Creek	Cottonwood Creek	3,906.27	501.36	12.83	462.74	2,542.80	295.77	103.60	60.32
Dry Creek-Canadian River	City of Tuttle-Canadian River	828.61	150.87	18.21	147.51	508.95	15.85	5.44	80.97
Upper Hog Creek	Upper Little River	600.13	361.29	60.20	40.76	181.12	15.83	1.13	91.94
Upper Deer Creek	Cottonwood Creek	228.53	40.58	17.76	10.08	175.74	1.62	0.52	60.07
Lower Hog creek	Upper Little River	159.80	126.47	79.14	2.77	29.52	1.04	0.00	84.44
Lower Cottonwood Creek	Cottonwood Creek	105.01	18.42	17.54	39.14	42.57	2.36	2.52	60.28
Shell Creek	Lake Overholser-North Canadian River	50.38	0.25	0.49	36.21	10.49	3.43	0.00	22.09
Choctaw Creek	Oklahoma City-North Canadian River	8.44	1.85	21.99	0.66	5.84	0.08	0.00	92.10
Dave Blue Creek-Lake Thunderbird	Upper Little River	2.51	0.00	0.00	0.73	1.78	0.00	0.00	70.44



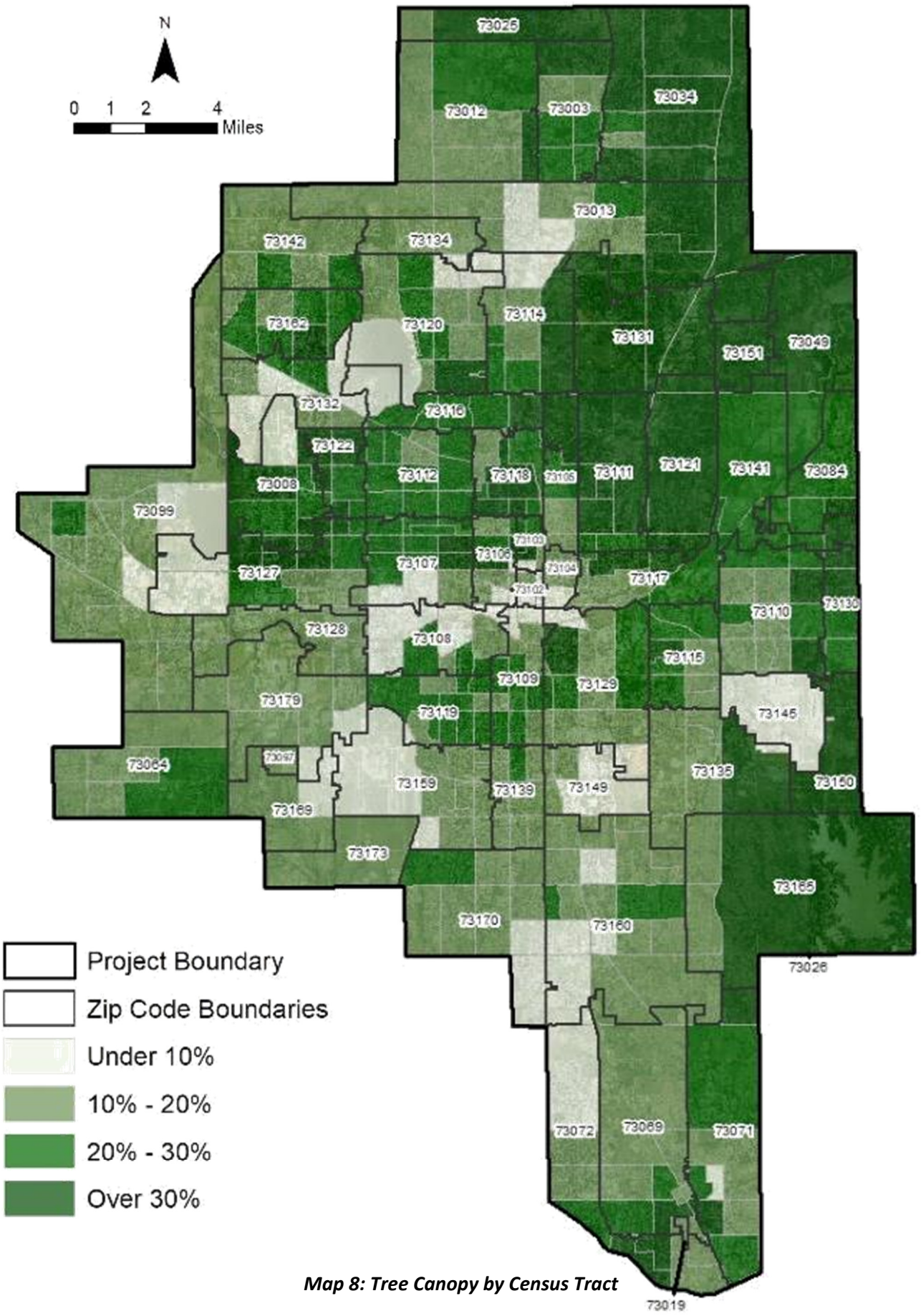
Map 7: Tree Canopy by Sub Watershed

Tree Canopy by Census Tract

According to the U.S. Census Bureau, census tracts are small, relatively permanent statistical subdivisions and generally have a population size between 1,200 and 8,000 people. Census tracts are useful for comparing tree canopy cover across cities to better understand the distribution of tree canopy and see how it may relate to other known demographic and health statistics. The study area has a total of 301 census tracts covering 343,314 acres. Among these tracts, there are 76,903 acres of tree canopy, which translates to an average canopy cover of 21.4%. Map 8 summarizes the tree canopy cover by census tract. This data can be used as a benchmark to ensure the urban forest is balanced and equitable across census tracts within the study area. Planting should be prioritized in low-income areas and where opportunities to expand green infrastructure would result in increased social benefits.

Within these census tracts, tree canopy cover was compared with socioeconomic information collected through the U.S. Census (age, education, etc.) (2015) and health information collected by the Oklahoma City County Health Department (2017). When analyzing the tree canopy cover, socioeconomic and health statistics data, statistically significant correlations were not found at this time. Accessible greenways, characterized in part by tree canopy, motivate people to increase physical activity levels (Coutts, 2008). In fact, parks, trails, and school grounds, within the study area, with a higher tree canopy are observed to experience more frequent visitation and use. Walking, biking, and participating in any number of outdoor exercising activities translates to positive indicators for public health.

There are 76,903 acres of tree canopy across the study area's 301 census tracts. Perle Mesta Park is within the census tracts included in zip code 73103



Map 8: Tree Canopy by Census Tract

Planting Priority

To identify and prioritize available planting sites for risk potential, DRG assessed environmental features to quantify the risk potential for soil loss and degradation from storm and flood events. Weighted consideration was provided for proximity to hardscape and canopy, soil permeability, location within a floodplain, slope, population density, road density, and a soil erosion factor (K-factor) (Table 12). Each feature was assessed using a separate grid map. A value between zero (0) and four (4) (with zero (0) having the lowest risk potential) was assigned to each feature/grid assessed (see Appendix B for further methodology). Overlaying these grid maps and calculating the values based on weighted environmental criteria provided the risk potential at any given point.

While available planting sites may ultimately be planted over the next several decades, the trees planted in the next several years should be planned for areas of greatest need and where they will provide the most benefits and return on investment first. The analysis identified acres of planting (Table 11).

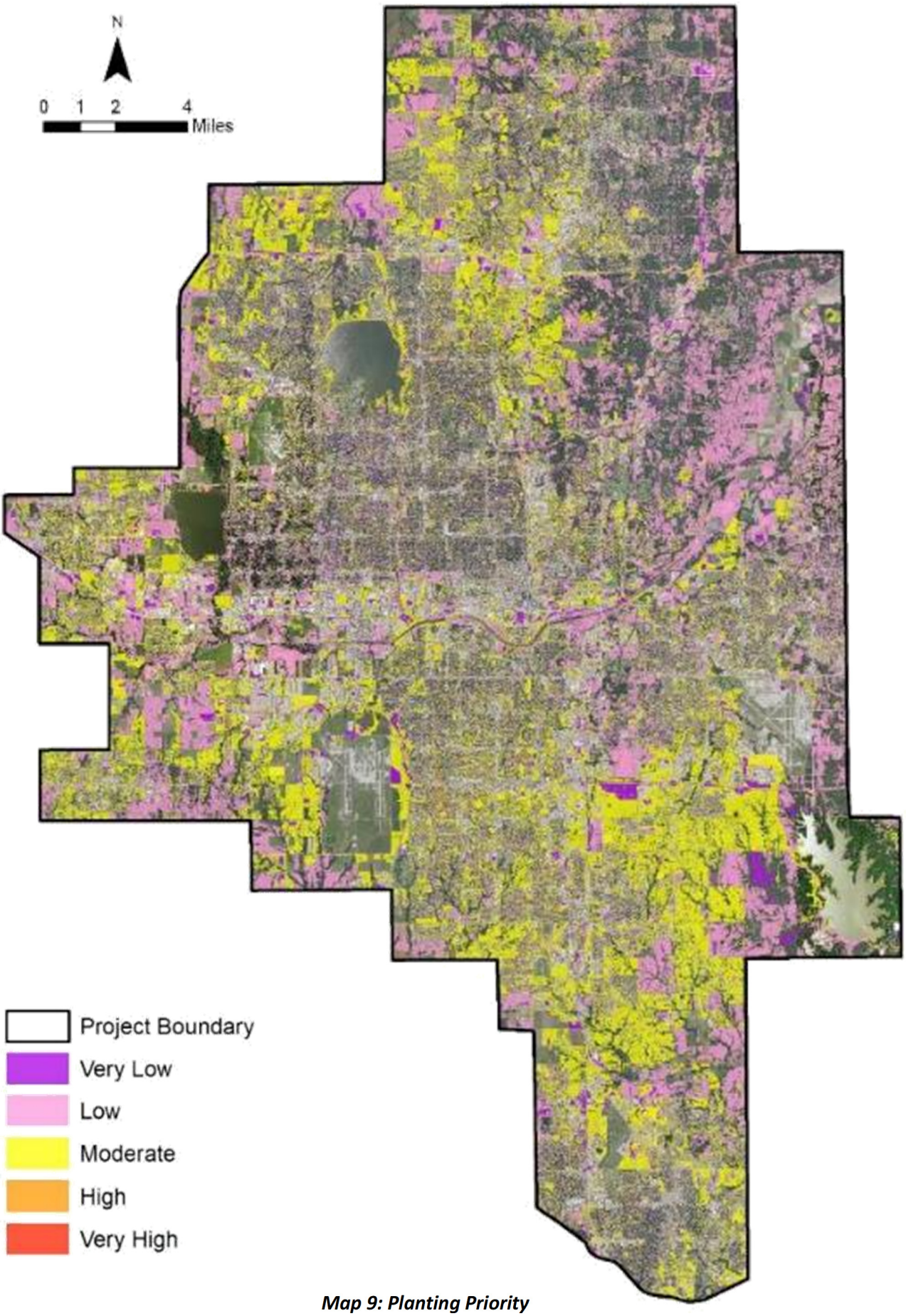
Figure 5: Planting priority close-up.

Table 11: Planting Priority

Planting Priority			
Priority Rank	**Number of Locations**	**Square Feet**	**Acres**
Very High	1,137	4,794,239	110
High	6,124	82,690,926	1,898
Moderate	250,165	2,651,498,837	60,870
Low	100,467	2,154,619,737	49,463
Very Low	461,072	582,031,561	13,362

Table 12: Stormwater Factors Used to Prioritize Tree Planting Sites

Dataset	Source	Weight
Proximity to Hardscape	Tree Canopy Assessment	0.25
Slope	National Elevation Dataset	0.10
Floodplain Proximity	National Hydrologic Dataset	0.15
Soil Permeability	Natural Resource Conservation Service	0.15
Soil Erosion (K-factor)	Natural Resource Conservation Service	0.15
Trail Proximity	Oklahoma City Dataset	0.15
Canopy Fragmentation	Tree Canopy Assessment	0.05



Map 9: Planting Priority

Urban Heat Island

The heat island effect describes the increase in temperatures of urban or metropolitan areas in relation to surrounding suburban and rural areas. Heat islands are associated with an increase in hardscape and impervious surfaces. Trees and other vegetation within an urbanized environment help reduce the heat island effect by lowering air temperatures 5°F (3°C) compared with outside the green space (Chandler, 1965). On a larger citywide scale, temperature differences of more than 9°F (5°C) have been observed between city centers without adequate canopy coverage and more vegetated suburban areas (Akbari et al, 1992). The relative importance of these effects depends upon the size and configuration of trees and other landscape elements (McPherson, 1993). Tree spacing, crown spread, and vertical distribution of leaf area each influence the transport of warm air and pollutants along streets and out of urban canyons. Because trees contribute to reducing the effects of urban heat islands, tree planting can be prioritized to target reduction of urban heat islands. The analysis identified acres of planting to mitigate the effects of urban heat islands (Table 13).

Table 13: Planting Priority for Urban Heat Island

Urban Heat Island Planting Priority			
Priority Rank	Number of Locations	Square Feet	Acres
Very High	104,236	53,532,654	1,229
High	104,581	154,223,114	3,540
Moderate	104,425	506,022,375	11,617
Low	104,668	4,506,423,097	103,453
Very Low	401,055	255,434,060	5,864

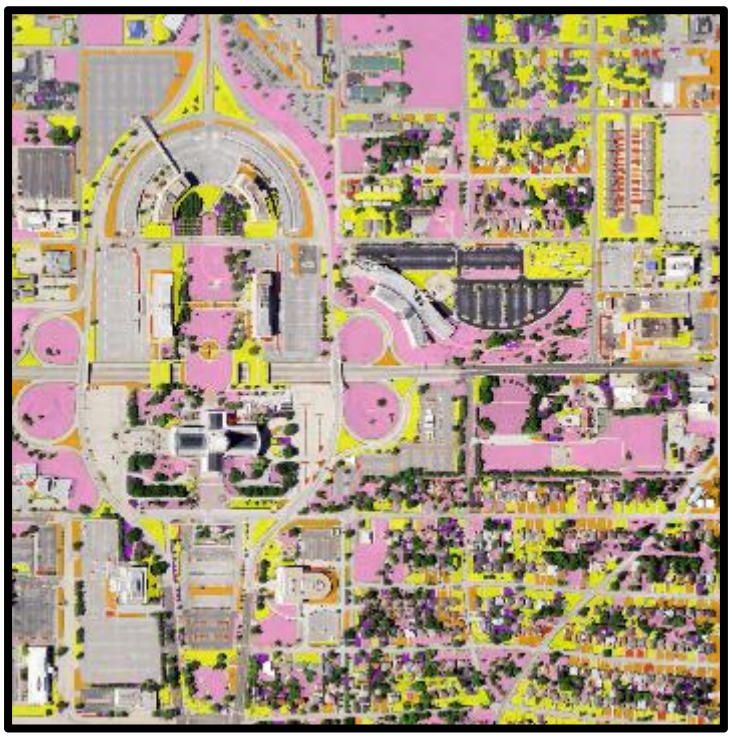
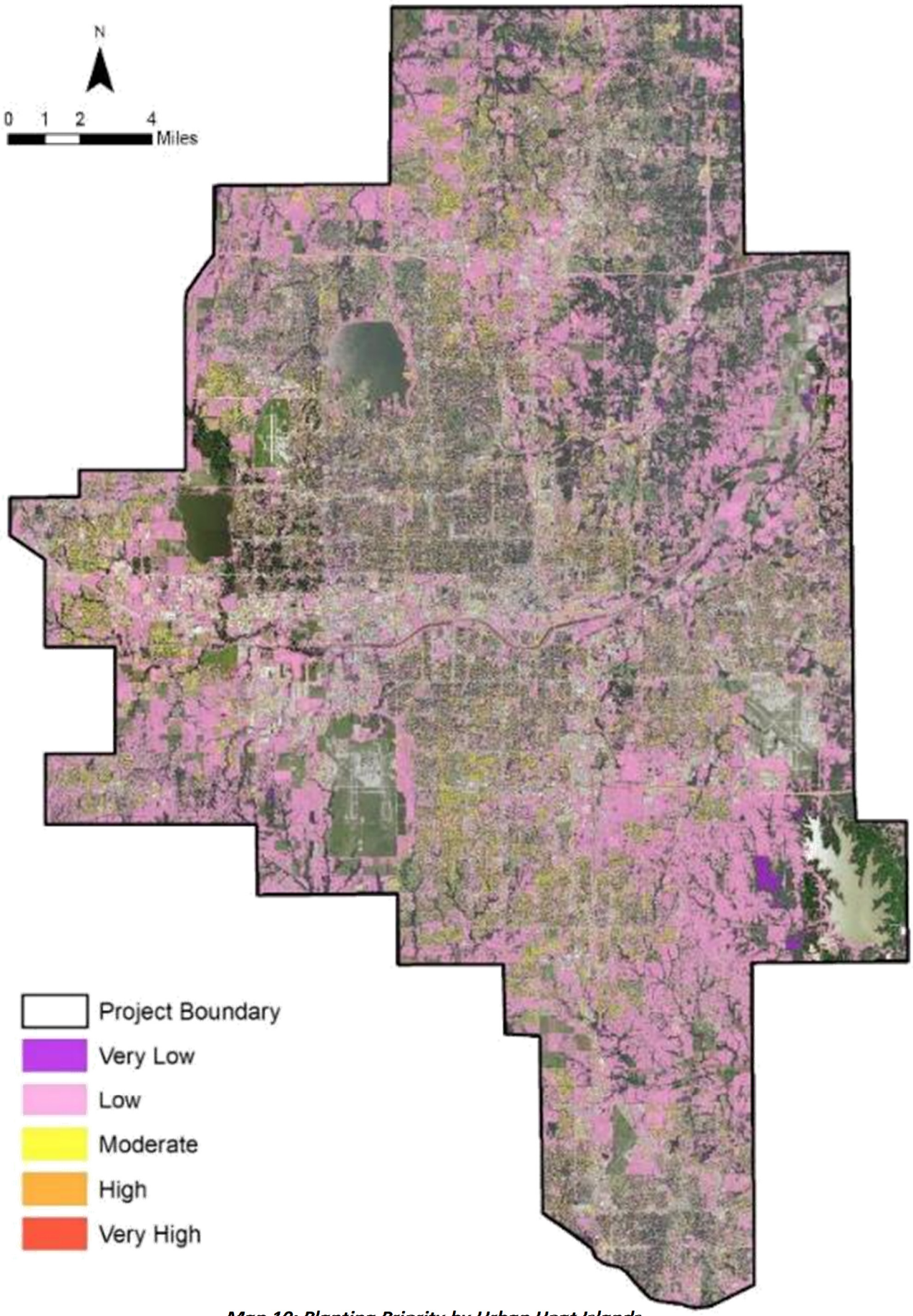


Figure 6: Planting priority for urban heat islands close-up.



Map 10: Planting Priority by Urban Heat Islands

Stormwater

In urban areas, the substantial extent of impervious surface increases the amount of surface runoff and the cost of infrastructure a community must invest to manage stormwater for the safety of residents and property. Tree planting provides an opportunity to help mitigate the risk of flooding by reducing the volume of stormwater runoff that enters bodies of water.

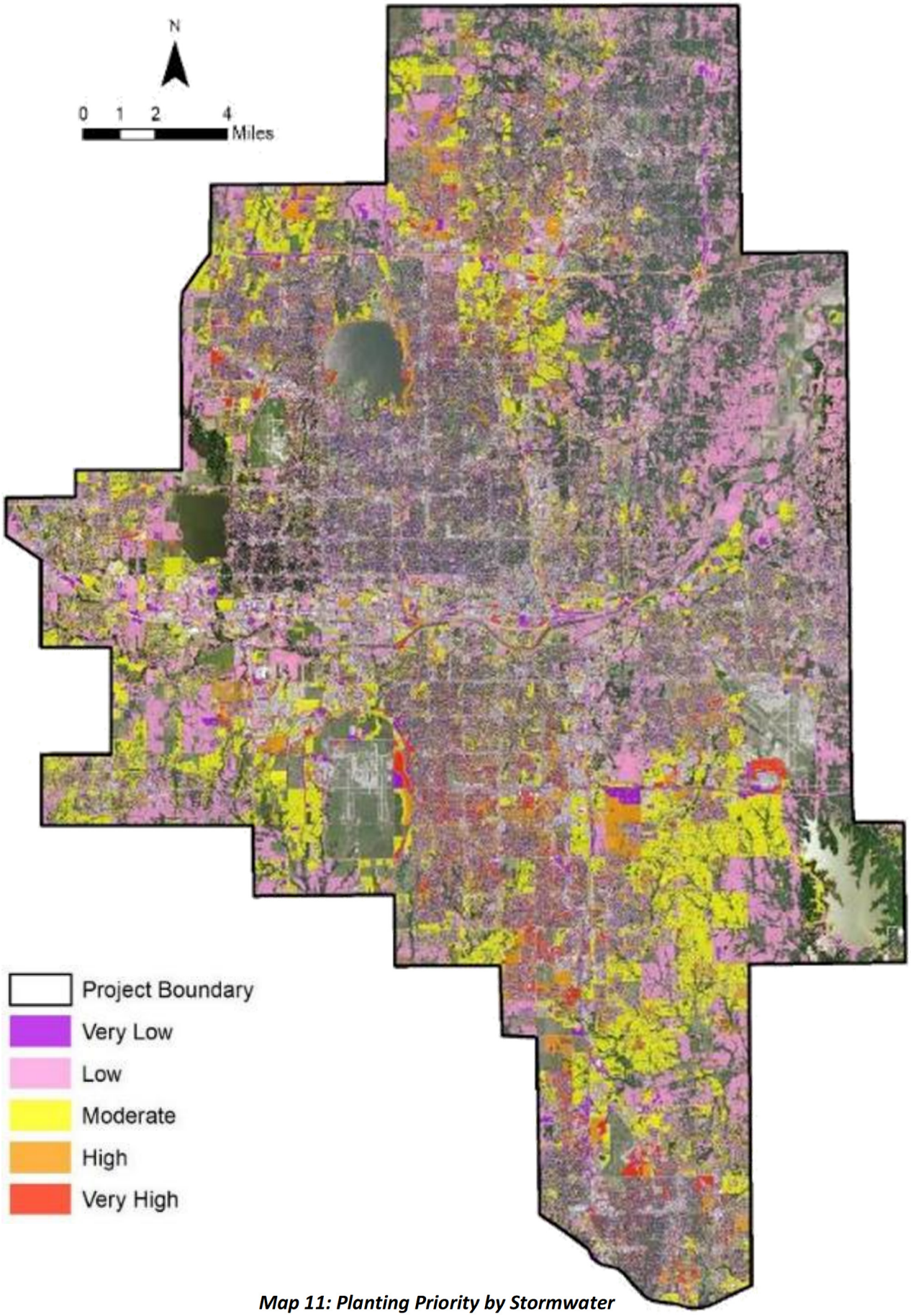
Research has demonstrated that strategic plantings of trees effect the "peak height" of a flood in an urban location (University of Birmingham, 2016). To efficiently incorporate the use of trees in stormwater management, a planting priority analysis can be used to select planting sites that will provide the most benefit to reducing stormwater runoff.

The analysis identified acres of planting to mitigate the effects of stormwater runoff (Table 14).

Table 14: Planting Priority Stormwater

Priority Rank	Stormwater Planting Priority Number of Locations	Square Feet	Acres
Very High	14,237	319,969,888	7,345
High	21,462	578,142,660	13,272
Moderate	18,155	1,632,002,353	37,466
Low	21,767	2,005,735,931	46,045
Very Low	743,344	939,784,468	21,574

Figure 7: Stormwater planting priority close-up.



Map 11: Planting Priority by Stormwater

Regional Tree Canopy Comparison

The study area has 22.4% canopy cover. Of communities within the region (Figure 8), Fayetteville, AR[2] has the highest canopy cover, followed by nearby Tulsa, OK[3]. The canopy cover in communities within the study area exceeds Plano, TX[3] and Broken Arrow, OK[4]. Although these communities vary in annual precipitation, acreage, and population, the comparisons can be beneficial for providing context to the expanse and distribution of canopy cover in the study area.

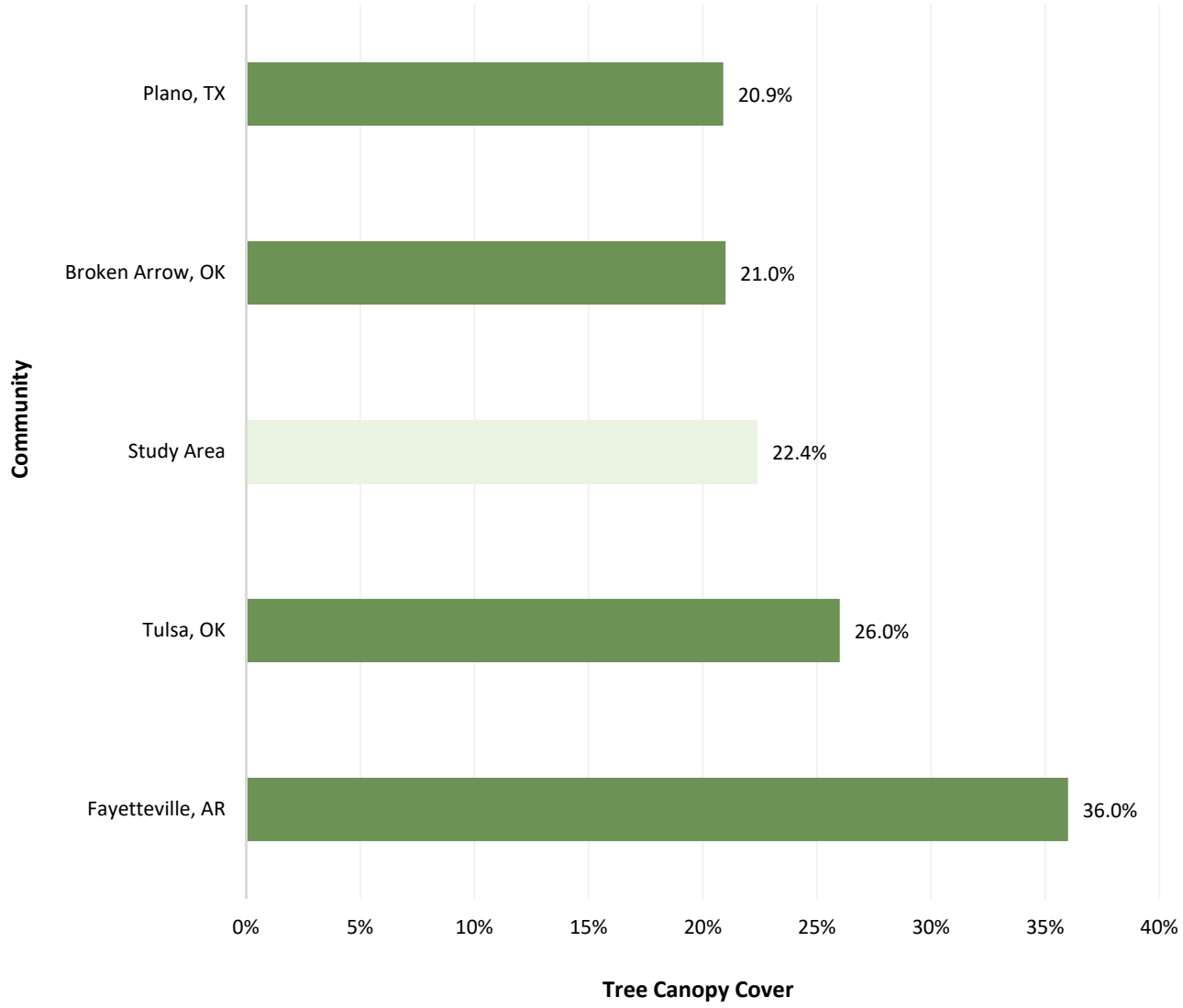


Figure 8: Regional Canopy Comparison

[2] Plan-It Geo, LLC. 2012. Fayetteville, Arkansas: Urban Tree Canopy Assessment Project.
[3] Davey Resource Group, Inc. 2016. Plano, Texas: Urban Tree canopy Assessment.
[4] Davey Resource Group, Inc. 2016. Tulsa County (including Broken Arrow); Urban Tree Canopy Assessment.

The study area's urban forest includes trees on both public and private property. In Heritage Hills Neighborhood, the right of way trees are on public property while those planted in residents' yards are on private property.

Forest Structure

The urban forest is more thoroughly understood by examining the composition and species richness of diversity. Considering the canopy cover, size distribution, condition, and performance, provide a foundation for planning and management strategies. Inferences based on this data can help managers understand the importance of individual tree species to the overall forest as it exists today and the benefits provided annually to the community.

The urban forest contributes to a healthier, more livable, and prosperous Oklahoma City Metropolitan Area. A samples inventory using i-Tree *Eco* can provide a better understanding the urban forest by providing information on the species composition and the current condition of the resource (Appendix B). The results of this assessment allow forest managers to better understand the tree resource and make more informed management decisions.

Composition and Diversity

In this assessment, diversity was calculated as the proportion of species representing the total urban forest population (Table 15, Figure 9). Oklahoma City Metropolitan Area's urban forest consists of trees spanning different size classes and growth forms so that the proportion of a species does not directly relate to the area it occupies. As an example, slippery elm (*Ulmus rubra*) and western soapberry (*Sapindus saponaria*) each comprise almost 10% of the overall population, but slippery elm is a large-stature tree and covers more surface area when compared to western soapberry, a small to medium-statured tree.

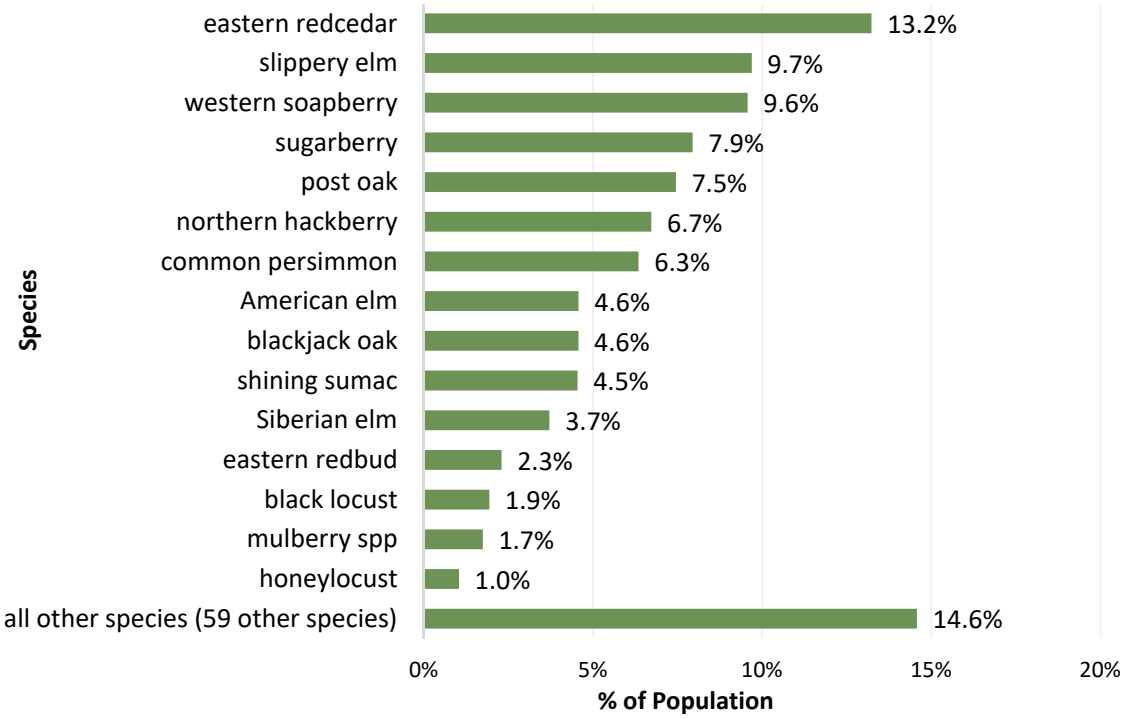


Figure 9: Species Diversity

Trees collected within the sample plots included 74 different tree species (Appendix C). The assessment estimates that the top 10 most common species represent nearly 75% of the overall urban forest population (Figure 9). The most prevalent species are eastern redcedar (*Juniperus virginiana*, 13.2%), slippery elm (*Ulmus rubra*, 9.7%), and western soapberry (*Sapindus saponaria ssp. drummondii,* 9.6%).

Maintaining diversity in a public tree resource is important. Dominance of any single species or genus can have detrimental consequences in the event of storms, drought, disease, pests, or other stressors that can severely affect a public tree resource. Catastrophic pests and pathogens, such as Dutch elm disease (*Ophiostoma ulmi*), emerald ash borer (*Agrilus planipennis*), Asian longhorned beetle (*Anoplophora glabripennis*), and sudden oak death (*Phytophthora ramorum*) are some examples of unexpected, devastating, and costly introduced species that highlight the importance of diversity and the balanced distribution of urban tree species and genera.

Recognizing that all tree species have a potential vulnerability to pests and pathogens, urban forest managers have long followed a rule of thumb that no single species should represent greater than 10% of the total population and no single genus more than 20% (Santamour, 1990). According to the assessment, no tree population exceeds these diversity guidelines. However, some areas within the study area may have higher representations of a species than in other areas.

Table 15: Species Diversity

Common Name	Botanical Name	Number of Trees	Standard Error	% of Population
eastern redcedar	*Juniperus virginiana*	8,558,770	1,852,607	13.24
slippery elm	*Ulmus rubra*	6,269,016	2,753,386	9.70
western soapberry	*Sapindus saponaria* ssp. *Drummondii*	6,191,735	3,985,823	9.58
sugarberry	*Celtis laevigata*	5,139,411	1,335,301	7.95
post oak	*Quercus stellata*	4,819,227	1,855,968	7.45
northern hackberry	*Celtis occidentalis*	4,347,915	1,292,990	6.72
common persimmon	*Diospyros virginiana*	4,105,028	2,288,519	6.35
American elm	*Ulmus americana*	2,958,891	1,095,816	4.58
blackjack oak	*Quercus marilandica*	2,957,825	1,267,802	4.57
shining sumac	*Rhus copallina*	2,937,708	2,937,656	4.54
Siberian elm	*Ulmus pumila*	2,402,359	812,087	3.72
eastern redbud	*Cercis canadensis*	1,485,355	687,384	2.30
black locust	*Robinia pseudoacacia*	1,253,348	922,677	1.94
mulberry spp.	*Morus* spp.	1,128,561	552,663	1.75
honeylocust	*Gleditsia triacanthos*	672,402	395,067	1.04
All Other Species		9,427,543		14.58
All Species Total		**64,655,090**	**10,010,128**	**100%**

With increasing threats of pests and pathogens, thoughts on diversity goals are evolving. Urban forest managers are starting to set canopy diversity goals based on species palettes (an inclusive list of available proven/adapted species that are suitable as street trees in a geographical area, which includes species and their subspecies or varieties) and full stocking capacities (total available planting sites) (Simons and Hauer, 2015; Hauer, 2014). This approach allows urban forest managers to set thresholds based on the size of a community, as well as ensure that the right trees are planted in the right place. An accurate assessment of all available planting sites and an up-to-date inventory are critical to this process.

Size Distribution

The size distribution of the trees in the study area reveals that the population of urban trees is small, with 75% of trees estimated to be less than 12 inches DBH (Figure 10). Size distribution can generally be approximated by considering the DBH range of the overall inventory and of individual species. Trees with smaller diameters tend to be younger, but in the Cross Timbers forest, it is somewhat common for larger diameter trees to be younger and smaller diameter trees to be older. The most prevalent species in this analysis are large and medium stature trees with the potential to increase approximately equally in size.

The distribution of individual tree sizes within a tree population influences present and future costs as well as the flow of benefits. An ideally sized population allows managers to allocate annual maintenance costs uniformly over many years and assures continuity in overall tree canopy coverage and associated benefits. A desirable distribution has a high proportion of small, generally young trees to offset establishment and age-related mortality of older trees (Richards, 1982/83). This ideal, albeit uneven, distribution suggests a large fraction of trees (~40%) should be small, with a DBH less than eight (8) inches, while only 10% should be in the large diameter classes (>24 inches DBH). The size distribution of trees within the study area is presented in Table 16.

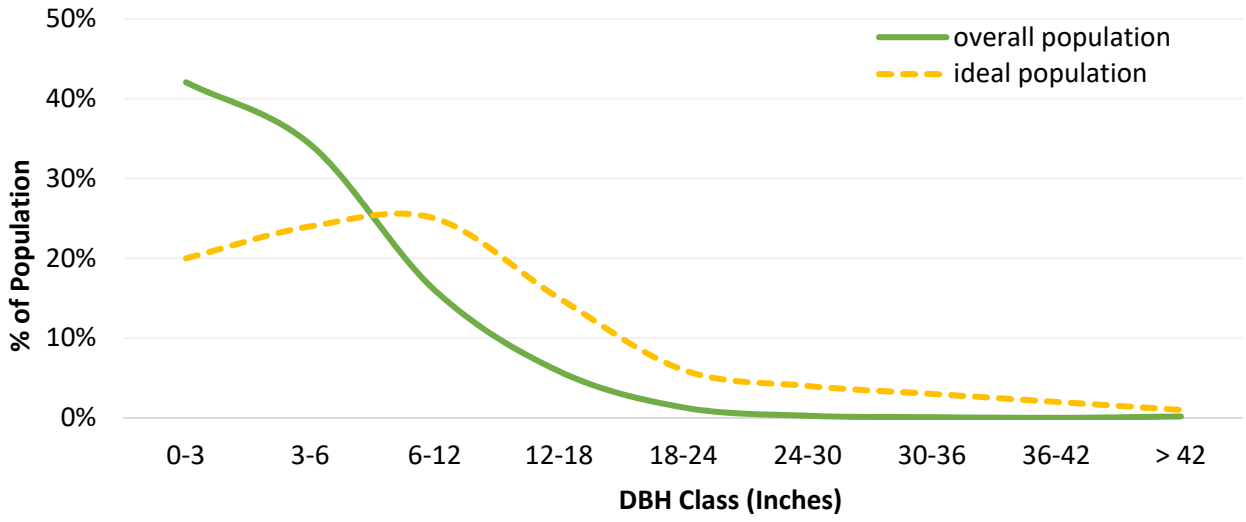


Figure 10: Size Distribution for the Study Area's Urban Forest Population

Table 16: Estimated Size of Most Prevalent Species

Species	Estimated Pop.	Size Class (in) 0–3		3–6		6–12		12–18		18–24		24–30		30–36		36–42		42–48	
		%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
eastern redcedar	8,558,770	31.90	4.50	37.40	4.50	25.80	3.60	4.50	1.90	0.40	0.40	-	-	-	-	-	-	-	-
slippery elm	6,269,016	47.00	2.20	34.40	3.90	15.60	2.50	2.60	1.10	0.50	0.60	-	-	-	-	-	-	-	-
western soapberry	6,191,735	73.20	6.80	19.00	2.70	6.80	4.30	1.00	0.90	-	-	-	-	-	-	-	-	-	-
sugarberry	5,139,411	49.80	5.40	35.10	3.10	12.30	3.40	1.20	0.90	1.10	0.90	0.60	0.60	-	-	-	-	-	-
post oak	4,819,227	12.00	6.30	54.90	9.20	25.10	7.70	5.60	4.10	1.20	0.70	1.20	1.00	-	-	-	-	-	-
northern hackberry	4,347,915	48.80	9.60	23.30	4.20	20.80	5.50	6.40	2.50	-	-	0.70	0.70	-	-	-	-	-	-
common persimmon	4,105,028	77.70	8.20	22.30	8.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
American elm	2,958,891	48.50	3.70	24.10	4.30	18.90	3.20	4.00	1.60	3.40	1.80	-	-	-	-	-	-	1.00	1.10
blackjack oak	2,957,825	39.30	20.90	42.50	20.00	13.90	5.80	3.30	1.90	1.00	1.20	-	-	-	-	-	-	-	-
shining sumac	2,937,708	30.10	0.00	69.90	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Siberian elm	2,402,359	34.80	8.50	32.20	3.20	21.00	6.70	4.70	3.80	2.50	0.00	2.80	0.00	0.70	0.00	1.30	1.20	-	-
eastern redbud	1,485,355	70.10	3.30	23.80	4.10	4.10	2.40	2.00	2.10	-	-	-	-	-	-	-	-	-	-
black locust	1,253,348	9.60	8.40	65.10	10.30	16.90	5.20	8.40	7.10	-	-	-	-	-	-	-	-	-	-
mulberry spp.	1,128,561	47.10	2.90	40.30	4.80	4.60	1.10	2.70	2.80	5.40	4.00	-	-	-	-	-	-	-	-
honeylocust	672,402	71.70	5.20	9.70	3.10	18.60	5.90	-	-	-	-	-	-	-	-	-	-	-	-

Size distribution can also be evaluated for each individual species. The 10 most prevalent species are compared against the ideal DBH distribution in Figure 11. The most prevalent species are eastern redcedar (*Juniperus virginiana*, 13.2%), slippery elm (*Ulmus rubra*, 9.7%), and western soapberry (*Sapindus saponaria* ssp. *drummondii,* 9.6%).

The most prevalent species, eastern redcedar, has a small population with 100% of the species represented by trees greater than 24-inches DBH. As this species is a small stature tree, it is likely these trees are more mature than their size would suggest.

The size distribution of prevalent species can help resource managers to understand and foresee maintenance activities and budgetary needs. In addition to informing managers of the economics of prevalent species, managers can use the size distribution to determine trends in plantings and adopt strategies for species selection in the years to come.

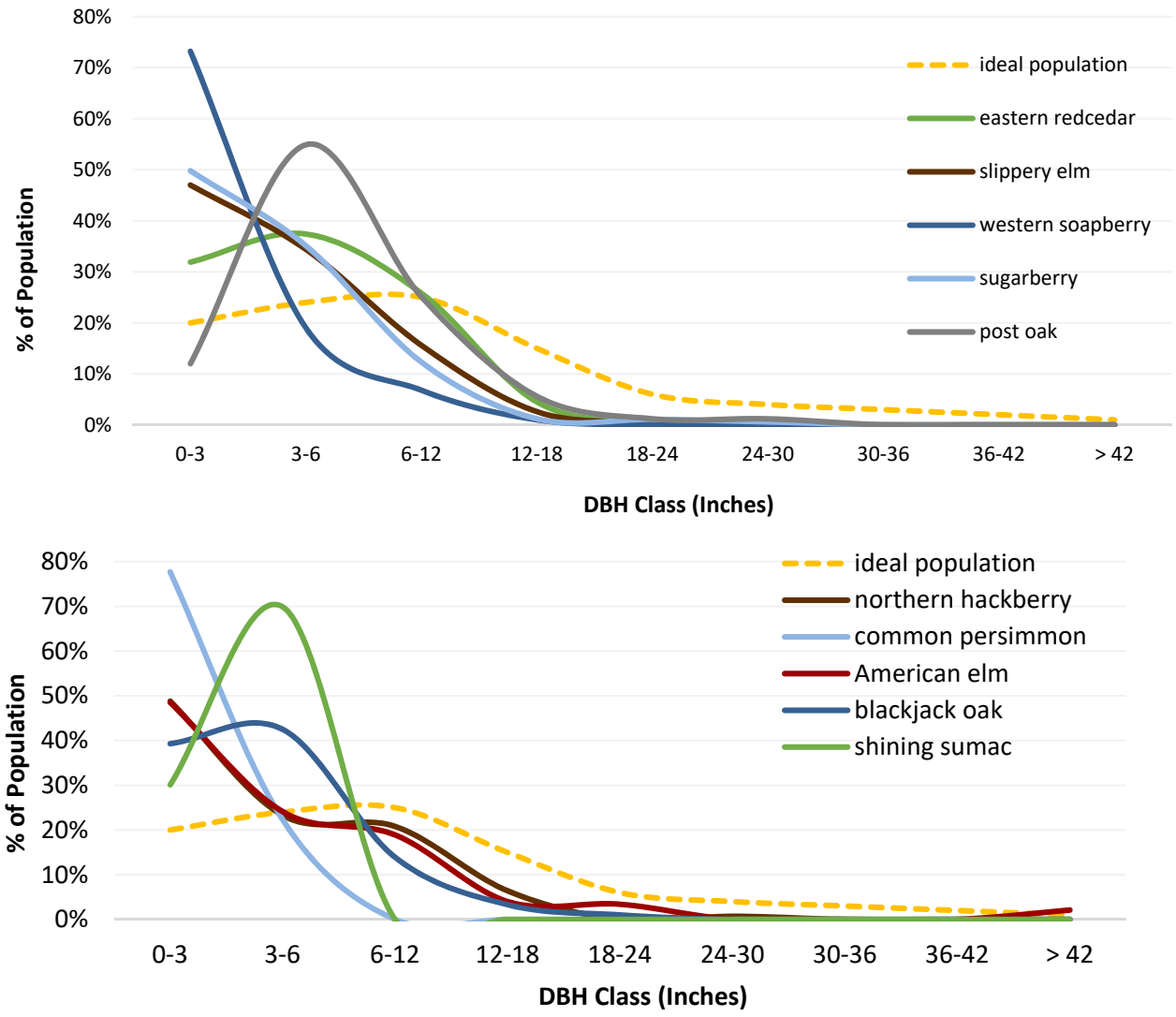


Figure 11: Size Distribution for the Top 10 Most Prevalent Species in the Study Area

Stored Carbon

Trees in the study area are estimated to have stored 4.8 million tons of carbon in woody and foliar biomass. Carbon storage is the volume of carbon stored (wood and foliar mass) in all the inventoried trees to date. As trees grow, they store more carbon as new wood and starch reserves. When trees die and decay, they release much of the stored carbon back to the atmosphere. In urban environments, most trees that die are removed and chipped or disposed of as firewood, releasing stored carbon. Thus, carbon storage is an indication of the amount of carbon that can be lost if trees die and are left to decompose.

Tree Condition

Tree condition is an indication of how well trees are managed and how well they are performing in each site-specific environment (e.g., street, median, parking lot, etc.). Condition ratings can help managers anticipate maintenance and funding needs. In addition, tree condition is an important factor in the calculation of public tree resource benefits. A condition rating of good assumes that a tree has no major structural problems, no significant mechanical damage, minor aesthetic, insect, or disease problems, and is in good health. When trees are performing at their peak, as those rated as good or better, the benefits they provide are maximized.

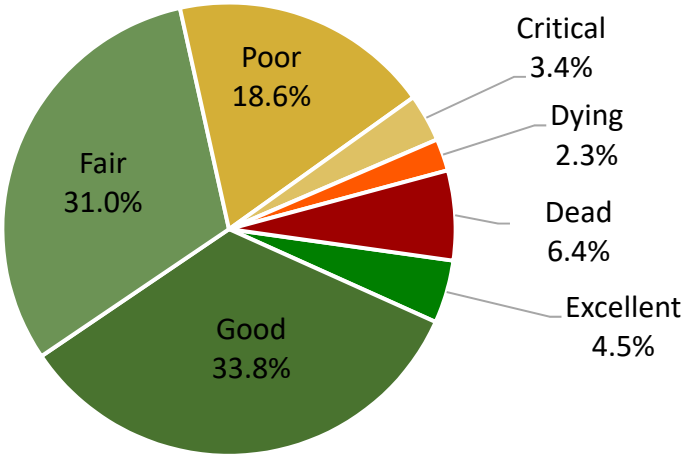


Figure 12: Tree Condition

Relative Performance Index

The relative performance index (RPI) is one way to further analyze the condition and suitability of a specific tree species. The RPI provides an urban forest manager with a detailed perspective on how different species perform compared to one another (Table 17). The index compares the condition ratings of each tree species with the condition ratings of every other tree species within the inventory. An RPI of 1.0 or better indicates that the species is performing as well or better than average. An RPI value below 1.0 indicates that the species is not performing as well in comparison to the rest of the population.

Table 17: Relative Performance Index (RPI) for Most Prevalent Species

Species	Excellent (%)	Good (%)	Fair (%)	Poor (%)	Critical (%)	Dying (%)	Dead (%)	RPI	# of Trees	Standard Error	% of Population
eastern redcedar	5.80	28.50	15.50	30.30	9.00	9.80	1.00	**0.93**	8,558,770	1,852,871	13.20
slippery elm	0.00	10.10	55.20	27.10	6.60	0.50	0.50	**1.00**	6,269,015	2,753,654	9.70
western soapberry	0.50	29.80	35.60	19.50	2.90	4.90	6.80	**0.96**	6,191,735	3,985,907	9.60
sugarberry	3.30	51.20	30.70	14.30	0.60	0.00	0.00	**1.14**	5,139,410	1,336,131	7.90
post oak	0.00	30.70	46.10	22.60	0.00	0.00	0.60	**1.09**	4,819,226	1,856,186	7.50
northern hackberry	0.00	46.90	37.30	13.30	1.90	0.70	0.00	**1.12**	4,347,915	1,293,762	6.70
common persimmon	14.00	10.30	30.80	27.20	0.00	0.70	17.00	**0.90**	4,105,028	2,288,761	6.30
American elm	0.00	34.20	50.50	13.40	0.00	1.00	0.80	**1.09**	2,958,891	1,097,339	4.60
blackjack oak	21.40	42.60	20.80	11.20	3.00	0.00	1.00	**1.15**	2,957,825	1,267,937	4.60
shining sumac	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.21**	2,937,707	2,937,662	4.50
Siberian elm	1.30	39.40	31.50	15.20	1.30	0.00	11.30	**0.98**	2,402,359	813,108	3.70
eastern redbud	4.10	17.50	58.20	16.10	2.00	2.00	0.00	**1.04**	1,485,355	688,018	2.30
black locust	0.00	16.90	2.40	14.50	8.40	0.00	57.80	**0.38**	1,253,348	923,229	1.90
mulberry spp.	0.00	27.80	64.30	5.20	2.70	0.00	0.00	**1.13**	1,128,561	554,719	1.70
honeylocust	4.50	67.70	4.50	9.30	14.00	0.00	0.00	**1.11**	672,402	396,424	1.00
All Other Species	30.49	13.51	9.34	11.20	15.92	11.26	44.07	**1.03**	9,427,543		14.58
All Species Total	**4.50%**	**33.80%**	**31.00%**	**18.60%**	**3.40%**	**2.30%**	**6.40%**	**1.00**	**64,655,087**	**10,010,365**	**100%**

The RPI can be a useful tool for urban forest managers. For example, if a community has been planting two or more new species, the RPI can be used to compare their relative performance. If the RPI indicates that one is performing relatively poorly, managers may decide to reduce or even stop planting that species and subsequently save money on both planting stock and replacement costs. The RPI enables managers to look at the performance of long-standing species as well. Established species with an RPI of 1.00 or greater have performed well over time. These top performers should be retained, and planted, as a healthy proportion of the overall population.

It is important to keep in mind that, because RPI is based on condition at the time of the inventory, it may not reflect cosmetic or nuisance issues, especially seasonal issues that are not threatening the health or structure of the trees. When choosing species for additional planting, managers therefore need to consider the invasive status and structural characteristics of the species in addition to the RPI value.

An RPI value less than 1.00 may be indicative of a species that is not well adapted to local conditions. Poorly adapted species are more likely to present increased safety and maintenance issues. Species with an RPI less than 1.00 should receive careful consideration before being selected for future planting choices. However, prior to selecting or deselecting trees based on RPI alone, managers should consider the age distribution of the species, among other factors. A species that has an RPI of less than 1.00 but has a significant number of trees in larger DBH classes, may simply be exhibiting signs of population senescence. A complete table, with RPI values for all species, is included in Appendix C.

RPI is also helpful for identifying underused species that are demonstrating reliable performance. Species with an RPI value greater than 1.00 and an established age distribution may be indicating their suitability for the local environment. These species, and species should receive consideration for additional planting.

RPI is most relevant when there is a moderately high representation of the species. In other words, if there is a single individual that has a high RPI (greater than 1.00) but is the only representative of the species at the site, additional trial plantings of the species can help test the accuracy of the RPI. Additionally, soil type and pH can vary greatly across a community and some species may perform better than the RPI would suggest at specific sites. It is important to use RPI as one of many factors for species selection. Species that have historically experienced major issues in the Oklahoma City Metropolitan Area should be avoided. Managers should prioritize species with a high RPI value that are found on the community's tree planting list.

Species Importance

To quantify the significance of any single species in the study area's urban forest, an importance value is derived for each of the most common species. Importance values (IV) are particularly meaningful to urban forest managers because they indicate a reliance on the functional capacity of a particular species. When importance values are comparatively equal among the 10 to 15 most prevalent species, the risk of significant loss to benefits is reduced. Of course, consideration for the suitability of any species is also important. **i-Tree *Eco* calculates importance value based on the sum of percentages of leaf area and population.** Importance value goes beyond tree numbers alone to suggest reliance on specific species based on the benefits they provide. The importance value can range from zero (which implies no reliance) to 200 (suggesting total reliance). A complete table with importance values is included in Appendix C.

The 16 most abundant species (each representing >1% of the overall population) represent 88.2% of the overall population, and 77.3% of the total leaf area, for a combined importance value of 165.6 (in a scale of 200) (Table 18). The study area relies most on eastern redcedar (*Juniperus virginiana*, IV=34.0). This species is the most prevalent (13.2%) within the urban forest population and that combined with its importance value suggests an over reliance on the species, which should be reduced in future plantings.

Slippery elm (*Ulmus rubra*), sugarberry (*Celtis laevigata*), northern hackberry (*Celtis occidentalis*), post oak (*Quercus stellata*), western soapberry (*Sapindus saponaria ssp. drummondii*), and American elm (*Ulmus americana*) have importance values over 10, indicating the communities within the study area rely heavily on these species for tree benefits. These seven species with high importance values represent 59.2% of the tree population and provide 65.9% of the leaf area.

The low importance value of some species is a function of tree type. Immature and small-stature populations tend to have lower importance values than their percentage in the overall population might suggest. This is due to their relatively small leaf area and canopy coverage. For example, common crapemyrtle (*Laegerstromia indica,* IV=0.8) represent less than 1% of the population. This small-stature species is unlikely to increase in importance over time. In contrast, honeylocust (*Gleditsia triacanthos*), a medium-stature tree, represents 1.0% of the population yet has a higher importance value (IV=1.5). Currently, 100% of this species is estimated to be less than 12-inches in diameter. As this population continues to mature, the importance value will increase.

Some species are more significant contributors to the urban forest than population numbers would suggest. For example, American elm (*Ulmus americana*) represents 4.6% of the overall population and 7.3% of leaf surface area with an importance value of 11.9. This large-stature species is well established with approximately 10% of trees greater than 12-inches in diameter (DBH). However, due to Dutch elm disease, only disease resistant cultivars should be planted in the future.

Table 18: Importance Values (IV) of Most Prevalent Species

Species	% of Population	% of Leaf Area	IV
eastern redcedar	13.24	20.80	34.00
slippery elm	9.70	12.80	22.50
western soapberry	9.58	2.30	11.90
sugarberry	7.95	8.80	16.80
post oak	7.45	6.20	13.70
northern hackberry	6.72	7.70	14.40
common persimmon	6.35	1.10	7.40
American elm	4.58	7.30	11.90
blackjack oak	4.57	2.80	7.30
shining sumac	4.54	0.50	5.00
Siberian elm	3.72	3.20	7.00
eastern redbud	2.30	1.20	3.50
black locust	1.94	0.70	2.60
mulberry spp.	1.75	1.50	3.30
honeylocust	1.04	0.40	1.50
All Other Species	14.58	22.20	37.40
All Species Total	**100%**	**100%**	**200.00**

Environmental Benefits

Urban forests continuously mitigate the effects of urbanization and development and protect and enhance the quality of life within the community. The amount and distribution of leaf surface area is the driving force behind the ability of the urban forest to produce benefits for the community (Clark et al, 1997). Healthy trees are vigorous, often producing more leaf surface area each year. Trees and urban forests provide quantifiable benefits to the community in the following ways:

Urban forests have functional values based on the environmental functions trees perform. In addition to air quality benefits, trees slow down stormwater and remove pollutants, resulting in reduced stormwater management costs for municipalities. Tree growth sequesters carbon in woody stems and roots. The value of these ecosystem functions is calculated in terms of both volume and cost savings.

Annual Environmental Benefits

Annual environmental functional values tend to increase with increased number and size of healthy trees (Nowak et al, 2002). Through proper management, urban forest values can be increased over time as trees mature and with improved longevity. Climate, pest, and weather events can cause values to decrease as the amount of healthy tree cover declines. Today, the study area's urban forest provides annual environmental benefits valued at nearly $150 million (see Appendix B for Methodology).

Air Quality

Urban trees improve air quality in five (5) fundamental ways:

- Absorption of gaseous pollutants such as ozone (O_3), sulfur dioxide (SO_2), and nitrogen dioxide (NO_2) through leaf surfaces
- Interception of particulate matter ($PM_{2.5}$)
- Reduction of emissions from power generation by reducing energy consumption
- Increase of oxygen levels through photosynthesis
- Transpiration of water and shade provision, resulting in lower local air temperatures, thereby reducing ozone (O_3) levels

$PM_{2.5}$ is particulate matter smaller than less than 2.5 microns (a subset of PM_{10}, particulate matter in the air that measures less than ten (10) micrometers)(PM_{10} is a significant air pollutant, but it is not included in this analysis because i-Tree *Eco* analyzes $PM_{2.5}$ particulate matter which is generally more impactful on human health [i-Tree *Eco* User Manual, 2019]).

Table 19: Adverse Health Incidents Avoided Due to Changes in Pollutant Concentration Levels and Economic Values

Adverse Health Effect	NO_2		O_3		$PM_{2.5}$		SO_2		All Pollutants	
	Incidence (Reduction/yr)	Value ($/yr)	Incidence (Reduction/yr)	Value ($/yr)	Incidence (Reduction/yr)	Value ($/yr)	Incidence (Reduction/yr)	Value ($/yr)	Incidence (Reduction/yr)	Value ($/yr)
Acute Bronchitis					4.61	406.26			4.61	406.26
Acute Myocardial Infarction					1.39	125,032.40			1.39	125,032.40
Acute Respiratory Symptoms	188.26	5,945.38	4,844.952	414,186.38	1,896.89	185,929.67	14.01	442.55	2,099.17	606,503.98
Asthma Exacerbation	2,715.52	227,693.21			1,928.01	156,731.87	115.18	9,075.55	4,758.71	393,500.63
Chronic Bronchitis					1.71	477,965.87			1.71	477,965.87
Emergency Room Visits	2.02	842.65	2.59	1,084.37	2.58	1,068.27	0.42	175.21	7.61	3,170.50
Hospital Admissions	6.70	199,059.66	6.25	194,245.96			0.58	17,681.83	13.53	410,987.45
Hospital Admissions, Cardiovascular					0.72	27,446.33			0.72	27,446.33
Hospital Admissions, Respiratory					0.66	21,035.62			0.66	21,035.62
Lower Respiratory Symptoms					58.85	3,055.35			58.85	3,055.35
Mortality			3.01	23,375,489.13	6.85	53,274,768.64			9.86	76,650,257.77
School Loss Days			2,601.855	255,476.65					0.00	255,476.65
Upper Respiratory Symptoms					45.87	2,059.22			45.87	2,059.22
Work Loss Days					322.76	45,805.00			322.76	45,805.00
Adverse Health Effect Total	**2,912.502**	**$433,540.89**	**7,458.660**	**$24,240,482.48**	**4,270.897**	**$54,321,304.50**	**130.20**	**$27,375.14**	**130.20**	**$79,022,703.01**

Oklahoma City is one of the largest cities in the nation in compliance with the Clean Air Act (OKC Modern Transit Project). Oklahoma City and the neighboring community trees that make up the Metropolitan Area's urban forest contribute to this distinction, and its continued expansion can help continue this legacy.

Air pollution can lead to decreased human health, damage to trees and shrubs and ecosystem processes, and reduced visibility. According to the World Health Organization, air quality is a major cause of death and disease globally; contributing to increased hospital admissions and emergency room visits and increased risk of premature death (WHO, 2019). i-Tree *Eco* provides estimates of the number of adverse health incidents avoided due to changes in pollutant concentration levels, as well as, the associated economic value of the reduction in those incidents, all of which are summarized in Table 19. Nearly all adverse health effects are positively affected by the reduction of $PM_{2.5}$, which annually is valued at more than $54.3 million.

Deposition, Interception, and Avoided Pollutants

Each year, more than 5,223 tons of nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 2.5 microns ($PM_{2.5}$), carbon monoxide (CO), and ozone (O_3) are intercepted or absorbed by trees in the study area, for a value of over $77.7 million (Figure 13, Table 20).

Trees produce oxygen during photosynthesis, and trees in the study area produce an estimated 356,974 tons of oxygen annually. Additionally, trees contribute to energy savings by reducing air pollutant emissions (NO_2, PM_{10}, SO_2, and VOCs) that result from energy production.

Air quality impacts of trees are complex, and the i-Tree *Eco* software models these interactions to help urban forest managers evaluate the true impact of urban trees on the study area's air quality. The cumulative and interactive effects of trees on climate, pollution removal, VOCs, and power plant emissions determine the net impact of trees on air pollution. Local urban forest management decisions also can help improve air quality by prioritizing tree species recognized for their ability to improve air quality and planting buffers near areas known to emit pollutants (e.g. large traffic corridors, industrial plants).

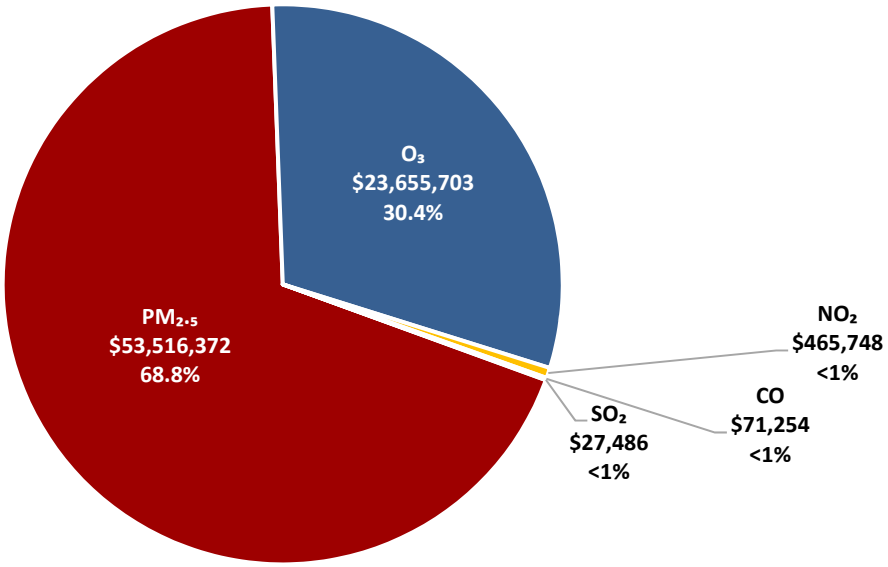


Figure 13: Annual Air Pollution Benefits of Urban Trees

Table 20: Annual Air Pollution Benefits

Air Pollutant	Removal (lb)	Average Annual Value ($)
$PM_{2.5}$	465,479	53,516,372
O_3	8,910,614	23,655,703
NO_2	761,864	465,748
CO	103,288	71,254
SO_2	204,383	27,486
Total	**10,445,628**	**$77,736,563**

Atmospheric Carbon Dioxide Reduction

As environmental awareness continues to increase, governments are paying attention to global warming and the effects of greenhouse gas (GHG) emissions. As energy from the sun (sunlight) strikes the Earth's surface it is reflected into space as infrared radiation (heat). GHGs absorb some of this infrared radiation and trap heat in the atmosphere, modifying the temperature of the Earth's surface. Many chemical compounds in the Earth's atmosphere act as GHGs, including carbon dioxide (CO_2), water vapor, and human-made (gases/aerosols). As GHGs increase, the amount of energy radiated back into space is reduced, and more heat is trapped in the atmosphere. An increase in the average temperature of the Earth may result in changes in weather, sea levels, and land-use patterns, commonly referred to as "climate change."

The Center for Public Urban Forest Research (CUFR) recently led the development of Public Urban Forest Project Reporting Protocol. The protocol, which incorporates methods of the Kyoto Protocol and Voluntary Carbon Standard (VCS), establishes methods for calculating reductions, provides guidance for accounting and reporting, and guides public tree resource managers in developing tree planting and stewardship projects that could be registered for GHG reduction credits (offsets). The protocol can be applied to urban tree planting projects within municipalities, campuses, and utility service areas anywhere in the United States.

While trees within the study area may or may not qualify for carbon-offset credits or be traded in the open market, these trees are nonetheless providing a significant reduction in atmospheric carbon dioxide (CO_2) for a positive environmental and financial benefit to the community.

Urban trees reduce atmospheric CO_2 in two ways:

- Directly, through growth and the sequestration of CO_2 in wood, foliar biomass, and soil
- Indirectly, by lowering the demand for heating and air conditioning, thereby reducing the emissions associated with electric power generation and natural gas consumption

To date, trees within the study area are estimated to have stored 4.8 million tons of carbon (CO_2) in woody and foliar biomass.

Annually, the tree resource directly sequesters an additional estimated 205,160 tons (gross) of carbon valued at nearly $35 million. Considering the carbon that is released through decomposition, trees in the study area provide an annual net reduction in atmospheric CO_2 of 133,865 tons.

Among prevalent species, post oak (*Quercus stellate,* 7.5%) contribute the most to atmospheric carbon removal, sequestering a net 20,057 tons of carbon annually (~15% of overall total benefits) (Figure 14). In contrast, black locust (*Robinia psuedoacacia*), contributes less than 1% of the carbon sequestration benefit and is estimated to represent 1.9% of the overall population (Table 21).

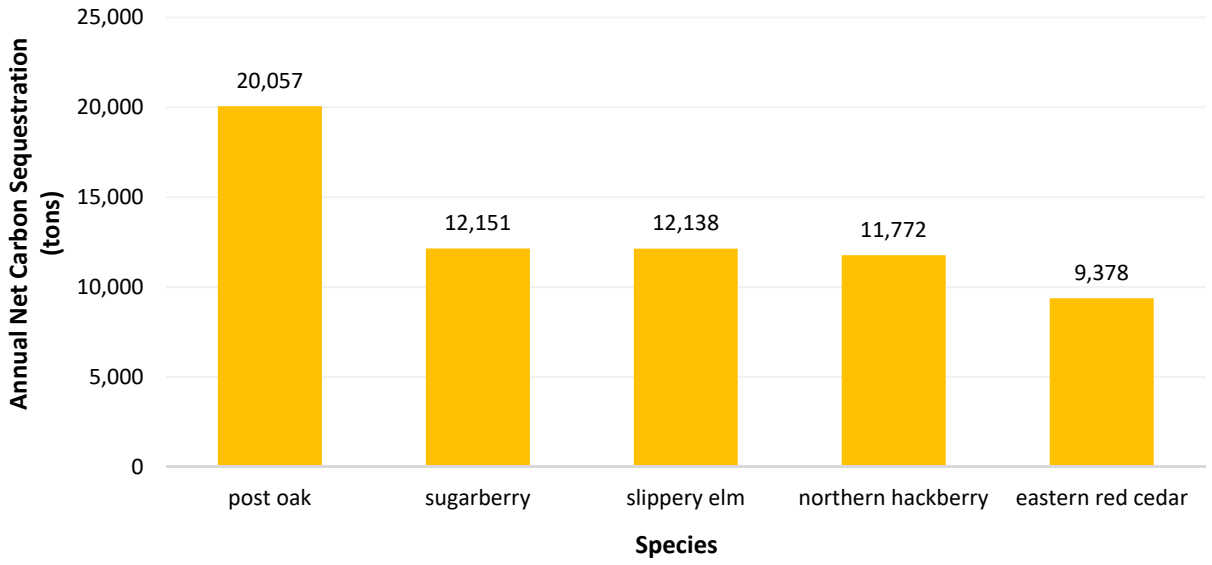


Figure 14: Top Five Species for Carbon Benefit

Table 21: Annual Net Carbon Sequestration by Most Common Species

Species	Annual Net Carbon Sequestration (tons)	% of Carbon Benefit	Estimated Population	% of Estimated Pop.
eastern redcedar	9,378	7.01	8,558,770	13.24
slippery elm	12,138	9.07	6,269,016	9.70
western soapberry	6,937	5.18	6,191,735	9.58
sugarberry	12,151	9.08	5,139,411	7.95
post oak	20,057	14.98	4,819,227	7.45
northern hackberry	11,772	8.79	4,347,915	6.72
common persimmon	3,674	2.74	4,105,028	6.35
American elm	8,821	6.59	2,958,891	4.58
blackjack oak	6,940	5.18	2,957,825	4.57
shining sumac	6,051	4.52	2,937,708	4.54
Siberian elm	1,037	0.77	2,402,359	3.72
eastern redbud	1,477	1.10	1,485,355	2.30
black locust	190	0.14	1,253,348	1.94
mulberry spp.	2,261	1.69	1,128,561	1.75
honeylocust	1,656	1.24	672,402	1.04
All Other Species	29,323	21.90	9,427,543	14.58
All Species Total	**133,865**	**100%**	**64,655,094**	**100%**

Stormwater Runoff Reductions

Rainfall interception by trees reduces the amount of stormwater that enters collection and treatment facilities during large storm events (Figure 15). Trees intercept rainfall in their canopy, acting as mini-reservoirs, controlling runoff at the source. Healthy urban trees reduce the amount of runoff and pollutant loading in receiving waters in three primary ways:

- Leaves and branch surfaces intercept and store rainfall, thereby reducing runoff volumes and delaying the onset of peak flows
- Root growth and decomposition increase the capacity and rate of soil infiltration by rainfall and reduce overland flow
- Tree canopies reduce soil erosion and surface flows by diminishing the impact of raindrops on bare soil

The study area's urban forest is estimated to contribute to the avoidance of over 2.5 billion gallons of stormwater runoff annually through the interception of precipitation on the leaves and bark of trees for an average of 39.3 gallons per tree (Table 22).

The most prevalent species, eastern redcedar (*Juniperus virginiana,* 13.2%) provides 20.8% of the estimated total avoided runoff value (Figure 15). The small, scale-like evergreen leaves of the species are contributors to its year-round capacity to capture precipitation. Characteristics that contribute to greater stormwater capture include large leaves, broad or dense canopies, and furrowed bark.

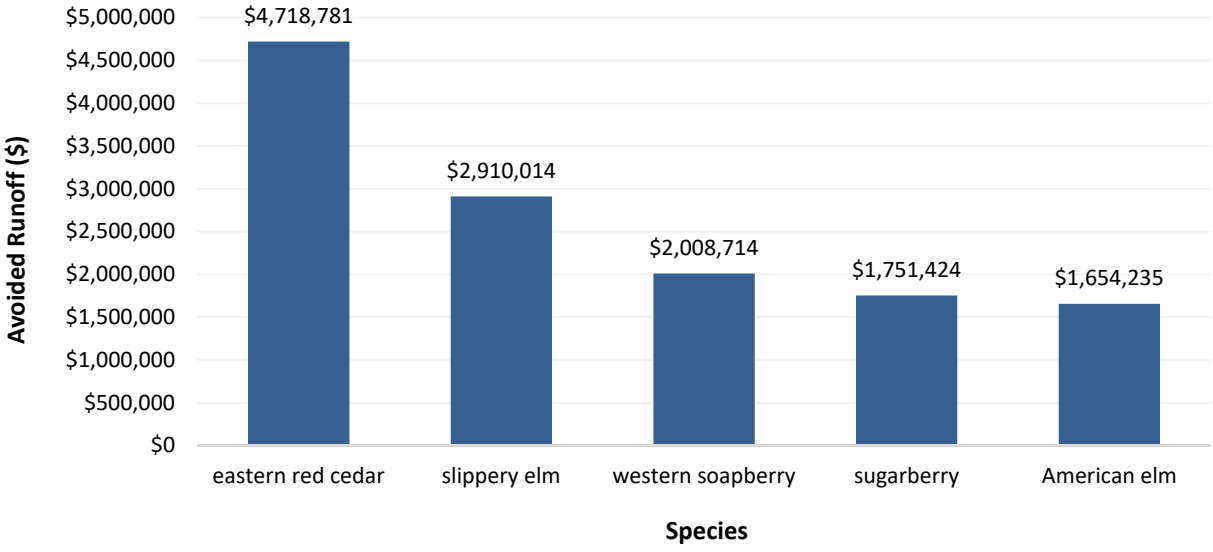


Figure 15: Top Five Species for Stormwater Benefit

Table 22: Stormwater Runoff Avoided by Most Common Species

Species	Number of Trees	Potential Evapotranspiration (ft^3/yr)	Evaporation (ft^3/yr)	Transpiration (ft^3/yr)	Water Intercepted (ft^3/yr)	Avoided Runoff (ft^3/yr)	Avoided Runoff Value ($)
eastern redcedar	8,558,770	2,554,303,676	321,955,255	1,226,014,028	321,996,790	70,591,982	4,718,781
slippery elm	6,269,016	1,575,207,609	198,545,839	756,067,747	198,571,454	43,533,206	2,910,014
western soapberry	6,191,735	280,935,954	35,410,358	134,843,568	35,414,926	7,764,083	518,997
sugarberry	5,139,411	1,087,328,924	137,051,543	521,895,860	137,069,224	30,049,952	2,008,714
post oak	4,819,227	764,152,449	96,317,011	366,777,698	96,329,437	21,118,490	1,411,683
northern hackberry	4,347,915	948,055,893	119,496,980	455,047,626	119,512,397	26,200,935	1,751,424
common persimmon	4,105,028	133,284,070	16,799,689	63,973,654	16,801,856	3,683,504	246,227
American elm	2,958,891	895,446,953	112,865,927	429,796,400	112,880,488	24,747,009	1,654,235
blackjack oak	2,957,825	340,832,627	42,959,988	163,592,757	42,965,530	9,419,417	629,649
shining sumac	2,937,708	57,460,080	7,242,512	27,579,674	7,243,446	1,587,995	106,151
Siberian elm	2,402,359	398,613,686	50,242,957	191,326,495	50,249,439	11,016,282	736,393
eastern redbud	1,485,355	149,102,575	18,793,520	71,566,216	18,795,945	4,120,671	275,450
black locust	1,253,348	86,271,743	10,874,056	41,408,689	10,875,459	2,384,248	159,377
mulberry spp.	1,128,561	187,043,693	23,575,779	89,777,184	23,578,821	5,169,231	345,542
honeylocust	672,402	52,695,589	6,641,975	25,292,816	6,642,832	1,456,321	97,349
All Other Species	9,427,543	2,782,381,450	350,703,143	1,335,486,739	350,748,388	76,895,251	5,140,128
All Species Total	**64,655,090**	**12,293,116,970**	**1,549,476,533**	**5,900,447,151**	**1,549,676,432**	**339,738,576**	**$22,710,112**

Energy Savings

Trees modify climate and conserve energy in three principal ways:

- Shading reduces the amount of radiant energy absorbed and stored by hardscape surfaces, thereby reducing the heat island effect
- Transpiration converts moisture to water vapor, thereby cooling the air by using solar energy that would otherwise result in heating of the air
- Reduction of wind speed, the movement of outside air into interior spaces, and conductive heat loss where thermal conductivity is relatively high (e.g., glass windows) (Simpson, 1998)

Trees reduce conductive heat loss from buildings by reducing air movement into buildings and against conductive surfaces (e.g., glass, metal siding). Trees can reduce wind speed and the resulting air infiltration by up to 50%, translating into potential annual heating savings of 25% (Heisler, 1986).

Electricity and Natural Gas Reduction

Trees in the study area contribute to $14.2 million each year in electric and natural gas savings through shading and climate buffering effects. These annual reductions are equal to 152,809 MwH (valued at $15.3 million) and -262,157 MBtu (valued at $-1.1 million) (Table 23).

Table 23: Energy Savings from the Study Area's Urban Forest

Type	Heating (unit)	Heating ($)	Cooling (unit)	Cooling ($)	Total (unit)	Total ($)
MBtu	-262,157	-1,101,321	N/A	N/A	-262,157	-1,101,321
MwH	-10,421	-1,042,066	163,229	16,322,918	152,809	15,280,851
Carbon Avoided	-8,306	-1,416,516	35,870	6,117,589	27,564	4,701,073

Summary of Annual Environmental Benefits

The study area's urban forest has beneficial effects on the environment, and annually contributes to nearly $150 million in benefits to the community. Table 24 and Figure 16 summarize the annual benefits estimated by the i-Tree *Eco* assessment.

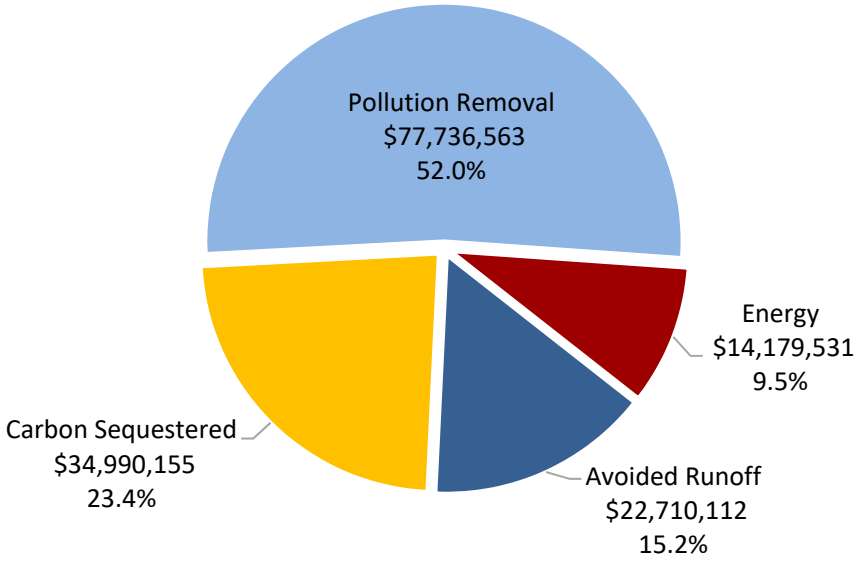


Figure 16: Annual Environmental Benefits of Urban Trees

Table 24: Benefits of the Study Area's Urban Forest

Benefits	Total $	$/tree	$/capita
Energy	14,179,531	0.22	22.03
Gross Carbon Sequestration	34,990,155	0.54	54.36
Pollution Removal[1]	77,736,563	1.20	120.77
Avoided Runoff	22,710,112	0.35	35.28
Total Benefits	**$149,616,362**	**$2.31**	**$232.45**

[1] Pollution removal is calculated based on the prices of $0.69 per pound (CO), $2.65 per pound ($O_3$), $0.61 per pound ($NO_2$), $0.13 per pound ($SO_2$), $114.97 per pound ($PM_{2.5}$)

Aesthetic, Property Value, & Socioeconomic Benefits

Trees provide beauty in the urban landscape, privacy and screening, improved human health, a sense of comfort and place, and habitat for urban wildlife. Research shows that trees promote better business by stimulating more frequent and extended shopping and a willingness to pay more for goods and parking (Wolf, 1999). In residential areas, the values of these benefits are captured as a percentage of the value of the property on which a tree stands. **There is no current model for calculating the aesthetic benefits of an urban forest.** Although, there are many indicators that suggest trees and tree canopy cover contribute significantly to quality of life and community well-being.

It is important to acknowledge that this assessment does not account for all the benefits provided by the tree resource. Some benefits are intangible and/or difficult to quantify, such as:

- Impacts on psychological and physical health and wellness
- Reduction in crime and violence
- Increases in tourism revenue
- Quality of life
- Wildlife habitat
- Aesthetic benefits
- Socio-economic impacts
- Increases in property values
- Placemaking
- Overall community well-being

Empirical evidence of these benefits does exist (Wolf, 2007; Kaplan, 1989; Ulrich, 1986), but there is limited knowledge about the physical processes at work and the complex nature of interactions make quantification imprecise. Tree growth and mortality rates are highly variable. A true and full accounting of benefits and investments must consider variability among sites (e.g., tree species, growing conditions, maintenance practices), as well as variability in tree growth.

Calculating Tree Benefits

While all these tree benefits are provided by the urban forest, it can be useful to understand the contribution of just one tree. Individuals can calculate the benefits of individual trees to their property by using i-Tree *Design*. (design.itreetools.org).

Calculate My Tree Benefits

Pests & Pathogens

Involvement in the global economy and a highly mobile population increase the risk of an invasive pest or pathogen introduction into communities in the study area. To further investigate the risk of pests and pathogens, an i-Tree *Eco* report was produced for the study area. The i-Tree *Eco* software generates a report that identifies the susceptibility of tree populations to 36 emerging and existing pests and pathogens in the United States (Appendix B). According to the analysis, of the estimated 65 million trees (SE 10 million) in the study area, 27.2 million are susceptible to the included pests and pathogens and the potential pest risk is valued at nearly $10.8 million. The pests and pathogens identified as most relevant to the study area are included in Table 25. Notably, managers monitor for additional pests and pathogens within the study area (e.g. pine wilt nematode, webworms, bagworms, tip moths, and bark beetles).

In 2016, emerald ash borer (EAB, *Agrilus planipennis*) was discovered less than 200 miles away in Grove, Oklahoma. EAB is an example of a devastating pest in close proximity to the study area. Less than 1% of the canopy is susceptible to EAB, but due to the consistent spread of EAB, it is important for communities in the study area to avoid planting additional ash trees (*Fraxinus*).

Although not yet present in the Oklahoma City Metropolitan Area, defoliating moths, such as gypsy moth (*Lymantria dispar*), threaten a broad range of tree hosts present in the study area, as portrayed by the 27.1% of hosts susceptible. During outbreaks, the feeding damage weakens the tree host, and renders it more vulnerable to other pests and diseases (Collins, 1996). The gypsy moth is known to feed on hundreds of species of trees and shrubs, and oaks (*Quercus*) are one of their preferred hosts.

The Asian longhorned beetle (ALB, *Anoplophora glabripennis*) is an invasive insect that threatens many hardwood trees. Currently, Oklahoma does not have any ALB infestations, but 27.3% of the study area's canopy is susceptible. The known preferred hosts include many groups of hardwood trees such as maple (*Acer*), buckeye (*Aesculus*), birch (*Betula*), planetree (*Platanus*), willow (*Salix*), and elm (*Ulmus*).

Oak wilt (caused by the fungus *Ceratocystis fagacearum*) is not yet present in the Oklahoma City Metropolitan Area, but it is one of the most destructive tree diseases in the United States and is considered an epidemic in the neighboring state of Texas (Texas A&M Forest Service, 2019). All ages and sizes of oaks can be impacted, and 15.2% of the urban forest in the study area is susceptible to this disease. Red oaks, including northern red oak, a species identified as underutilized in the relative performance analysis, are highly susceptible to oak wilt. White oaks, such as post oak which makes up 7.5% of the canopy in the study area, are resistant.

Table 25: Pest & Pathogen Susceptibility

Pest or Disease Name	# of Trees		Structural Value ($)		Leaf Area (%)		Leaf Area (acres)	
	Susceptible	Not Susceptible	Susceptible	Not Susceptible	Susceptible	Not Susceptible	Susceptible	Not Susceptible
Asian longhorned beetle	13,878,425	50,776,665	4,822,266,189	18,023,857,583	31	69	236,855	518,333
aspen leafminer	541,901	64,113,189	225,435,923	22,620,687,850	1	99	5,799	749,389
Dutch elm disease	11,630,265	53,024,824	3,164,260,115	19,681,863,657	23	77	176,264	578,924
emerald ash borer	231,376	64,423,714	328,450,648	22,517,673,124	1	99	6,614	748,574
gypsy moth	13,070,374	51,584,716	5,580,219,707	17,265,904,066	15	85	113,409	641,779
oak wilt	8,528,294	56,126,795	3,988,121,633	18,858,002,140	11	89	80,324	674,865
southern pine beetle	491,685	64,163,405	858,009,114	21,988,114,658	1	99	8,828	746,360
sudden oak death	110,643	64,544,447	89,386,113	22,756,737,660	0	100	1,491	753,698
thousand canker disease	456,119	64,198,971	70,691,872	22,775,431,901	2	98	16,541	738,648

The Lone Oak in northwest Oklahoma City is a large bur oak that may be susceptible to gypsy moth.

Conclusion

Urban forest managers can better anticipate the future management needs of the urban forest with a clear understanding of its current state. Managers can also anticipate challenges and devise plans to increase the current level of benefits. Performance data from the analysis can be used to make decisions regarding species selection, distribution, and maintenance policies. Documenting current structure is necessary for establishing goals and performance objectives and can serve as a benchmark for measuring future success. Information from the urban forest resource assessment can be referenced in development of an urban forest management or master plan. An urban forest master plan is a critical tool for successful urban forest management, inspiring commitment, and providing vision for communication with key decision-makers both inside and outside the organization.

The land cover assessment provides a GIS database with a land cover layer to identify the location and extent of existing canopy in relation to other components of infrastructure to establish a new baseline for monitoring overall tree canopy cover throughout the community. To prioritize planting sites and increase canopy cover, managers should first consider areas of high priority to reduce urban heat islands and improve stormwater capture. This assessment provides a foundation for developing urban forest management strategies and measuring the success of those strategies over time.

With an overall canopy of 22.4% and a potential tree canopy cover of 59.1%, the study area has ample opportunity to expand the urban forest. Communities within the study area should decide upon a reasonable urban tree canopy cover goal. While doing so, it is important to consider the 22.4% current canopy cover, 30.1% impervious surfaces, 40.1% grass and low-lying vegetation, 3.8% bare soils, and 3.6% open water.

Through the i-Tree *Eco* assessment, it is estimated that the study area has 65 million (SE 10 million) trees. Based on trees collected in sample plots, it is estimated that eastern redcedar (*Juniperus virginiana*) represent 13.2% of the overall urban forest population. Although many of the most prevalent species in the study area are relatively pest and disease free, slippery elm and American elm are susceptible to Dutch elm disease (DED). Preventative and sanitation measures may limit the spread and immediate impact of DED. To reduce the vulnerability to pests and pathogens, managers have the following opportunities:

- The industry recommendation is that no species should exceed 10% of a population. Therefore, managers should limit the planting of those species in the future and encourage greater diversity at the genus level.
- Regarding Dutch elm disease, preventative measures such as regular inspections of elms to survey for the characteristic flagging and branch dieback, ample watering, and pruning out dead branch material will likely decrease DED incidence. If DED is identified, immediate management should occur.

From the i-Tree *Eco* assessment, the overall population of the study area's urban forest is estimated to be potentially a young resource with trees in mostly fair to good condition. As young trees (less than 12-inches DBH) mature, the benefits that those trees provide to the community will also grow. Considering the benchmark values of the i-Tree *Eco* and the land cover assessment, the following are recommendations to improve the overall resilience of the urban forest:

- Promote species diversity for greater resilience and pest resistance.
- Ensure that new tree plantings include a variety of suitable species and prevent an unduly increased reliance on prevalent species for greater resilience and pest resistance.
- Consider incorporating more species with Relative Performance Index (RPI) values of 1.0 or higher.
- Explore the use of species that have been successful in other parts of Oklahoma, including:
    - Shumard oak (*Quercus shumardii*)
    - bald cypress (*Taxodium distichum*)
    - pond cypress (*Taxodium ascendens*)
    - chinkapin oak (*Quercus muehlenbergii*)
    - Freeman maple (*Acer freemanii*)
    - trident maple (*Acer buergerianum*)
    - cedar elm (*Ulmus crassifolia*)
    - Arizona cypress (*Cupressus arizonica*)
    - Buckley oak (*Quercus buckleyi*)
    - escarpment live oak (*Quercus fusiformis*)
- Support the longevity of existing trees to preserve and increase benefits and to preserve a stable benefit stream.
- Use planting priority maps to strategically focus planting to increase trees and canopy that will support stormwater management, preserve soil, reduce urban heat islands, and complement the existing urban infrastructure for the greatest impact and return on investment.
- Strive for a more balanced and equitable urban forest by targeting low-income areas for planting priority.
- Prioritize planting trees in parks. The study area's 313 parks and open spaces have 2,163 acres that have the potential to support additional tree plantings.
- As land use zones designated for planned uses are developed, preserve existing tree canopy as much as possible.
- Consider adopting and/or revising guidelines and ordinances that enhance opportunities to utilize trees in addressing, public health, aiding in stormwater management and address other vital environmental issues.

- Whenever feasible, incorporate trees into trails and pedestrian thoroughfares in communities within the study area. Increased canopy cover can encourage cycling and pedestrian foot-traffic which translates to positive indicators for public health and reduced demand for other modes of transportation.
- Use tree plantings in watershed floodways with lower canopy cover to mitigate "peak flows" for future flood events.
- Consider incentives for tree planting on private property, particularly in high and very high priority planting areas and in neighborhood associations with lower tree canopy cover.

Aerial image of Oklahoma City's tree canopy. The i-Tree Eco assessment estimates that the study area includes 65 million (SE 10 million) trees.

Parks and open space, like Perle Mesta Park, have the potential to support additional tree plantings.

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Appendix B: Methods

Land Cover Extraction and Accuracy Assessment

Davey Resource Group, Inc. utilized an object-based image analysis (OBIA) semi-automated feature extraction method to process and analyze current high-resolution color infrared (CIR) aerial imagery and remotely-sensed data to identify tree canopy cover and land cover classifications. The use of imagery analysis is cost-effective and provides a highly accurate approach to assessing a community's existing tree canopy coverage. This supports responsible tree management, facilitates community forestry goal-setting, and improves urban resource planning for healthier and more sustainable urban environments.

Advanced image analysis methods were used to classify, or separate, the land cover layers from the overall imagery. The semi-automated extraction process was completed using Feature Analyst, an extension of ArcGIS®. Feature Analyst uses an object-oriented approach to cluster together objects with similar spectral (i.e., color) and spatial/contextual (e.g., texture, size, shape, pattern, and spatial association) characteristics. The land cover results of the extraction process was post-processed and clipped to each project boundary prior to the manual editing process in order to create smaller, manageable, and more efficient file sizes. Secondary source data, high-resolution aerial imagery provided by partners in the study area, and custom ArcGIS® tools were used to aid in the final manual editing, quality checking, and quality assurance processes (QA/QC). The manual QA/QC process was implemented to identify, define, and correct any misclassifications or omission errors in the final land cover layer.

Classification Workflow

1) Prepare imagery for feature extraction (resampling, rectification, etc.), if needed.
2) Gather training set data for all desired land cover classes (canopy, impervious, grass, bare soil, shadows). Water samples are not always needed since hydrologic data are available for most areas.
3) Extract canopy layer only; this decreases the amount of shadow removal from large tree canopy shadows. Fill small holes and smooth to remove rigid edges.
4) Edit and finalize canopy layer at 1:2000 scale. A point file is created to digitize-in small individual trees that will be missed during the extraction. These points are buffered to represent the tree canopy. This process is done to speed up editing time and improve accuracy by including smaller individual trees.
5) Extract remaining land cover classes using the canopy layer as a mask; this keeps canopy shadows that occur within groups of canopy while decreasing the amount of shadow along edges.
6) Edit the impervious layer to reflect actual impervious features, such as roads, buildings, parking lots, etc. to update features.
7) Using canopy and actual impervious surfaces as a mask; input the bare soils training data and extract them from the imagery. Quickly edit the layer to remove or add any features. Davey

Resource Group tries to delete dry vegetation areas that are associated with lawns, grass/meadows, and agricultural fields.

8) Assemble any hydrological datasets, if provided. Add or remove any water features to create the hydrology class. Perform a feature extraction if no water feature datasets exist.

9) Use geoprocessing tools to clean, repair, and clip all edited land cover layers to remove any self-intersections or topology errors that sometimes occur during editing.

10) Input canopy, impervious, bare soil, and hydrology layers into Davey Resource Group's Five-Class Land Cover Model to complete the classification. This model generates the pervious (grass/low-lying vegetation) class by taking all other areas not previously classified and combining them.

11) Thoroughly inspect final land cover dataset for any classification errors and correct as needed.

12) Perform accuracy assessment. Repeat Step 11, if needed.

Automated Feature Extraction Files

The automated feature extraction (AFE) files allow other users to run the extraction process by replicating the methodology. Since Feature Analyst does not contain all geoprocessing operations that Davey Resource Group utilizes, the AFE only accounts for part of the extraction process. Using Feature Analyst, Davey Resource Group created the training set data, ran the extraction, and then smoothed the features to alleviate the blocky appearance. To complete the actual extraction process, Davey Resource Group uses additional geoprocessing tools within ArcGIS®. From the AFE file results, the following steps are taken to prepare the extracted data for manual editing.

1) Davey Resource Group fills all holes in the canopy that are less than 30 square meters. This eliminates small gaps that were created during the extraction process while still allowing for natural canopy gaps.

2) Davey Resource Group deletes all features that are less than 9 square meters for canopy (50 square meters for impervious surfaces). This process reduces the number of small features that could result in incorrect classifications and also helps computer performance.

3) The Repair Geometry, Dissolve, and Multipart to Singlepart (in that order) geoprocessing tools are run to complete the extraction process.

4) The Multipart to Singlepart shapefile is given to GIS personnel for manual editing to add, remove, or reshape features.

Table 26: Classification Matrix

Reference Data	Classification Data								
Classes	**Tree Canopy**	**Impervious**	**Grass/Vegetation**	**Bare Soils**	**Water**	**Row Total**	**Producer's Accuracy**	**Errors of Omission**
Tree Canopy	220	1	10	0	0	231	**95.24%**	**4.76%**
Impervious	4	312	13	0	0	329	**94.83%**	**5.17%**
Grass/Vegetation	7	9	339	2	0	357	**94.96%**	**5.04%**
Bare Soils	0	1	8	34	0	43	**79.07%**	**20.93%**
Water	0	0	1	0	39	40	**97.50%**	**2.50%**
Column Total	231	323	371	36	39	1,000		
User's Accuracy	**95.24%**	**96.59%**	**91.37%**	**94.44%**	**100.00%**		**Overall Accuracy**	**94.40%**
Errors of Commission	**4.76%**	**3.41%**	**8.63%**	**5.56%**	**0.00%**		**Kappa Coefficient**	**0.9205**

Accuracy Assessment Protocol

Determining the accuracy of spatial data is of high importance to Davey Resource Group, Inc. and our clients. To achieve to best possible result, Davey Resource Group, Inc. manually edits and conducts thorough QA/QC checks on all urban tree canopy and land cover layers. A QA/QC process will be completed using ArcGIS® to identify, clean, and correct any misclassification or topology errors in the final land cover dataset. The initial land cover layer extractions will be edited at a 1:2000 quality control scale in the urban areas and at a 1:2500 scale for rural areas utilizing the most current high-resolution aerial imagery to aid in the quality control process.

To test for accuracy, random plot locations are generated throughout the city area of interest and verified to ensure that the data meet the client standards. Each point will be compared with the most current NAIP high-resolution imagery (reference image) to determine the accuracy of the final land cover layer. Points will be classified as either correct or incorrect and recorded in a classification matrix. Accuracy will be assessed using four metrics: overall accuracy, kappa, quantity disagreement, and allocation disagreement. These metrics are calculated using a custom Excel® spreadsheet.

Land Cover Accuracy

The following describes Davey Resource Group's accuracy assessment techniques and outlines procedural steps used to conduct the assessment.

1. ***Random Point Generation***—Using ArcGIS, 1,000 random assessment points are generated.
2. ***Point Determination***—Each point is carefully assessed by the GIS analyst for likeness with the aerial photography. To record findings, two new fields, CODE and TRUTH, are added to the accuracy assessment point shapefile. CODE is a numeric value (1–5) assigned to each land cover class (Table 2) and TRUTH is the actual land cover class as identified according to the reference image. If CODE and

TRUTH are the same, then the point is counted as a correct classification. Likewise, if the CODE and TRUTH are not the same, then the point is classified as incorrect. In most cases, distinguishing if a point is correct or incorrect is straightforward. Points will rarely be misclassified by an egregious classification or editing error. Often incorrect points occur where one feature stops and the other begins.

3. ***Classification Matrix***—During the accuracy assessment, if a point is considered incorrect, it is given the correct classification in the TRUTH column. Points are first assessed on the NAIP imagery for their correctness using a "blind" assessment—meaning that the analyst does not know the actual classification (the GIS analyst is strictly going off the NAIP imagery to determine cover class). Any incorrect classifications found during the "blind" assessment are scrutinized further using sub-meter imagery provided by the client to determine if the point was incorrectly classified due to the fuzziness of the NAIP imagery or an actual misclassification. After all random points are assessed and recorded; a classification (or confusion) matrix is created. The classification matrix for this project is presented in Table 26. The table allows for assessment of user's/producer's accuracy, overall accuracy, omission/commission errors, kappa statistics, allocation/quantity disagreement, and confidence intervals (Table 27).
4. Following are descriptions of each statistic as well as the results from some of the accuracy assessment tests.

Overall Accuracy – Percentage of correctly classified pixels; for example, the sum of the diagonals divided by the total points ((220+312+339+34+39)/1,000 = 94.40%).

User's Accuracy – Probability that a pixel classified on the map actually represents that category on the ground (correct land cover classifications divided by the column total [220/231=95.24%]).

Producer's Accuracy – Probability of a reference pixel being correctly classified (correct land cover classifications divided by the row total [220/231=95.24%]).

Kappa Coefficient – A statistical metric used to assess the accuracy of classification data. It has been generally accepted as a better determinant of accuracy partly because it accounts for random chance agreement. A value of 0.80 or greater is regarded as "very good" agreement between the land cover classification and reference image.

Errors of Commission – A pixel reports the presence of a feature (such as trees) that, in reality, is absent (no trees are actually present). This is termed as a false positive. In the matrix below, we can determine that 4.76% of the area classified as canopy is most likely not canopy.

Errors of Omission – A pixel reports the absence of a feature (such as trees) when, in reality, they are actually there. In the matrix below, we can conclude that 4.76% of all canopy classified is actually classified as another land cover class.

Allocation Disagreement – The amount of difference between the reference image and the classified land cover map that is due to less than optimal match in the spatial allocation (or position) of the classes.

Quantity Disagreement – The amount of difference between the reference image and the classified land cover map that is due to less than perfect match in the proportions (or area) of the classes.

Confidence Intervals – A confidence interval is a type of interval estimate of a population parameter and is used to indicate the reliability of an estimate. Confidence intervals consist of a range of values (interval) that act as good estimates of the unknown population parameter based on the observed probability of successes and failures. Since all assessments have innate error, defining a lower and upper bound estimate is essential.

Table 27: Confidence Intervals

95% Confidence Intervals

Landcover Assessment

Class	Acreage	Percentage	Lower Bound	Upper Bound
Tree Canopy	76,903.0	22.4%	22.3%	22.5%
Impervious	103,406.6	30.1%	30.0%	30.2%
Grass/Vegetation	137,786.6	40.1%	40.1%	40.2%
Bare Soils	12,865.5	3.7%	3.7%	3.8%
Water	12,352.4	3.6%	3.6%	3.6%
Total	**343,314.1**	**100.00%**		

Statistical Metrics Summary:

Overall Accuracy =	**94.40%**
Kappa Coefficient =	**0.9205**
Allocation Disagreement =	**5%**
Quantity Disagreement =	**1%**

Accuracy Assessment

Class	User's Accuracy	Lower Bound	Upper Bound	Producer's Accuracy	Lower Bound	Upper Bound
Tree Canopy	95.2%	93.8%	96.6%	95.2%	93.8%	96.6%
Impervious	96.6%	95.6%	97.6%	94.8%	93.6%	96.1%
Grass/Vegetation	91.4%	89.9%	92.8%	95.0%	93.8%	96.1%
Bare Soils	94.4%	90.6%	98.3%	79.1%	72.9%	85.3%
Water	100.0%	100.0%	100.0%	97.5%	95.0%	100.0%

Priority Planting Analysis

The planting location polygons were created by taking all grass/open space and bare ground areas and combining them into one dataset. Non-feasible planting areas such as agricultural fields, recreational fields, major utility corridors, airports, etc. were removed from consideration. This layer was reviewed and approved by the partners, Oklahoma City Community Foundation, Association of Central Oklahoma Governments, and Oklahoma Forestry Services, before the analysis proceeded. The remaining planting space was consolidated into a single feature and, then, exploded back out to multipart features creating separate, distinct polygons for each location. Using zonal statistics, the priority grid raster was used to calculate an average value for each planting location polygon. The averages were binned into five (5) classes with the higher numbers indicating higher priority for planting. These classes ranged from very low to very high.

Prioritization

To identify and prioritize planting potential pertaining to stormwater reduction, Davey Resource Group assessed a number of environmental features, including proximity to hardscape, canopy fragmentation, floodplain proximity, soil permeability, slope, soil erosion factor (K-factor) and proximity to trails. Each factor was assessed using data from various sources and analyzed using separate grid maps. Values between zero and four (with zero having the lowest priority) were assigned to each grid assessed. The grids were overlaid, and the values were averaged to determine the priority levels at an area on the map. A priority ranging from Very Low to Very High was assigned to areas on the map based on the calculated average of all grid maps.

Again, prioritize planting potential was assessed relative to urban heat island index. A priority ranging from Very Low to Very High was assigned to areas on the map based on the calculated average of the urban heat island grids. A final assessment of the prioritized planting potential was made by a Composite ranking of the factors relating to stormwater runoff reduction and the relative urban heat island index.

Once the process of identifying priority was completed, the development of planting strategies was the next task. All potential planting sites were not treated equal as some sites were considered to be more suitable than others. Through prioritization, sites were ranked based on a number of factors pertaining to stormwater reduction and a relative urban heat island index. While available planting sites may ultimately be planted over the next several decades, the trees that are planted in the next several years, should be planned for areas in most need, and where they will provide the most benefits and return on investment.

Tree Canopy by Health and Socioeconomics

Using the land cover mapping techniques described above, tree canopy was mapped for census tracts and zip codes. Census tract data collected from the 2015 census was compared with tree canopy cover. Census data included: race, homeownership, median income, age group, education, single-family homes, and building age. A linear regression was produced for each data metric by comparing it with tree canopy cover for each census tract. A line of best fit was calculated for each regression scatterplot and the R^2 value was produced for each line of best fit. The R^2 value is defined as the coefficient of determination. In other words, the "R squared" is a goodness-of-fit measure for linear regression models. The value of "R squared" ranges from 0 to 1, with 0 meaning that the model does not explain any of the variation and 1 meaning that the model explains all of the variation. In this analysis, "R squared" values of 0.1 and above suggested a correlation. For all models where census data was compared with tree canopy by census tract, none yielded "R squared" values that would suggest a correlation.

This same process was applied to data collected by the Oklahoma City County Health Department, where health data reported by zip code were compared with tree canopy cover. Health data included: all causes of death, Alzheimer's, aggravated assault, birth rates, cancer mortality, cardiovascular disease, child abuse and removal, chronic lower respiratory disease, diabetes, gun related mortality, heart attack, homicide, housing security, hypertension, influenza pneumonia, life expectancy, low birth weight, lung cancer, mental health, respiratory illnesses, stroke, substance abuse, and suicide. In all instances, "R squared" values were all less than 0.1, which suggests no correlation.

Tree Inventory

Data was collected from May 8th through June 24th, 2019 by ISA Certified Arborists trained to record accurate, replicable data. 300 randomized plots (each 0.1 acres in size) located in the study area were included in the study. This information represents tree attributes at the time of collection, subject to change as time passes because an urban forest is a dynamic system. Data were checked for accuracy at multiple points in the collection process, and data inconsistencies were identified and corrected at the time they occurred. This resulted in an accuracy level of 95% or greater.

This tree inventory data were exported from TreeKeeper8 and converted to an i-Tree (v.6.1.28) *Eco* (v6.0.16) project file. i-Tree *Eco* is a software application designed to use field inventory data along with local hourly air pollution and meteorological data to quantify urban forest structure, environmental effects, and value to communities. The program is a central computing engine that makes scientifically sound estimates of the contributions of the urban forest based on peer-reviewed scientific equations to predict environmental and economic benefits. Aesthetic, human health, socio-economic, property value, and wildlife sustainability benefits are not calculated as part of this study although they are certainly important benefits of the study area's urban forest.

Standard Error

i-Tree *Eco* recommends a minimum of 200 randomized plots per study area to yield a standard error (SE) with an accuracy level of 90%. For the study area, 300 plots were collected to decrease the standard error and make the data more precise.

The sample inventory resulted in the collection of 2,237 trees along public streets, medians, parks, trails, school grounds, open space, and private property. The overall estimate of trees included in the study area on both public and private property is 65 million (SE 10 million).

Tree Data and Attributes

Plot ID: Unique ID value for plot generated by the data collection system

Mapping Coordinate: X and Y (latitude/longitude) coordinate locations captured using GIS maps and/or GPS equipment

Plot Address: Street address of plot and any notes for locating plots in areas without street address.

Trees in Plot: Yes or no if there are no trees in the plot.

Land Use: Actual land use types

Percent of Plot Measured: Percent of plot that is able to be accessed and measured, either directly or by estimation.

Percent Tree Cover: Percent of the plot covered by tree canopy.

Shrub Cover: percent of plot area covered by shrubs.

Ground Cover: Ground cover types, and the amount covered by each type.

Inaccessible: Dogs, dangerous terrain, fence, no permission.

Species: The botanical name of the tree, stumps are recorded as stump, regardless of species.

Stems: Multi-stem trees will be noted and recorded by measuring each stem, per *Eco* v6 Field Manual

Diameter: Tree Size - Minimum Tree Size = 1" DBH. Tree trunk diameter will be recorded to the nearest 0.1 inch at 4.5ft (breast height). +/- 0.5 inches. Trees less than 15" DBH will be measured to the nearest 0.1 inch, within +/- 0.5 inch, and Trees greater than or equal to 15" DBH will be measured to the nearest 0.1 inch, within +/- 1.0 inch. Accuracy of at least 95%. DBH for multi-stemmed trees or split trunks will follow measurement guidelines in *Eco* v6 Field Manual.

Total Tree Height: Height from ground to top of tree (alive or dead) (+/- 5ft for tree under 30ft) (+/- 10 ft for trees over 30 ft tall)

Height to Live Crown: Height from ground to the live top of the tree (+/- 5ft for tree under 30ft) (+/- 10 ft for trees over 30 ft tall)

Height to Crown Base: Height to crown base (affects air pollution, carbon, energy, runoff, structural value, and VOC analysis). (+/- 5ft for tree under 30ft) (+/- 10 ft for trees over 30 ft tall)

Crown Width: Crown width (north/south and east/west) (affects air pollution, runoff, structural value, and VOC analysis). Measure crown width (to nearest ft or m) in two directions: north-south and east-west or as safety considerations or physical obstructions allow. If tree is downed or leaning, take width measurements perpendicular to the tree bole. (Crown width measure to within +/- 5 ft)

Percent Crown Missing: Percent crown missing due to pruning, dieback, defoliation, uneven crown or sparse leaves (affects air pollution, runoff, structural value, and VOC analysis).

Crown Light Exposure: Crown light exposure (affects carbon, forecast, runoff, and structural value analysis). Number of sides of the tree receiving sunlight from above (maximum 5)

Percent Dieback (Crown Health): Estimate the percent of dieback (i.e. dead branches) in the crown recorded as it relates to condition for each tree. Condition (percent dieback) (affects carbon, forecast, energy, runoff, and structural value analysis)

Infrastructure: Trees that are conflicting with street signs, traffic devices, and utilities will be noted. Specific thresholds for noting clearance issues will be determined according to City of Oklahoma City's needs.

Trails Nearby: Identify as YES if the tree is within 30ft of a trail.

Overhead Utilities (Conflict with primary): The presence or absence of overhead high voltage conductors will be captured.

Further Inspection Needed: Tree was observed with conditions of concern. Recommend follow-up inspection for safety reasons.

Energy: Trees located near buildings and how they heat or cool the structure, used for residential buildings Tree/building energy interactions will be collected for trees (≥20 ft tall) that are located within 60 ft of space-conditioned residential buildings that are three stories or fewer in height (e.g., two stories and an attic). Trees will be plotted next to nearest building.

i-Tree *Eco* Model and Field Measurements

All field data was collected during the leaf-on season to properly assess tree canopies. The i-Tree *Eco* model uses inventory data, local hourly air pollution, and meteorological data to quantify the urban forest and its structure and benefits (Nowak & Crane, 2000), including:

- Urban forest structure (e.g., genus composition, tree health, leaf area, etc.).
- Amount of pollution removed hourly by the urban forest, and its associated percent air quality improvement throughout a year. Pollution removal is calculated for ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide and particulate matter (<2.5 microns and <10 microns).
- Total carbon stored and net carbon annually sequestered by the urban forest.
- Structural value of the forest as a replacement cost.
- Potential impact of infestations by pests or pathogen

Definitions and Calculations

Avoided surface water runoff value is calculated based on rainfall interception by vegetation, specifically the difference between annual runoff with and without vegetation. Although tree leaves, branches, and bark may intercept precipitation and thus mitigate surface runoff, only the precipitation intercepted by leaves is accounted for in this analysis. The U.S. value of avoided runoff, $0.0089 per gallon, is based on the U.S. Forest Service's Community Tree Guide Series (McPherson et al., 1999-2010; Peper et al 2009; 2010; Vargas et al, 2007a-2008).

Carbon dioxide emissions from automobile assumed six pounds of carbon per gallon of gasoline if energy costs of refinement and transportation are included (Graham, Wright, & Turhollow, 1992).

Carbon emissions were calculated based on the total city carbon emissions from the 2010 US per capita carbon emissions (Carbon Dioxide Information Analysis Center, 2010) This value was multiplied by the population of Oklahoma City (610,613) to estimate total city carbon emissions.

Carbon sequestration is removal of carbon from the air by plants. Carbon storage and carbon sequestration values are calculated based on $133.04 per short ton (EPA, 2015; Interagency Working Group on Social Cost of Carbon, 2015).

Carbon storage is the amount of carbon bound up in the above-ground and below-ground parts of woody vegetation. Carbon storage and carbon sequestration values are calculated based on $133.04 per ton (EPA, 2015; Interagency Working Group on Social Cost of Carbon, 2015).

Diameter at Breast Height (DBH) is the diameter of the tree measured 4’6” above grade.

Energy savings are calculated based on the prices of $85.00 per MWH and $48.19 per MBTU.

Household emissions average is based on average electricity kWh usage, natural gas Btu usage, fuel oil Btu usage, kerosene Btu usage, LPG Btu usage, and wood Btu usage per household in 2009 (EIA, 2013; EIA, 2014), CO_2, SO_2, and NO_3 power plant emission per KwH (Leonardo Academy, 2011), CO emission per kWh assumes 1/3 of one percent of C emissions is CO (EIA, 2014), PM10 emission per kWh (Layton 2004), CO_2, NO_3, SO_2, and CO emission per Btu for natural gas, propane and butane (average used to represent LPG), Fuel #4 and #6 (average used to represent fuel oil

and kerosene) (Leonardo Academy, 2011), CO_2 emissions per Btu of wood (EIA, 2014), CO, NO_3 and SO_2 emission per Btu based on total emissions and wood burning (tons) from (British Columbia Ministry 2005; Georgia Forestry Commission 2009).

Leaf Area was estimated using measurements of crown dimensions and percentage of crown canopy missing.

Monetary values ($) are reported in US dollars throughout the report.

Ozone (O_3) is an air pollutant that is harmful to human health. Ozone forms when nitrogen oxide from fuel combustion and volatile organic gases from evaporated petroleum products react in the presence of sunshine. In the absence of cooling effects provided by trees, higher temperatures contribute to ozone (O_3) formation.

Passenger automobile emissions assumed 0.72 pounds of carbon per driven mile (U.S. Environmental Protection Agency, 2010) multiplied by the average miles driven per vehicle in 2011 (Federal Highway Administration, 2013).

Pollution removal is calculated based on the prices of $1,469 per ton (carbon monoxide), $10,339 per ton (ozone), $10,339 per ton (nitrogen dioxide), $2,531 per ton (sulfur dioxide), $6,903 per ton (particulate matter less than 2.5 microns) (Nowak et al., 2014).

Potential pest impacts were estimated based on tree inventory information from the study area combined with i-tree *Eco* pest range maps. The input data included species, DBH, total height, height to crown base, crown width, percent canopy missing, and crown dieback. In the model, potential pest risk is based on pest range maps and the known pest host species that are likely to experience mortality. Pest range maps for 2012 from the Forest Health Technology Enterprise Team (FHTET) (Forest Health Technology Enterprise Team, 2014) were used to determine the proximity of each pest to Canadian County (one of the three counties in the study area). For the county, it was established whether the insect/disease occurs within the county, is within 250 miles of the county edge, is between 250 and 750 miles away, or is greater than 750 miles away. FHTET did not have pest range maps for Dutch elm disease and chestnut blight. The range of these pests was based on known occurrence and the host range, respectively (Eastern Forest Environmental Threat Assessment Center; Worrall 2007). Due to the dates of some of these resources, pests may have encroached closer to the tree resource in recent years.

Structural value is based on the physical resource itself (e.g., the cost of having to replace a tree with a similar tree). Structural values were based on valuation procedures of the Council of Tree and Landscape Appraisers, which uses tree species, diameter, condition, and location information (Nowak et al 2002a; 2002b).

Ton is equivalent to a U.S. short ton, or 2,000 pounds.

Table 28: Benefit Prices

Benefit	Price	Unit	Source
Electricity	$0.10	kWh	OG&E Energy Corporation
Heating	$0.42	Therm	Oklahoma Natural Gas
Carbon	$170.55	ton	i-Tree *Eco* Default
Avoided Runoff	$0.0089	gallon	i-Tree *Eco* Default

Appendix C: Tables

Table 29: Tree Canopy by Study Area Parks

Park Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
12th Ave Recreation Center	Norman	3.35	0.24	7.14	2.21	0.90	0.00	0.00	33.53
1700 Bedford Park	Nichols Hills	0.30	0.05	17.96	0.02	0.23	0.00	0.00	94.71
A.C. Caplinger Sports Complex	Edmond	33.53	4.49	13.39	6.60	17.10	5.33	0.00	28.63
Airport Heights Park	OKC	3.58	0.96	26.69	0.06	2.48	0.09	0.00	98.46
Alice Harn Park	OKC	2.16	1.17	54.21	0.17	0.82	0.00	0.00	92.03
Anderson Park	Nichols Hills	0.33	0.07	22.63	0.20	0.06	0.00	0.00	39.14
Andrews Park	Norman	17.50	1.23	7.01	5.42	10.86	0.00	0.00	68.83
Apple Valley Park	Moore	4.14	0.07	1.76	0.48	3.22	0.37	0.00	88.58
Arbor Gardens	Moore	15.96	2.14	13.40	1.90	8.99	0.00	2.94	69.80
Avondale Ct Park	Nichols Hills	0.14	0.00	0.00	0.09	0.04	0.00	0.00	31.46
Bedford/Drury Ln Park	Nichols Hills	0.11	0.02	21.05	0.08	0.00	0.00	0.00	25.90
Berkley Park	Norman	3.03	0.12	3.97	0.68	2.23	0.00	0.00	78.13
Bicentennial Park	OKC	2.15	0.37	17.18	0.81	0.97	0.00	0.00	62.34
Bickham-Rudkin Park	Edmond	49.41	19.66	39.78	2.69	19.77	0.01	7.29	79.84
Bluff Creek Park	OKC	292.51	154.25	52.73	7.34	118.78	5.62	6.52	95.25
Bob Akers Park	OKC	4.60	0.90	19.48	0.41	3.20	0.09	0.00	90.83
Boyd View Park	Norman	2.18	0.02	0.81	1.31	0.83	0.03	0.00	40.09
Britton Park	OKC	1.39	0.24	17.20	0.11	1.04	0.00	0.00	92.77
Brock Park	OKC	29.17	3.66	12.53	9.82	14.65	0.12	0.93	63.10
Brookhaven Park	Norman	6.74	1.23	18.25	0.86	4.65	0.00	0.00	39.45
Brookhaven Park	Edmond	2.27	1.88	82.74	0.10	0.29	0.00	0.00	95.55
Brookhaven Square Park	Norman	2.05	0.31	15.21	0.13	1.61	0.00	0.00	93.72
Brookwood Park	OKC	3.68	1.49	40.47	0.10	2.10	0.00	0.00	97.25
Buck Thomas Park	Moore	107.08	7.71	7.20	30.02	41.30	26.42	1.62	37.73
Bumpass Park	The Village	4.10	0.78	18.98	0.90	2.43	0.00	0.00	78.27
Burton/Britton Park	OKC	1.32	0.55	41.90	0.00	0.77	0.00	0.00	101.50
Camden Way Park	Nichols Hills	0.27	0.06	22.63	0.14	0.07	0.00	0.00	47.70
Campbell Park	OKC	1.34	0.73	54.80	0.13	0.47	0.00	0.00	90.21
Canyon Park	OKC	22.03	14.74	66.92	1.18	3.95	0.03	2.13	84.91
Cascade Park	Norman	5.09	0.09	1.67	0.82	4.13	0.05	0.00	83.99
Castlerock Park	Norman	3.43	0.08	2.39	0.56	2.19	0.60	0.00	84.31
Centennial Park	Norman	0.24	0.13	54.67	0.07	0.04	0.00	0.00	72.28
Centennial Park	Edmond	4.87	3.55	72.94	0.09	1.22	0.01	0.00	98.14

Park Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Central Park	Moore	48.59	0.11	0.23	18.69	11.10	16.73	1.95	57.89
Cherokee Hills Park	Warr Acres	6.42	1.24	19.37	1.65	2.96	0.57	0.00	74.32
Chisholm Trail Park	Yukon	45.55	12.21	26.80	7.85	23.39	1.28	0.83	80.83
Chisholm's Cattle Trail Park	Norman	6.75	3.97	58.81	0.01	2.73	0.04	0.00	99.67
Chitwood Park	Edmond	3.51	1.03	29.34	1.08	1.41	0.00	0.00	69.47
Clergen Park	Edmond	0.20	0.13	62.70	0.02	0.05	0.00	0.00	87.05
Colonial Commons Park	Norman	5.60	0.29	5.14	0.32	4.99	0.00	0.00	93.98
Colonial Estates Park	Norman	16.24	3.80	23.39	2.04	10.35	0.05	0.00	87.47
Cottonwood Park	Moore	0.65	0.14	21.77	0.01	0.50	0.00	0.00	98.03
Creighton Park	Norman	0.90	0.38	41.92	0.11	0.42	0.00	0.00	87.45
Crestland Park	Norman	6.94	5.43	78.33	0.30	1.15	0.06	0.00	95.63
Creston Hills Park	OKC	4.61	0.99	21.46	0.45	3.17	0.00	0.00	90.39
Crossroads Sports Complex	OKC	48.85	1.21	2.48	6.30	16.89	24.44	0.00	39.07
Crown Heights Park	OKC	16.59	4.42	26.65	0.22	11.46	0.49	0.00	98.67
Culbertson Park	OKC	0.37	0.16	44.71	0.01	0.19	0.00	0.00	97.62
Curtis Park	Mustang	20.11	1.81	9.00	5.74	10.60	1.95	0.00	71.51
David Penick Park	Edmond	3.55	1.05	29.50	0.64	1.87	0.00	0.00	81.96
Deerfield Park	Norman	1.50	0.02	1.47	0.29	1.13	0.00	0.06	76.22
Del City Ball Park	Del City	44.67	10.36	23.20	4.01	23.97	6.25	0.08	47.71
Denniston Park	OKC	3.03	1.05	34.54	0.15	1.84	0.00	0.00	95.29
Dickenson Park	Yukon	4.13	0.39	9.39	0.01	3.71	0.00	0.02	99.40
Diggs Park	OKC	14.92	2.82	18.89	0.43	11.61	0.07	0.00	96.97
Dolese Youth Park	OKC	152.78	55.63	36.41	17.83	55.94	4.45	18.93	56.13
Dolphin Wharton Park	OKC	19.32	10.16	52.60	1.06	7.25	0.85	0.00	78.23
Don Brown Park	OKC	3.83	2.05	53.55	0.37	1.41	0.00	0.00	90.07
Dorset/Somerset Park	Nichols Hills	0.19	0.05	26.13	0.13	0.02	0.00	0.00	33.49
Doubletree Park	Norman	1.20	0.67	55.81	0.07	0.46	0.00	0.00	59.95
Doug Taylor Park	Nichols Hills	0.27	0.02	8.80	0.17	0.07	0.01	0.00	36.16
Douglas Park	OKC	8.42	0.87	10.32	0.85	6.57	0.13	0.00	90.17
Douglass Park	OKC	122.79	18.86	15.36	7.79	90.13	1.17	4.84	26.45
Douglass Park (Soccer Fields)	OKC	64.37	6.95	10.80	2.93	54.12	0.32	0.05	36.18
Draper Memorial Park	OKC	1.95	0.47	23.98	0.19	1.28	0.01	0.00	90.65
Draper Park (Capitol Hill)	OKC	29.70	6.94	23.37	2.76	17.52	0.67	1.81	84.59
Duffner Park	The Village	4.77	0.38	8.05	1.25	3.14	0.00	0.00	55.00
Dulaney Park	Nichols Hills	0.33	0.01	1.93	0.25	0.08	0.00	0.00	24.29

Park Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
E.B. Jeffrey Park	OKC	4.77	1.25	26.20	0.97	2.48	0.07	0.00	79.98
E.C. Hafer Park	Edmond	87.06	67.38	77.40	5.07	14.47	0.13	0.00	91.95
E.L.K Park	Nichols Hills	0.60	0.24	39.96	0.15	0.22	0.00	0.00	75.67
E.W. Perry Park	OKC	2.17	1.13	51.98	0.30	0.74	0.00	0.00	86.21
Earl Sneed Park	Norman	0.55	0.52	95.00	0.01	0.01	0.00	0.00	97.52
Earlywine Park	OKC	96.49	13.57	14.06	18.10	64.03	0.79	0.00	66.19
Eastwood Park	Norman	6.58	3.97	60.32	0.23	2.38	0.00	0.00	96.63
Edgemere Park	OKC	15.48	4.51	29.16	0.30	10.05	0.03	0.58	94.62
Edwards Park	OKC	45.04	13.01	28.88	5.10	19.61	0.86	6.46	74.29
Eldon Lyon Park	Bethany	64.01	16.03	25.05	5.15	42.63	0.20	0.00	91.82
Elm Grove Park	OKC	25.63	0.37	1.43	0.97	11.74	2.80	9.75	58.22
Esa Park	Midwest City	11.72	2.70	23.01	1.94	7.07	0.01	0.00	83.63
Evangeline Park	Nichols Hills	0.67	0.28	42.65	0.23	0.15	0.00	0.00	65.38
Faculty Heights Park	Norman	1.10	0.34	30.63	0.19	0.57	0.00	0.00	81.21
Fairmoore Park	Moore	18.66	0.34	1.81	3.07	2.98	11.34	0.93	78.56
Fink Park	Edmond	7.42	4.78	64.49	0.95	1.68	0.00	0.00	86.95
Florence Park	OKC	0.31	0.26	86.65	0.02	0.02	0.00	0.00	92.06
Flower Garden Park	OKC	3.78	1.08	28.67	0.47	2.23	0.00	0.00	87.39
Foster Center	OKC	0.86	0.01	1.46	0.81	0.04	0.00	0.00	5.76
Frances Cate Park	Norman	25.45	1.06	4.16	4.09	20.24	0.06	0.00	83.81
Fred F Myers Civic Park	Midwest City	11.84	0.65	5.52	4.81	5.38	0.99	0.00	17.99
Freedom Trail Park	Yukon	46.90	13.32	28.40	8.86	20.16	0.14	4.42	66.04
Frost Heights Park	OKC	1.36	0.15	11.41	0.37	0.76	0.07	0.00	72.87
G.A. Nichols Park	Nichols Hills	0.34	0.00	0.00	0.28	0.05	0.00	0.00	16.03
Garrison Park	Bethany	9.83	5.10	51.91	1.07	3.64	0.01	0.00	89.02
Geraldine Park	OKC	6.08	1.19	19.51	0.48	4.41	0.00	0.00	91.82
Girvin Park	OKC	7.37	1.87	25.31	0.31	4.94	0.25	0.00	96.04
Glen Ellyn Park	OKC	1.94	0.73	37.70	0.10	1.11	0.00	0.00	94.95
Goodholm Park	OKC	4.38	0.81	18.45	1.54	2.03	0.00	0.00	64.58
Gossett Park	Edmond	2.22	1.00	44.92	0.45	0.77	0.00	0.00	79.61
Gracelawn Cemetery	Edmond	33.70	6.38	18.93	7.81	19.51	0.00	0.00	19.56
Grand Blvd Park	Nichols Hills	6.66	1.78	26.69	0.81	4.08	0.00	0.00	87.34
Grand Island Park	Nichols Hills	1.49	0.58	38.82	0.67	0.24	0.00	0.00	54.70
Grant Corbin Park	OKC	2.19	0.55	24.95	0.16	1.49	0.00	0.00	93.45
Greenbriar Park	Moore	1.32	0.12	9.16	0.42	0.78	0.00	0.00	68.01
Greens Tot-Lot	OKC	0.70	0.05	7.12	0.19	0.47	0.00	0.00	72.82
Griffin Memorial Community Park	Norman	158.15	29.39	18.58	17.51	102.53	4.74	3.99	50.34
Guilchester Park	OKC	0.31	0.07	21.85	0.00	0.24	0.00	0.00	101.35

Park Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Guilford/Nichols Rd Park	Nichols Hills	0.83	0.34	41.05	0.27	0.22	0.00	0.00	67.34
Gumerson Park	Nichols Hills	0.21	0.08	38.67	0.11	0.01	0.00	0.00	43.25
Hall Park Greenbelt	Norman	39.03	8.33	21.35	0.94	13.42	0.30	16.04	56.56
Harden Park	OKC	2.08	0.30	14.20	0.47	1.32	0.00	0.00	77.51
Harlow Park	OKC	7.19	1.15	16.03	0.88	4.94	0.21	0.00	88.01
Harrison Park	OKC	29.92	7.79	26.03	0.71	21.30	0.13	0.00	97.80
Harrison Park	The Village	3.06	0.64	20.86	0.38	2.04	0.00	0.00	87.23
Harvest Hills Park	OKC	4.36	0.96	22.02	0.45	2.95	0.00	0.00	89.31
Harvey Park	Nichols Hills	2.49	0.68	27.18	0.41	1.40	0.00	0.00	83.38
Hathaway Park	OKC	12.86	3.06	23.82	1.48	8.17	0.14	0.00	88.59
Hefner Park	OKC	41.16	8.32	20.22	5.04	20.84	0.38	6.57	62.80
High Meadows Park	Norman	3.41	0.37	10.77	0.26	2.66	0.12	0.00	92.28
Highley Park	OKC	0.87	0.08	9.66	0.14	0.65	0.00	0.00	83.11
Hillcrest Park	Yukon	4.83	0.79	16.35	1.16	2.55	0.33	0.00	75.92
Holloway Park	Norman	3.53	0.78	22.06	0.93	1.67	0.10	0.06	71.85
Hosea Vinyard Park	OKC	7.70	1.56	20.24	1.15	4.40	0.58	0.00	84.84
Irving Recreation Center	Norman	1.65	0.01	0.55	0.95	0.31	0.37	0.00	41.86
J.B. Black Park	OKC	9.37	7.43	79.27	0.41	1.53	0.00	0.00	95.32
Jack W Cornett Park	OKC	5.27	3.04	57.69	0.67	1.38	0.18	0.00	87.30
James D. Moran Park	Nichols Hills	0.57	0.14	24.32	0.33	0.11	0.00	0.00	42.64
John Conrad Regional Park	Midwest City	292.81	58.02	19.82	38.88	184.58	10.01	1.31	42.74
John F. Kennedy Park	OKC	5.41	1.08	20.06	0.32	4.00	0.00	0.00	93.87
Johnson Park	Edmond	1.09	0.41	37.98	0.44	0.24	0.00	0.00	59.53
Johnson Park	The Village	1.33	0.45	34.00	0.21	0.67	0.00	0.00	84.66
June Benson Park	Norman	0.26	0.08	30.04	0.02	0.16	0.00	0.00	91.38
Kelly Park	Edmond	0.49	0.40	80.63	0.01	0.08	0.00	0.00	97.23
Kerr Park	OKC	0.60	0.06	9.72	0.19	0.35	0.00	0.00	68.09
Kickingbird Golf Course	Edmond	148.04	42.46	28.68	8.95	93.45	1.10	2.09	29.53
Kickingbird Tennis Center	Edmond	5.61	0.50	8.97	3.57	1.54	0.00	0.00	11.09
Kimbell Park	Yukon	7.85	0.99	12.65	1.94	4.91	0.00	0.00	74.26
Kite Park	Nichols Hills	3.76	0.66	17.43	0.79	2.29	0.02	0.00	79.41
Kiwanis Park	Warr Acres	2.88	0.65	22.74	0.85	1.38	0.00	0.00	69.99
Kiwanis Park	Midwest City	12.59	1.87	14.86	3.86	6.67	0.19	0.00	69.45
Kiwanis Park	Norman	2.91	0.50	17.26	0.49	1.92	0.00	0.00	83.38
Kiwanis Park	Moore	2.82	0.50	17.69	0.82	1.50	0.00	0.00	71.04

Park Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
L.D. Lacy Park	OKC	12.43	7.75	62.38	0.00	4.67	0.00	0.00	99.78
Lake Hefner (Childrens Playground)	OKC	1.88	0.03	1.38	1.20	0.65	0.01	0.00	36.30
Lake Stanley Draper	OKC	2.06	0.49	23.73	0.67	0.90	0.00	0.00	67.90
Lakeshore Estates Park	OKC	0.92	0.10	11.29	0.20	0.62	0.00	0.00	77.39
Lakeshore Park	The Village	4.29	0.38	8.83	0.34	3.57	0.00	0.00	92.43
Lancet Lane Park	Nichols Hills	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Legacy Trails	Norman	8.20	1.74	21.24	2.54	3.91	0.00	0.00	70.56
Lela Park	OKC	6.90	1.56	22.62	0.53	4.59	0.23	0.00	92.12
Lightning Creek Park	OKC	34.58	0.77	2.22	4.25	24.56	4.74	0.27	86.97
Lincoln Park	OKC	22.40	7.72	34.45	2.98	11.70	0.00	0.00	86.99
Lion's Club Park	Del City	3.85	0.05	1.17	1.32	2.39	0.10	0.00	33.22
Lion's Memorial Park	Norman	10.34	0.69	6.70	1.03	8.19	0.42	0.00	90.06
Lions Park	Midwest City	14.23	0.88	6.16	7.79	4.42	1.14	0.00	37.66
Lion's Park	Norman	4.84	1.21	24.96	1.39	2.22	0.02	0.00	70.73
Lippert Park	OKC	3.71	0.42	11.44	0.48	2.78	0.02	0.00	87.32
Lisle Park	Nichols Hills	0.77	0.20	25.60	0.02	0.49	0.05	0.00	97.61
Little River Park	Moore	46.46	5.67	12.21	6.07	24.84	6.77	3.10	71.36
Lorraine Thomas Park	OKC	3.83	0.91	23.67	0.43	2.49	0.00	0.00	88.60
Luther Dulaney Park	OKC	5.38	1.40	26.08	0.56	3.42	0.00	0.00	89.59
Lytle Park	OKC	4.62	1.20	25.94	0.22	3.12	0.08	0.00	95.71
Macklanburg Park	OKC	9.16	0.51	5.54	1.66	6.66	0.34	0.00	38.86
Mackleman Park	OKC	4.68	0.92	19.77	0.68	3.00	0.07	0.00	85.52
Madison Place Park	Moore	0.21	0.00	0.00	0.16	0.05	0.00	0.00	26.13
Manuel Perez Park	OKC	0.81	0.41	50.52	0.00	0.40	0.00	0.00	99.78
Margaret Davis Park	Nichols Hills	2.80	1.20	42.65	0.57	1.04	0.00	0.00	79.81
Mark Twain Park	OKC	0.35	0.12	32.98	0.06	0.18	0.00	0.00	84.80
Martin Nature Park	OKC	137.24	90.30	65.80	1.81	40.41	0.39	4.34	95.47
Masonic Park	The Village	1.15	0.12	10.22	0.29	0.74	0.00	0.00	75.62
Mathis Skate Park	Edmond	2.34	0.22	9.60	1.36	0.76	0.00	0.00	42.16
May Park	OKC	1.38	0.26	18.94	0.00	1.11	0.00	0.00	100.01
Mayfair Park	OKC	1.82	0.57	31.22	0.31	0.94	0.00	0.00	82.82
Mayors Park	Nichols Hills	0.15	0.03	20.07	0.11	0.00	0.00	0.00	22.47
Mayview Park	OKC	1.34	0.64	47.65	0.00	0.70	0.00	0.00	99.98
McCracken Park	OKC	9.00	1.92	21.28	1.59	5.18	0.20	0.11	81.00
McGeorge Park	Norman	0.48	0.15	32.01	0.17	0.16	0.00	0.00	64.12

Park Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
McKinley Park	OKC	9.39	1.75	18.68	2.02	4.98	0.63	0.00	78.51
McMahan Park	OKC	1.02	0.44	42.94	0.19	0.39	0.00	0.00	79.58
McMillian Park	OKC	57.89	6.51	11.24	22.82	28.25	0.22	0.09	47.07
McNabb Park	OKC	1.20	0.25	20.69	0.00	0.95	0.00	0.00	99.93
McRory Park	Bethany	3.62	0.72	19.98	1.21	1.67	0.01	0.00	66.48
Meadow Lake Park	Edmond	5.39	1.61	29.90	0.81	2.97	0.01	0.00	85.15
Meadowbrook Park	OKC	1.78	0.54	30.29	0.18	0.98	0.09	0.00	89.15
Meadows Park	Mustang	9.29	1.71	18.41	1.14	6.42	0.03	0.00	87.68
Meeker Park	The Village	2.65	0.26	9.73	0.12	2.27	0.00	0.00	95.40
Melrose Park	OKC	8.65	1.85	21.35	1.25	5.41	0.15	0.00	85.52
Memorial Park	OKC	16.11	2.00	12.41	6.10	7.65	0.36	0.00	62.13
Merrel Medley Park	OKC	15.59	2.68	17.17	1.75	10.02	1.15	0.00	88.67
Mid-America Kiwanis Park	Midwest City	35.68	26.45	74.11	0.23	8.90	0.07	0.04	99.29
Mike Dover Park	OKC	1.64	0.05	3.14	1.05	0.54	0.00	0.00	35.80
Military Park	OKC	1.15	0.32	27.59	0.47	0.29	0.07	0.00	58.73
Mitch Park	Edmond	276.81	86.57	31.28	35.13	152.64	1.34	1.13	76.69
Morgan Park	Norman	2.96	0.99	33.55	0.33	1.30	0.02	0.31	78.00
Myriad Gardens	OKC	13.94	5.78	41.47	5.81	1.89	0.03	0.43	54.68
N.E. Lion's Park	Norman	34.93	13.90	39.80	1.18	13.73	0.30	5.83	79.88
Nichols Court Park	OKC	0.71	0.34	47.98	0.01	0.36	0.00	0.00	98.16
Nichols Road/Dorchester Park	Nichols Hills	1.75	0.86	49.21	0.03	0.86	0.00	0.00	98.88
Normandy Park	Norman	2.44	0.72	29.43	0.22	1.50	0.00	0.00	91.35
North Highland Park	OKC	1.99	0.20	10.28	0.32	1.46	0.00	0.00	84.29
North Rotary Park	OKC	20.31	3.02	14.86	1.39	15.90	0.00	0.00	60.43
Northeast Center	OKC	10.64	1.72	16.13	1.96	6.23	0.74	0.00	48.03
Oak Tree South Park	Norman	4.79	1.83	38.19	0.90	2.07	0.00	0.00	81.40
Oakhurst Park	Norman	2.13	1.23	57.95	0.06	0.83	0.00	0.00	97.57
Old City Park	Mustang	3.34	1.31	39.29	0.01	1.97	0.05	0.00	99.77
Oliver Park	OKC	16.48	1.33	8.10	1.27	11.12	1.04	1.72	81.68
O'neil Park	OKC	0.56	0.23	41.70	0.14	0.19	0.00	0.00	73.97
Open Space - A	OKC	1.80	1.35	75.07	0.00	0.45	0.00	0.00	99.96
Open Space - C	OKC	2.98	2.88	96.64	0.02	0.08	0.00	0.00	99.00
Open Space - D	OKC	0.19	0.00	0.00	0.02	0.15	0.02	0.00	91.82
Open Space - F	OKC	7.54	0.34	4.53	0.05	7.14	0.00	0.00	99.47
Open Space - G	OKC	4.54	0.14	3.01	0.02	4.38	0.00	0.00	99.41
Overholser Park	OKC	59.29	17.92	30.22	3.46	36.44	1.48	0.00	94.23

Park Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Parmele Park	Moore	7.44	0.20	2.69	1.69	4.69	0.35	0.50	70.06
Pat Murphy Park	OKC	12.31	2.36	19.21	2.16	7.78	0.00	0.00	82.32
Paw Park	OKC	2.04	0.23	11.22	0.03	0.83	0.72	0.23	87.06
Pecan Grove Park	Midwest City	6.64	3.10	46.64	1.37	2.11	0.00	0.06	78.14
Pelican Bay Aquatic Center	Edmond	3.82	0.77	20.20	2.35	0.69	0.01	0.00	38.05
Perle Mesta Park	OKC	2.98	1.39	46.69	0.28	1.14	0.17	0.00	90.56
Phillips Park	OKC	3.93	1.09	27.70	0.38	2.46	0.00	0.00	90.36
Pied Piper Park	OKC	6.66	1.21	18.17	0.39	5.06	0.00	0.00	94.46
Pilot Center Park	OKC	1.08	0.04	3.78	0.91	0.13	0.00	0.00	15.71
Pitts Park	OKC	11.25	1.34	11.93	1.43	8.47	0.00	0.00	87.43
Plowman Park	Nichols Hills	0.34	0.09	27.43	0.20	0.04	0.00	0.00	38.78
Polk Park	Nichols Hills	0.16	0.02	12.81	0.12	0.02	0.00	0.00	26.29
Prairie Creek Park	Norman	3.28	0.47	14.22	0.13	2.54	0.13	0.00	96.01
Quail Creek Detention Pond	OKC	23.37	0.78	3.32	0.04	22.56	0.00	0.00	100.02
Quail Creek Park	OKC	10.17	3.38	33.24	0.47	6.11	0.20	0.00	95.10
Quinlan Park	Midwest City	3.73	0.66	17.78	0.67	2.33	0.01	0.05	81.10
Randel Road Park	Nichols Hills	0.19	0.07	38.11	0.11	0.00	0.00	0.00	40.21
Reaves Park	Norman	79.82	6.95	8.71	19.15	49.85	3.87	0.00	42.31
Red Andrews Park	OKC	2.32	0.64	27.43	1.14	0.54	0.01	0.00	51.00
Redbud Park	Nichols Hills	2.35	0.47	19.99	0.47	1.41	0.00	0.00	80.07
Redlands Park	OKC	10.42	6.07	58.25	0.20	4.16	0.00	0.00	98.22
Reed Park	OKC	2.23	0.66	29.55	0.34	1.21	0.02	0.00	84.52
Regatta Park	OKC	31.82	6.64	20.88	4.24	18.01	2.92	0.00	86.59
Rhode Island Park	OKC	0.43	0.11	25.24	0.08	0.24	0.00	0.00	81.30
Ripper Park	Bethany	19.35	6.25	32.31	5.01	8.07	0.02	0.00	74.24
River Park	OKC	31.84	2.26	7.10	2.54	26.46	0.57	0.00	92.07
Rockwell Park	OKC	2.22	0.36	16.21	0.60	1.26	0.00	0.00	72.46
Ross Park	OKC	8.96	1.04	11.57	1.30	6.63	0.00	0.00	85.71
Rotary Park	Norman	5.60	0.34	6.08	1.32	3.93	0.01	0.00	42.90
Rotary Playground Park	OKC	8.18	0.56	6.81	1.39	5.88	0.36	0.00	83.38
Route 66 Park	OKC	146.39	2.22	1.51	8.86	114.49	6.90	13.92	84.53
Roy Devero Park	Nichols Hills	0.45	0.13	29.22	0.27	0.05	0.00	0.00	39.69
Russell Bates Park	Norman	6.77	0.61	8.98	1.18	4.93	0.05	0.00	82.67
Ruth Updegraff Park	Norman	0.33	0.06	17.55	0.11	0.16	0.00	0.00	65.01
Saint Clair Park	OKC	0.57	0.24	42.81	0.00	0.33	0.00	0.00	101.66
Schilling Park	OKC	22.70	4.40	19.38	4.08	12.31	1.91	0.00	81.91
Sellers Park	OKC	8.41	0.75	8.95	2.12	5.17	0.38	0.00	74.98
Senior Citizen's Center	Norman	0.55	0.04	6.57	0.45	0.07	0.00	0.00	19.48

Park Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Sequoah Park	Del City	6.16	0.85	13.78	1.15	4.16	0.00	0.00	81.56
Sequoyah Trail Park	Norman	1.79	1.63	90.92	0.01	0.14	0.01	0.00	99.45
Service-Blake Soccer Complex	Edmond	58.32	3.74	6.42	9.36	45.23	0.00	0.00	13.45
Shallowbrook Park	OKC	10.45	0.71	6.79	0.86	6.75	2.14	0.00	91.95
Shannon Miller Park	Edmond	1.10	0.37	33.24	0.35	0.38	0.00	0.00	67.61
Sherwood Circle Park	Nichols Hills	0.10	0.00	0.48	0.03	0.07	0.00	0.00	73.64
Siler Park	OKC	3.89	0.43	10.96	0.48	2.80	0.19	0.00	87.55
Smitty Park	OKC	5.63	3.04	54.07	0.37	2.21	0.00	0.00	93.37
Sonoma Park	Norman	2.02	0.02	0.88	0.21	1.79	0.00	0.00	88.95
South Rotary Park	OKC	40.89	7.66	18.74	4.90	27.43	0.44	0.46	65.55
Southern Oaks Park	OKC	22.34	4.65	20.81	3.11	11.35	3.24	0.00	86.11
Sparrow Park	OKC	2.58	0.61	23.73	0.38	1.59	0.00	0.00	85.24
Springbrook Park	Norman	2.91	0.80	27.50	0.11	1.99	0.01	0.00	96.60
Stars & Stripes Park	OKC	69.15	19.95	28.86	11.98	35.13	0.85	1.23	67.73
Stephenson Park	Edmond	4.79	2.10	43.89	1.73	0.95	0.00	0.00	63.55
Stiles Circle Park	OKC	0.72	0.21	29.95	0.01	0.49	0.00	0.00	98.53
Stinchcomb Wildlfe Refuge	OKC	859.78	565.91	65.82	6.37	136.42	1.47	149.60	70.11
Straka Detention Pond	OKC	24.49	0.61	2.47	1.38	19.86	2.65	0.00	94.29
Sunrise Park	Norman	2.36	0.31	12.97	0.25	1.73	0.08	0.00	89.61
Sunrise Park	Yukon	8.00	0.26	3.22	2.48	4.70	0.56	0.00	28.48
Sutton Place Park	Norman	2.15	0.23	10.56	0.13	1.80	0.00	0.00	94.51
Sutton Wilderness Park	Norman	150.41	72.79	48.40	1.75	61.31	4.34	10.21	92.01
Swatek Park	OKC	2.82	0.56	19.71	0.43	1.70	0.14	0.00	84.67
Syl Goldman Park	OKC	23.30	0.41	1.76	3.56	17.49	1.85	0.00	84.16
Taylor Park	OKC	7.22	0.59	8.11	1.80	4.75	0.08	0.00	74.93
Ted Anderson Park	Edmond	3.21	0.86	26.78	0.29	2.06	0.00	0.00	90.80
Ted Reynolds Park	OKC	11.33	0.10	0.86	0.44	10.03	0.77	0.00	68.72
Telstar Park North	Midwest City	13.16	1.31	9.96	3.84	5.90	2.12	0.00	70.93
Telstar Park South	Midwest City	10.30	1.32	12.85	3.57	4.85	0.56	0.00	65.61
Tinsley Park	OKC	2.23	0.43	19.48	0.57	1.22	0.00	0.00	74.48
Tom Poore Park	Midwest City	16.85	9.52	56.51	1.25	6.07	0.00	0.01	92.55
Top O' Town Park	OKC	4.85	0.75	15.50	0.82	3.04	0.24	0.00	83.05
Trenton/Belford Park	Nichols Hills	0.50	0.02	4.52	0.31	0.17	0.00	0.00	39.61
Trosper Park	OKC	367.31	216.03	58.81	30.83	106.54	13.45	0.47	88.48
Tull's Park	Norman	2.26	0.56	24.75	0.23	1.47	0.00	0.00	89.94

Park Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Tulsa Park	OKC	8.95	2.65	29.68	0.97	5.26	0.06	0.00	88.97
Veterans Memorial Park	Moore	16.88	2.26	13.41	6.11	6.97	0.90	0.65	59.84
Vineyard Park	Norman	0.42	0.25	59.38	0.12	0.05	0.00	0.00	70.42
Walnut Ridge Park	Norman	2.04	0.32	15.64	0.35	1.38	0.00	0.00	83.36
Washington Park	OKC	23.63	2.26	9.57	4.28	16.94	0.15	0.00	80.41
Waverly/Wilshire Park	Nichols Hills	0.15	0.00	2.90	0.10	0.05	0.00	0.00	31.64
Wayman Park	OKC	1.56	0.43	27.66	0.22	0.91	0.00	0.00	86.33
Welch Park	Yukon	10.00	1.49	14.93	0.61	7.01	0.00	0.89	85.47
Westborough Park	Edmond	3.15	0.52	16.56	0.17	2.45	0.01	0.00	94.25
Westmoore Trails Park	Moore	8.19	0.45	5.55	0.90	5.92	0.92	0.00	89.41
Westwood Park	Norman	130.03	12.24	9.42	11.44	100.45	2.27	3.62	15.12
Wheeler Park	OKC	93.87	10.39	11.07	19.50	55.89	4.70	3.39	65.97
Whispering Heights Park	Edmond	1.57	1.01	63.99	0.30	0.27	0.00	0.00	80.59
Whittier Recreation Center	Norman	1.45	0.01	0.58	0.71	0.48	0.25	0.00	49.86
Wild Horse Park	Mustang	153.77	8.79	5.71	30.70	98.31	12.34	3.63	46.74
Wiley Post (Skate Park)	OKC	15.07	3.39	22.48	3.70	7.47	0.50	0.01	75.38
Wiley Post Park	OKC	51.31	10.97	21.38	12.18	27.36	0.80	0.00	76.30
Will Rogers Park	OKC	119.59	26.17	21.89	28.20	62.83	0.95	1.44	75.20
Winans Park	OKC	3.17	0.77	24.42	0.81	1.49	0.09	0.00	73.77
Woodcreek Park	Norman	15.27	10.93	71.55	0.71	3.64	0.00	0.00	95.22
Woodland Park	OKC	7.36	5.90	80.20	0.01	1.40	0.00	0.04	99.23
Woodrun Park	OKC	11.75	6.83	58.11	0.27	3.68	0.00	0.98	89.14
Woods Park	Nichols Hills	33.80	9.85	29.14	5.52	13.37	5.06	0.00	83.73
Woodslawn Park	Norman	4.89	0.64	13.13	0.07	4.07	0.11	0.00	98.12
Woodson Park	OKC	121.73	11.78	9.68	22.87	83.51	3.05	0.51	54.46
Youngs Park	OKC	12.56	0.81	6.42	3.26	6.85	1.51	0.14	72.76
Zachary Taylor Park	OKC	5.77	2.45	42.47	0.58	2.74	0.00	0.00	90.22
Zurline Park	OKC	4.46	1.66	37.25	0.14	2.66	0.00	0.00	97.47

Table 30: Tree Canopy by Study Area Schools

School Name	Municipality	School District	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Adams Es	OKC	OKC	9.39	0.13	1.42	4.91	4.34	0.00	0.00	47.92
Adams Es	Norman	Norman	4.46	0.34	7.66	3.34	0.61	0.16	0.00	24.55
Alcott Ms	Norman	Norman	20.04	2.02	10.09	8.42	8.67	0.93	0.00	31.66
Angie Debo Es	OKC	Edmond	20.27	0.58	2.88	6.65	12.23	0.80	0.00	67.20
Apollo Es	Bethany	Putnam City	9.11	0.73	7.98	4.25	3.76	0.37	0.00	53.16
Apple Creek Es	Moore	Moore	6.30	0.31	4.92	4.52	1.17	0.31	0.00	28.62
Arbor Grove Es	OKC	Putnam City	10.32	0.17	1.65	7.07	3.07	0.00	0.00	31.39
Arthur Es	OKC	OKC	8.90	0.40	4.54	3.66	4.12	0.71	0.00	58.90
Astec Charter Ms/Hs	OKC	OKC	49.02	0.58	1.18	47.82	0.62	0.00	0.00	2.42
Belle Isle Ms	OKC	OKC	14.38	0.69	4.82	5.39	8.01	0.29	0.00	30.84
Bodine Es	OKC	OKC	21.02	0.95	4.53	4.92	13.82	1.32	0.00	71.88
Briarwood Es	OKC	Moore	10.30	0.01	0.10	5.63	3.64	1.02	0.00	44.73
Bridgestone Is	OKC	Western Heights	58.00	19.84	34.20	8.47	28.28	0.23	1.18	83.19
Brink Jhs	OKC	Moore	25.19	5.23	20.77	8.16	11.66	0.14	0.00	67.51
Britton Es	OKC	OKC	3.95	0.11	2.89	2.21	1.55	0.09	0.00	43.21
Broadmoore Es	Moore	Moore	11.08	0.32	2.87	5.82	3.44	1.50	0.00	47.51
Bryant Es	OKC	Moore	11.54	0.12	1.08	5.39	4.11	1.92	0.00	53.43
Buchanan Es	OKC	OKC	7.52	0.77	10.22	3.11	3.49	0.15	0.00	58.43
Canyon Ridge Is	OKC	Mustang	20.92	0.17	0.80	8.35	10.75	1.51	0.14	58.21
Capitol Hill Es	OKC	OKC	4.22	0.14	3.37	2.91	0.70	0.46	0.00	31.17
Capitol Hill Hs	OKC	OKC	49.95	3.69	7.39	20.83	19.42	6.02	0.00	44.69
Carl Albert Hs	Midwest City	Mid-Del	30.90	0.48	1.57	16.57	12.51	1.34	0.00	9.88
Carl Albert Jhs	Midwest City	Mid-Del	28.09	0.46	1.65	13.69	11.24	2.69	0.00	42.64
Centennial Charter Ms/Hs	OKC	OKC	49.85	3.88	7.79	9.65	36.10	0.22	0.00	53.95
Centennial Es	Mustang	Mustang	21.31	1.90	8.94	8.27	10.68	0.45	0.00	61.19
Central Es	Yukon	Yukon	7.51	0.16	2.17	3.75	3.58	0.01	0.00	49.78
Central Es	Moore	Moore	5.59	0.20	3.59	3.33	2.04	0.01	0.00	40.12
Central Es	Warr Acres	Putnam City	5.28	0.11	2.08	3.79	1.38	0.00	0.00	28.02
Central Jhs	Moore	Moore	28.41	0.50	1.76	20.06	7.76	0.10	0.00	12.93
Central Ms	Edmond	Edmond	23.39	1.25	5.33	11.78	10.05	0.32	0.00	20.56

School Name	Municipality	School District	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Central Oak Es/Central Oak Ms/Hs	OKC	Crooked Oak	20.53	0.85	4.13	13.07	3.39	3.23	0.00	36.17
Cesar Chavez Es	OKC	OKC	6.20	0.11	1.72	3.05	1.44	1.60	0.00	50.39
Charles Haskell Es/Summit Ms	OKC	Edmond	36.22	0.43	1.19	15.60	19.19	1.00	0.00	44.17
Cheyenne Ms	Edmond	Edmond	38.49	0.39	1.01	13.25	24.65	0.21	0.00	18.43
Chisholm Es	Edmond	Edmond	9.35	0.94	10.01	5.52	2.79	0.11	0.00	41.00
Cimarron Ms	Edmond	Edmond	14.67	2.45	16.68	6.03	5.59	0.61	0.00	36.28
Classen Ms/Hs	OKC	OKC	6.47	0.43	6.65	4.09	1.67	0.29	0.00	36.66
Clegern Es	Edmond	Edmond	2.82	0.39	13.72	1.71	0.72	0.00	0.00	38.64
Cleveland Bailey Es	Midwest City	Mid-Del	12.33	0.23	1.87	4.44	6.59	1.06	0.00	63.85
Cleveland Es	Norman	Norman	12.25	0.97	7.95	5.26	5.73	0.29	0.00	36.58
Cleveland Es	OKC	OKC	3.72	0.32	8.69	1.87	0.82	0.72	0.00	49.57
Clyde Howell Ecc	Edmond	Edmond	1.90	0.18	9.48	1.54	0.18	0.00	0.00	18.62
Coolidge Es	OKC	OKC	9.00	0.25	2.77	3.99	4.40	0.36	0.00	37.65
Cooper Ms	OKC	Putnam City	19.62	0.08	0.41	8.15	11.08	0.31	0.00	28.62
Coronado Heights Es	OKC	Putnam City	6.41	0.61	9.46	4.62	0.84	0.35	0.00	27.96
Council Grove Es	OKC	Western Heights	4.41	0.00	0.05	3.19	1.06	0.16	0.00	27.08
Country Estates Es	Midwest City	Mid-Del	23.39	0.47	2.02	8.81	13.43	0.67	0.00	39.63
Crutcho Es	Midwest City	Crutcho	3.14	0.09	2.81	2.43	0.63	0.00	0.00	22.50
Del City Es	Del City	Mid-Del	6.05	0.30	4.97	4.32	1.01	0.41	0.00	28.25
Del City Hs	Del City	Mid-Del	35.70	2.78	7.80	20.25	11.70	0.96	0.00	22.90
Del Crest Jhs	Del City	Mid-Del	19.26	0.69	3.61	5.01	12.64	0.91	0.00	51.13
Dennis Es/Putnam City North Hs	OKC	Putnam City	80.86	4.76	5.88	37.64	35.49	2.97	0.00	31.56
Dimensions Academy North	Norman	Norman	27.76	2.18	7.84	10.88	14.71	0.00	0.00	60.76
Dimensions Academy South/Leland Wolf	Norman	Norman	15.99	0.49	3.09	5.62	9.88	0.00	0.00	65.03

School Name	Municipality	School District	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Dove Science Academy Es	OKC	OKC	4.34	0.13	3.10	3.92	0.28	0.00	0.00	9.39
Dove Science Academy Hs	OKC	OKC	0.48	0.00	0.00	0.48	0.00	0.00	0.00	0.00
Earl Harris Es/Bethany Ms/Bethany Hs	Bethany	Bethany	10.06	0.62	6.16	8.39	1.05	0.00	0.00	16.37
Earlywine Es	OKC	Moore	11.82	1.43	12.09	5.24	4.34	0.79	0.02	55.38
Eastlake Es	OKC	Moore	10.46	0.51	4.84	5.21	4.20	0.54	0.00	49.87
Edgemere Es	OKC	OKC	3.33	0.16	4.88	1.09	2.07	0.00	0.00	67.44
Edmond Memorial Hs	Edmond	Edmond	46.44	13.62	29.33	24.37	8.11	0.34	0.00	40.33
Edmond North Hs	Edmond	Edmond	6.67	0.00	0.00	5.71	0.96	0.00	0.00	14.36
Edmond North Hs/John Ross Es	Edmond	Edmond	68.08	2.50	3.67	33.75	30.43	1.40	0.00	20.60
Edmond Santa Fe Hs	Edmond	Edmond	105.15	23.82	22.65	35.85	43.30	2.17	0.00	58.82
Edwards Es	OKC	OKC	3.98	0.77	19.27	2.06	1.15	0.00	0.00	48.69
Eisenhower Es	Norman	Norman	11.51	0.76	6.58	5.22	5.08	0.45	0.00	54.43
Emerson North Hs	OKC	OKC	2.76	0.25	9.01	1.90	0.62	0.00	0.00	31.03
Emerson South Hs	OKC	OKC	24.12	0.56	2.34	22.64	0.91	0.00	0.00	6.01
Epic Charter	OKC	OKC	0.99	0.12	12.47	0.82	0.05	0.00	0.00	17.47
Epperly Heights Es	Del City	Mid-Del	10.78	0.35	3.23	5.63	4.50	0.27	0.04	35.47
Esperanza Es	OKC	OKC	4.15	0.16	3.94	2.51	1.01	0.47	0.00	39.13
Eugene Field Es	OKC	OKC	3.89	0.22	5.77	2.76	0.80	0.11	0.00	29.28
F.D. Moon Ms	OKC	OKC	11.18	0.83	7.40	4.43	5.92	0.01	0.00	60.45
Fairview Es	OKC	Moore	13.80	0.63	4.58	4.95	4.95	3.27	0.00	63.93
Fillmore Es	OKC	OKC	7.73	0.58	7.55	3.97	2.93	0.24	0.00	48.27
Fisher Es	OKC	Moore	16.27	10.02	61.60	3.90	1.22	1.13	0.00	75.85

School Name	Municipality	School District	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Frederick Douglass Hs	OKC	OKC	36.43	0.74	2.03	17.19	18.46	0.03	0.00	43.60
Frontier Es/Heartland Ms	Edmond	Edmond	39.95	0.50	1.24	22.91	13.24	3.31	0.00	15.98
Gatewood Es	OKC	OKC	3.74	0.05	1.39	2.15	1.52	0.02	0.00	42.65
Greenvale Es	OKC	Western Heights	4.81	0.81	16.86	2.97	0.73	0.30	0.00	38.24
Greystone Es	OKC	OKC	27.98	0.48	1.71	6.41	21.09	0.01	0.00	18.48
Greystone Lower Es	OKC	OKC	9.08	0.21	2.33	2.47	6.39	0.00	0.00	22.42
Grove Valley Es	OKC	Deer Creek	12.04	0.01	0.11	5.35	5.93	0.09	0.66	50.04
Harding Charter Hs	OKC	OKC	6.29	0.57	9.05	3.05	2.67	0.00	0.00	11.74
Harvest Hills Es	OKC	Putnam City	9.93	0.75	7.59	4.82	4.35	0.00	0.00	38.66
Hawthorne Es	OKC	OKC	4.06	0.04	1.00	2.32	1.45	0.25	0.00	42.85
Hayes Es	OKC	OKC	8.87	0.27	3.06	2.52	5.94	0.14	0.00	71.54
Hefner Ms	OKC	Putnam City	19.38	0.66	3.42	7.92	10.02	0.77	0.00	17.40
Heritage Trails Es	Moore	Moore	9.94	0.03	0.30	5.36	3.07	1.48	0.00	46.05
Heronville Es	OKC	OKC	4.13	0.19	4.57	2.83	0.70	0.41	0.00	31.20
Highland East Jhs	Moore	Moore	20.05	0.48	2.41	5.90	12.52	1.15	0.00	56.72
Highland Park Es	OKC	Mid-Del	10.85	0.35	3.26	4.51	5.40	0.59	0.00	19.66
Highland West Jhs	Moore	Moore	19.92	0.71	3.54	6.95	10.04	2.01	0.21	63.80
Hillcrest Es	OKC	OKC	8.83	0.35	4.01	3.68	4.72	0.08	0.00	58.35
Hilldale Es	OKC	Putnam City	8.92	1.90	21.36	4.75	2.02	0.24	0.00	46.46
Horace Mann Es	OKC	OKC	4.42	0.67	15.24	2.82	0.73	0.19	0.00	36.13
Houchin Es	Moore	Moore	8.02	0.21	2.66	3.74	3.10	0.96	0.00	53.52
Ida Freeman Es	Edmond	Edmond	11.37	2.48	21.77	6.52	2.37	0.00	0.00	42.45
Independence Enterprise Ms	OKC	OKC	9.39	1.72	18.29	3.64	4.04	0.00	0.00	35.82
Independence Ms	Yukon	Yukon	19.81	0.42	2.10	8.39	10.64	0.36	0.00	16.33
Irving Ms	Norman	Norman	83.20	4.80	5.77	12.63	57.90	7.86	0.00	76.69
Jackson Es	Norman	Norman	6.74	0.72	10.67	3.67	2.25	0.10	0.00	45.33

School Name	Municipality	School District	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
James L. Capps Ms	Warr Acres	Putnam City	11.26	0.57	5.02	4.15	6.52	0.03	0.00	12.42
Jarman Jhs	Midwest City	Mid-Del	19.93	0.37	1.88	13.20	5.98	0.38	0.00	10.65
Jefferson Es	Norman	Norman	3.12	0.23	7.44	2.52	0.38	0.00	0.00	19.26
Jefferson Ms	OKC	OKC	21.76	0.08	0.38	6.85	13.99	0.84	0.00	19.50
John Glenn Es	OKC	Western Heights	9.93	0.26	2.60	4.42	4.63	0.61	0.00	55.35
John Marshall Hs	OKC	OKC	32.38	0.30	0.94	12.11	19.15	0.82	0.00	22.65
John Rex Es	OKC	OKC	2.72	0.00	0.05	1.92	0.60	0.20	0.00	29.08
Johnson Es	The Village	OKC	6.65	0.14	2.07	2.70	3.81	0.00	0.00	59.17
Justice Alma Wilson Seeworth Charter	OKC	OKC	24.57	13.46	54.79	2.89	7.87	0.00	0.34	80.82
Kaiser Es	OKC	OKC	7.12	0.07	1.00	3.14	3.42	0.50	0.00	55.77
Kelley Es	Moore	Moore	11.03	0.43	3.88	4.31	5.41	0.88	0.00	61.10
Kennedy Es	Norman	Norman	10.62	0.63	5.96	4.93	5.06	0.00	0.00	53.51
Kerr Jhs	Del City	Mid-Del	25.77	1.82	7.06	7.83	14.93	1.19	0.00	21.09
Kingsgate Es	OKC	Moore	6.61	0.23	3.43	3.73	2.31	0.34	0.00	43.64
Kirkland Es	OKC	Putnam City	3.40	0.45	13.34	2.55	0.40	0.00	0.00	25.28
Lake Park Es	Bethany	Putnam City	6.71	0.26	3.81	4.00	2.45	0.00	0.00	40.17
Lakehoma Es	Mustang	Mustang	7.79	0.26	3.37	5.28	2.16	0.08	0.00	32.07
Lakeview Ms	Yukon	Yukon	31.03	0.41	1.33	7.80	22.20	0.61	0.00	19.92
Lee Es	OKC	OKC	6.73	0.37	5.55	3.27	1.94	1.15	0.00	50.98
Lincoln Es	Norman	Norman	3.17	0.47	14.84	2.58	0.12	0.00	0.00	18.35
Linwood Es	OKC	OKC	3.95	0.46	11.73	2.26	0.80	0.43	0.00	42.57
Longfellow Ms	Norman	Norman	7.04	0.32	4.50	4.57	1.17	0.97	0.00	14.35
Madison Es	Norman	Norman	11.88	0.79	6.67	3.62	7.26	0.20	0.00	65.81
Marcus Garvey Leadership	OKC	OKC	4.09	0.45	11.01	1.58	2.06	0.00	0.00	61.64
Mark Twain Es	OKC	OKC	3.19	0.40	12.45	1.85	0.84	0.10	0.00	41.65
Martin Luther King Es	OKC	OKC	6.24	0.75	12.00	3.00	2.49	0.00	0.00	51.72

School Name	Municipality	School District	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Mary Goulda Ross Es	OKC	OKC	7.32	0.26	3.51	3.75	3.02	0.29	0.00	48.77
Mayfield Ms	OKC	Putnam City	13.77	1.34	9.74	5.35	6.49	0.59	0.00	42.20
Mckinley Es	Norman	Norman	5.21	1.68	32.27	2.32	0.94	0.27	0.00	55.39
Midwest City Es	Midwest City	Mid-Del	19.94	1.33	6.66	9.74	6.18	2.69	0.00	45.68
Midwest City Hs	Midwest City	Mid-Del	56.50	1.51	2.67	36.45	17.35	1.19	0.00	23.40
Millwood Es/Hs	OKC	Millwood	51.94	12.40	23.87	18.77	17.52	3.25	0.00	45.42
Monroe Es	Norman	Norman	10.64	1.08	10.17	4.42	5.14	0.00	0.00	58.41
Monroe Es	OKC	OKC	8.62	0.24	2.83	2.83	5.55	0.00	0.00	52.93
Monroney Jhs	Midwest City	Mid-Del	20.02	0.72	3.58	6.96	11.72	0.62	0.00	32.91
Moore Hs	Moore	Moore	54.57	1.08	1.99	33.99	18.05	0.70	0.74	20.75
Mustang Creek Es	OKC	Mustang	20.13	3.23	16.07	5.66	10.70	0.07	0.47	69.35
Mustang Education Center	Mustang	Mustang	2.97	0.15	5.07	2.21	0.60	0.01	0.00	25.62
Mustang Es	Mustang	Mustang	14.98	1.56	10.42	6.80	6.51	0.11	0.00	54.43
Mustang Ms/Is/Hs	Mustang	Mustang	105.08	2.57	2.44	63.30	36.08	1.99	1.14	29.06
Mustang North Ms	OKC	Mustang	20.04	0.53	2.64	7.56	11.63	0.32	0.00	27.45
Mustang Trails Es	OKC	Mustang	9.29	0.80	8.56	4.77	3.73	0.00	0.00	48.54
Mustang Valley Es	OKC	Mustang	14.29	1.58	11.07	6.23	5.99	0.49	0.00	56.37
Myers Es	Yukon	Yukon	8.50	0.28	3.32	3.04	4.91	0.27	0.00	63.96
Nichols Hills Es	OKC	OKC	7.31	0.42	5.68	4.03	2.77	0.10	0.00	44.72
Norman Hs	Norman	Norman	37.24	1.09	2.93	23.94	8.71	3.51	0.00	20.84
Norman North Hs	Norman	Norman	63.39	3.15	4.97	30.00	26.80	2.26	1.18	25.80
North Highland Es	OKC	OKC	6.93	0.32	4.62	2.77	3.85	0.00	0.00	60.14
Northeast Academy	OKC	OKC	34.87	0.76	2.17	9.48	23.15	1.48	0.00	40.55
Northern Hills Es	Edmond	Edmond	11.43	2.79	24.41	5.40	2.61	0.63	0.00	52.68
Northmoor Es	Moore	Moore	13.01	0.65	5.00	4.08	7.91	0.17	0.19	32.36
Northridge Es	OKC	Putnam City	14.86	0.40	2.72	4.98	7.98	1.50	0.00	20.04
Northwest Classen Hs	OKC	OKC	36.83	1.17	3.16	17.77	16.01	1.89	0.00	29.36
Oakdale Es	OKC	Oakdale	22.40	1.42	6.34	12.07	8.91	0.00	0.00	37.10

School Name	Municipality	School District	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Oakridge Es	OKC	Moore	9.67	0.02	0.18	6.39	3.12	0.15	0.00	33.62
Oakridge Es	Del City	OKC	5.43	0.27	4.97	2.07	3.09	0.00	0.00	61.72
Ok School of Science & Maths	OKC	OKC	2.76	0.79	28.58	1.09	0.88	0.00	0.00	60.43
Ok Virtual Charter Academy	Midwest City	Mid-Del	1.10	0.05	4.69	1.03	0.02	0.00	0.00	6.67
Orvis Risner Es	Edmond	Edmond	9.38	0.98	10.47	5.60	2.43	0.37	0.00	40.18
Overholser Es	Bethany	Putnam City	11.24	1.53	13.64	3.58	5.27	0.85	0.00	68.08
Parkland Es	Yukon	Yukon	8.14	0.36	4.43	4.24	3.51	0.03	0.00	48.07
Parkview Es	OKC	Mid-Del	13.28	0.51	3.81	4.08	4.07	4.62	0.00	69.34
Parmelee Es	OKC	OKC	7.67	0.39	5.09	3.40	2.87	0.99	0.02	55.54
Pierce Es	OKC	OKC	9.15	0.56	6.10	2.54	6.05	0.00	0.00	72.17
Plaza Towers Es	Moore	Moore	15.90	0.02	0.12	7.11	6.42	2.35	0.00	55.16
Pleasant Hill Es	Forest Park	Mid-Del	4.64	0.75	16.25	2.29	1.59	0.00	0.00	50.09
Prairie Queen Es	OKC	OKC	10.93	0.31	2.80	4.97	5.61	0.05	0.00	33.81
Prairie View Es	OKC	Mustang	15.24	0.02	0.16	7.47	7.21	0.54	0.00	50.63
Putnam City Academy	Warr Acres	Putnam City	4.98	0.12	2.50	3.77	0.88	0.21	0.00	24.36
Putnam City Ecc	OKC	Putnam City	77.33	6.74	8.72	35.81	33.15	0.05	1.58	51.61
Putnam City Ecc	Warr Acres	Putnam City	1.08	0.20	18.87	0.65	0.22	0.00	0.00	40.04
Putnam City Hs	Warr Acres	Putnam City	28.48	0.72	2.52	18.15	9.16	0.45	0.00	10.12
Putnam City West Hs	OKC	Putnam City	29.60	1.19	4.04	15.55	12.48	0.38	0.00	25.87
Putnam Heights Es	OKC	OKC	2.47	0.33	13.37	1.36	0.78	0.00	0.00	45.28
Quail Creek Es	OKC	OKC	7.99	0.58	7.21	2.79	3.77	0.85	0.00	33.76
Ralph Downs Es	OKC	Putnam City	12.15	0.85	6.99	4.39	6.91	0.00	0.00	63.70
Rancho Village Es	OKC	OKC	5.43	0.00	0.00	3.15	2.04	0.25	0.00	41.47
Ranchwood Es	Yukon	Yukon	6.62	0.36	5.43	3.37	2.90	0.00	0.00	49.32
Red Oak Es	OKC	Moore	9.31	1.18	12.73	5.34	2.62	0.17	0.00	42.68
Ridgecrest Es	Midwest City	Mid-Del	10.95	0.69	6.29	3.95	6.14	0.17	0.00	63.80

School Name	Municipality	School District	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Ridgeview Es	The Village	OKC	8.43	0.47	5.61	2.59	5.36	0.00	0.00	69.20
Rockwood Es	OKC	OKC	5.17	0.13	2.58	3.01	1.82	0.20	0.00	40.96
Rogers Ms	Spencer	OKC	21.19	2.64	12.44	7.30	10.59	0.66	0.00	65.54
Rollingwood Es	OKC	Putnam City	4.07	0.17	4.21	3.53	0.17	0.20	0.00	12.89
Ronald Reagan Es	Norman	Norman	5.54	0.01	0.12	2.57	2.51	0.45	0.00	53.20
Roosevelt Es	Norman	Norman	15.16	3.77	24.86	5.66	4.80	0.93	0.00	62.73
Roosevelt Ms	OKC	OKC	14.45	0.62	4.29	6.67	6.23	0.93	0.00	18.88
Russell Dougherty Es	Edmond	Edmond	2.08	0.47	22.58	1.33	0.28	0.00	0.00	35.76
Santa Fe Es	OKC	Moore	11.80	0.86	7.29	4.16	5.03	1.74	0.00	64.54
Santa Fe South Ecc	OKC	OKC	2.20	0.02	1.09	1.16	0.83	0.19	0.00	47.04
Santa Fe South Hs	OKC	OKC	14.24	0.08	0.53	13.46	0.70	0.00	0.00	5.71
Santa Fe South Ms	OKC	OKC	4.87	0.11	2.32	2.01	2.62	0.12	0.00	20.33
Santa Fe South Ms	OKC	OKC	4.38	0.37	8.56	2.85	1.09	0.06	0.00	34.71
Santa Fe South Penn Es	OKC	OKC	4.70	0.18	3.82	2.44	1.64	0.43	0.00	48.03
Santa Fe South Spero Es	OKC	OKC	21.75	1.58	7.28	5.73	10.86	3.57	0.00	14.43
Santa Fe South The Hills Es	OKC	OKC	3.47	0.17	4.83	1.41	1.25	0.64	0.00	58.72
Sequoyah Es	OKC	OKC	5.37	0.45	8.33	3.12	1.80	0.00	0.00	41.50
Sequoyah Ms	Edmond	Edmond	15.00	2.60	17.34	5.99	6.13	0.28	0.00	24.32
Shedeck Es	Yukon	Yukon	5.21	0.60	11.43	3.13	1.49	0.00	0.00	39.48
Shidler Es	OKC	OKC	9.74	0.74	7.55	2.50	6.03	0.48	0.00	73.96
Sky Ranch Es	OKC	Moore	16.37	0.47	2.85	5.66	9.67	0.58	0.00	65.19
Skyview Es	Yukon	Yukon	8.56	0.22	2.53	4.38	3.83	0.14	0.00	42.30
Soldier Creek Es	Midwest City	Mid-Del	8.98	0.07	0.78	6.96	0.13	1.83	0.00	22.30
Sooner Es	OKC	Moore	12.14	1.14	9.38	4.31	6.62	0.08	0.00	64.32
South Lake Es	OKC	Moore	0.44	0.00	0.00	0.36	0.08	0.00	0.00	17.08
Southeast Hs	OKC	OKC	23.22	0.96	4.14	8.73	12.69	0.85	0.00	13.14
Southern Hills Es	OKC	OKC	10.10	0.18	1.83	3.33	6.53	0.05	0.00	30.18

School Name	Municipality	School District	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Southgate-Rippletoe Es	Moore	Moore	12.86	0.49	3.83	6.21	5.26	0.89	0.00	51.70
Southmoore Hs	Moore	Moore	80.47	0.28	0.35	29.10	46.26	4.82	0.00	53.22
Southridge Jhs	OKC	Moore	25.72	5.70	22.17	8.00	11.82	0.19	0.00	68.44
Spencer Es	Spencer	OKC	7.71	0.19	2.48	2.56	4.96	0.00	0.00	66.71
Star Spencer Hs	Spencer	OKC	38.77	6.44	16.61	11.23	17.81	3.29	0.00	50.43
Steed Es	Midwest City	Mid-Del	18.10	0.58	3.21	3.61	12.95	0.96	0.00	71.20
Sunset Es	Edmond	Edmond	6.20	0.37	6.03	4.27	1.54	0.01	0.00	30.96
Taft Ms	OKC	OKC	17.49	1.09	6.21	10.21	5.65	0.54	0.00	19.00
Telstar Es	Midwest City	OKC	12.77	0.64	5.02	2.94	9.15	0.04	0.00	77.02
Thelma R. Parks Es	OKC	OKC	11.05	0.44	3.97	3.97	6.65	0.00	0.00	64.09
Timber Creek Es	Moore	Moore	12.67	3.67	28.96	4.22	3.20	1.55	0.04	66.52
Tinker Es	OKC	Mid-Del	7.62	0.90	11.79	4.70	1.72	0.31	0.00	37.78
Townsend Es	Del City	Mid-Del	14.28	0.39	2.72	4.29	8.64	0.97	0.00	23.15
Truman Primary/Es	Norman	Norman	23.92	1.37	5.72	10.02	12.17	0.36	0.00	57.99
Tulakes Es	OKC	Putnam City	9.85	0.51	5.17	5.23	3.57	0.53	0.00	47.11
Us Grant Hs	OKC	OKC	24.42	0.23	0.92	11.00	12.51	0.68	0.00	23.59
Van Buren Es	OKC	OKC	2.78	0.04	1.59	2.17	0.45	0.12	0.00	21.91
Washington Irving Es	OKC	Edmond	14.65	2.07	14.13	7.53	5.05	0.00	0.00	48.47
Wayland Bonds Es	OKC	Moore	9.97	0.38	3.77	5.52	3.56	0.51	0.00	44.54
Webster Ms	OKC	OKC	18.69	0.40	2.14	5.47	11.84	0.98	0.00	21.49
West Field Es	OKC	Edmond	14.34	0.21	1.44	7.95	6.18	0.00	0.00	44.50
West Jhs	OKC	Moore	36.14	0.39	1.09	9.20	24.85	1.69	0.00	18.60
West Nichols Hills Es	OKC	OKC	4.98	0.66	13.33	2.70	1.62	0.00	0.00	45.86
Western Heights Hs	OKC	Western Heights	19.32	0.24	1.22	13.65	4.85	0.58	0.00	29.20
Western Heights Ms	OKC	Western Heights	19.52	0.50	2.55	9.51	8.91	0.60	0.00	44.71
Western Oaks Es/Western Oaks Ms	Bethany	Putnam City	12.10	2.25	18.61	7.10	2.59	0.16	0.00	41.31

School Name	Municipality	School District	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Western Village Academy	OKC	OKC	7.37	0.33	4.50	3.48	3.39	0.17	0.00	52.42
Westmoore Hs	OKC	Moore	60.24	6.88	11.43	25.87	26.76	0.72	0.00	46.09
Westwood Es	OKC	OKC	5.08	0.28	5.54	1.95	2.78	0.06	0.00	61.28
Wheeler Es	OKC	OKC	5.52	0.25	4.44	2.32	2.36	0.59	0.00	18.80
Whittier Ms	Norman	Norman	19.98	1.20	5.99	8.36	6.66	3.77	0.00	46.86
Wiley Post Es	OKC	Putnam City	10.16	0.74	7.28	6.47	2.95	0.00	0.00	36.16
Will Rogers Es	Edmond	Edmond	14.50	4.51	31.09	4.70	5.14	0.14	0.00	67.42
Will Rogers Es	OKC	Putnam City	12.61	2.83	22.41	5.09	3.69	0.00	1.00	51.66
Willow Brook Es	Midwest City	OKC	11.17	0.22	1.96	4.05	6.37	0.53	0.00	63.54
Wilson Es	Norman	Norman	3.13	0.15	4.93	2.00	0.82	0.17	0.00	36.20
Wilson Es	OKC	OKC	2.73	0.24	8.67	1.51	0.71	0.27	0.00	44.07
Winding Creek Es	Moore	Moore	9.77	0.43	4.36	5.04	3.06	1.25	0.00	48.22
Winds West Es	OKC	Western Heights	7.45	0.48	6.38	4.28	2.32	0.38	0.00	42.44
Windsor Hills Es	OKC	Putnam City	7.25	0.70	9.70	4.68	1.33	0.53	0.00	35.13
Yukon Alternative	Yukon	Yukon	1.29	0.10	8.06	0.94	0.25	0.00	0.00	26.81
Yukon Hs	OKC	Yukon	111.29	6.33	5.69	45.01	53.95	3.17	2.83	50.79
Yukon Ms	Yukon	Yukon	37.73	2.15	5.71	27.28	8.28	0.03	0.00	21.07
All Schools Total			**4,142.94**	**310.21**	**7.49%**	**1,862.93**	**1,794.91**	**163.10**	**11.79**	**41.37%**

Table 31: Tree Canopy by Study Area Trails

Trail Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
11th St	Moore	1.09	0.03	2.37	0.35	0.17	0.54	0.01	67.44
12th Ave NE	Norman	19.35	0.03	0.15	18.10	1.22	0.00	0.00	6.21
12th Ave NW	Norman	14.53	0.06	0.41	12.44	1.94	0.08	0.00	13.96
12th Ave SE	Norman	9.09	0.06	0.71	9.01	0.02	0.00	0.00	0.83
12th St	Oklahoma City	15.53	2.90	18.65	10.69	1.94	0.00	0.00	30.43
13th St	Oklahoma City	11.18	1.11	9.94	9.70	0.36	0.00	0.00	12.94
15th & SE	Midwest City	5.57	0.12	2.16	4.43	0.97	0.04	0.00	20.46
15th St	Oklahoma City	2.92	0.28	9.49	2.40	0.23	0.01	0.00	17.29
15th St	Midwest City	1.73	0.00	0.00	1.73	0.00	0.00	0.00	0.00

Trail Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
15th Street Linkage	Edmond	21.65	2.44	11.29	17.32	1.31	0.58	0.00	19.54
16th St	Oklahoma City	3.21	0.12	3.79	2.85	0.24	0.00	0.00	10.16
16th Street	Oklahoma City	4.30	0.39	9.18	3.58	0.32	0.00	0.00	16.56
19th St	Oklahoma City	29.22	8.83	30.22	17.28	3.10	0.01	0.00	40.02
23rd St	Oklahoma City	3.07	0.09	2.84	2.83	0.15	0.00	0.00	7.41
24th Ave NE	Norman	15.14	0.54	3.55	12.10	2.44	0.07	0.00	19.68
24th Ave NW	Norman	11.42	0.12	1.07	9.03	2.23	0.03	0.00	20.84
24th Ave SE	Norman	10.07	0.04	0.36	9.11	0.93	0.00	0.00	9.30
24th St	Oklahoma City	1.38	0.02	1.56	1.13	0.23	0.00	0.00	18.00
26th Ave NW	Norman	3.20	0.15	4.69	2.86	0.18	0.00	0.00	11.83
26th Dr	Norman	0.58	0.03	5.39	0.54	0.01	0.00	0.00	6.72
29th	Midwest City	7.72	0.32	4.16	7.21	0.19	0.00	0.00	6.50
30th St	Oklahoma City	36.65	4.45	12.14	27.25	4.90	0.05	0.00	25.20
33rd Street Linkage	Edmond	23.93	0.41	1.70	22.87	0.65	0.00	0.00	4.32
34th St	Oklahoma City	1.24	0.12	9.59	1.00	0.12	0.00	0.00	18.84
36th Ave NW	Norman	17.00	0.03	0.15	14.91	2.04	0.02	0.00	12.00
36th St	Oklahoma City	11.58	0.52	4.47	9.91	1.11	0.04	0.00	14.01
3rd St	Oklahoma City	3.18	0.08	2.37	2.97	0.14	0.00	0.00	6.49
3rd St.	Yukon	5.49	0.50	9.08	4.16	0.83	0.00	0.00	23.78
42nd St	Oklahoma City	1.19	0.26	21.51	0.85	0.08	0.00	0.00	28.21
48th Ave NW	Norman	0.27	0.00	0.00	0.24	0.03	0.00	0.00	13.04
4th St	Oklahoma City	11.13	0.51	4.61	9.33	1.28	0.00	0.00	15.73
50th St	Oklahoma City	2.39	0.02	0.98	2.36	0.01	0.00	0.00	1.23
51st St	Oklahoma City	1.02	0.06	5.64	0.91	0.05	0.00	0.00	10.73
59th St	Oklahoma City	27.28	0.50	1.84	24.11	2.62	0.04	0.00	11.29
5th St	Oklahoma City	2.77	0.06	2.09	2.71	0.00	0.00	0.00	2.10
5th Street Linkage	Edmond	4.18	0.92	22.00	3.15	0.11	0.00	0.00	24.10
63rd St	Oklahoma City	10.88	0.20	1.82	10.43	0.24	0.00	0.00	3.91
6th St	Oklahoma City	2.87	0.01	0.28	2.86	0.00	0.00	0.00	0.00
74th St	Oklahoma City	9.69	0.96	9.93	6.74	1.97	0.01	0.00	30.20
7th Street Linkage	Edmond	3.99	0.47	11.79	3.42	0.10	0.00	0.00	13.86
8th St	Oklahoma City	1.64	0.02	1.49	1.58	0.04	0.00	0.00	3.51
9th St	Edmond	6.02	0.46	7.62	5.35	0.22	0.00	0.00	10.62
Airport Trail	Oklahoma City	43.37	3.15	7.26	24.77	12.21	3.24	0.00	40.98
Alameda St	Norman	7.80	0.00	0.00	7.80	0.00	0.00	0.00	0.00
Alternate Trib 4	Midwest City	2.47	0.43	17.53	1.72	0.30	0.02	0.00	29.72
Arboretum PK	Moore	3.00	0.80	26.57	0.97	1.19	0.00	0.05	65.91
Arcadia Lake Trail	Edmond	16.90	9.67	57.19	3.32	3.51	0.39	0.02	78.84
Arcadia Trail Link	Oklahoma City	45.47	21.38	47.02	2.58	13.53	2.84	5.13	79.35
Arrowhead Linkage	Edmond	8.06	3.08	38.23	4.36	0.62	0.00	0.00	45.33
Asp Ave	Norman	4.29	0.37	8.69	3.72	0.19	0.00	0.00	12.87

Trail Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Ayers	Edmond	1.58	0.04	2.36	1.54	0.00	0.00	0.00	2.53
Beacon Ave	Norman	1.39	0.11	7.69	1.24	0.04	0.00	0.00	10.14
Beaumont Dr	Norman	0.49	0.02	4.38	0.46	0.01	0.00	0.00	5.99
Beaumont Dr.	Norman	2.37	0.03	1.39	2.25	0.09	0.00	0.00	4.90
Bella Vista	Midwest City	5.26	0.75	14.30	4.30	0.20	0.00	0.00	18.34
Berry Rd.	Norman	0.14	0.06	39.21	0.09	0.00	0.00	0.00	0.00
Berry to Brookside Trail	Norman	0.64	0.40	63.34	0.16	0.08	0.00	0.00	74.48
Bickham-Rudkin Trail	Edmond	5.04	1.30	25.73	1.10	2.64	0.00	0.00	77.95
Biloxi Dr.	Norman	1.93	0.07	3.47	1.82	0.05	0.00	0.00	5.29
Bishops Drive	Norman	5.25	0.10	1.82	5.01	0.14	0.00	0.00	4.20
Blackwelder Ave	Oklahoma City	7.76	0.83	10.73	5.87	1.05	0.00	0.00	23.38
Blake Park Linkage	Edmond	3.52	0.35	10.01	2.86	0.31	0.00	0.00	19.08
Blake Park Trail	Edmond	6.29	0.65	10.31	2.36	3.28	0.00	0.00	23.52
Bluff Creek Trail	Oklahoma City	26.95	21.53	79.89	1.33	4.07	0.01	0.01	94.87
Boulevard Linkage	Edmond	26.62	2.80	10.50	21.14	2.31	0.38	0.00	20.01
Boulevard Trail Linkage	Edmond	2.04	0.28	13.93	1.50	0.26	0.00	0.00	26.25
Boyd	Norman	2.77	0.43	15.66	1.63	0.57	0.15	0.00	40.70
Brandywine Ln	Norman	1.03	0.03	2.81	0.98	0.02	0.00	0.00	4.74
Brandywine Ln.	Norman	1.38	0.01	0.48	1.36	0.02	0.00	0.00	1.65
Britton	Oklahoma City	6.80	0.07	1.04	6.34	0.13	0.25	0.00	6.72
Britton Rd	Oklahoma City	17.06	0.04	0.24	16.94	0.08	0.00	0.00	0.55
Britton Rd.	Oklahoma City	9.77	0.06	0.61	8.91	0.80	0.00	0.00	8.68
Broadway	Moore	18.03	0.36	1.99	16.84	0.84	0.00	0.00	6.53
Broadway Ave	Oklahoma City	0.66	0.01	0.97	0.66	0.00	0.00	0.00	1.26
Broadway Extn	Oklahoma City	0.67	0.00	0.00	0.62	0.05	0.00	0.00	7.98
Broadway Extn Serv	Oklahoma City	10.12	0.51	5.05	9.11	0.49	0.00	0.00	9.62
Broadway Extn Srv	Oklahoma City	29.60	0.06	0.22	22.85	6.67	0.01	0.00	22.30
Broadway Linkage	Edmond	0.17	0.01	7.04	0.16	0.00	0.00	0.00	
Brock Creek Trail	Oklahoma City	6.43	0.21	3.28	4.61	1.19	0.00	0.41	21.73
Brookhaven Blvd	Norman	4.49	0.94	20.92	3.25	0.30	0.00	0.00	26.72
Brooks	Norman	1.82	0.39	21.35	1.35	0.08	0.00	0.00	24.61
Brookside Dr	Norman	0.16	0.11	67.99	0.05	0.00	0.00	0.00	69.11
Bryant Ave	Oklahoma City	12.19	0.42	3.45	9.69	2.08	0.01	0.00	20.55
Bryant Ave	Moore	9.65	0.30	3.15	7.62	1.68	0.06	0.00	21.02
Bryant Ave.	Moore	19.72	1.35	6.83	14.22	3.87	0.22	0.05	26.92
Bryant Ave.	Edmond	7.22	0.27	3.80	6.94	0.01	0.00	0.00	3.98
Bryant Avenue Linkage	Edmond	1.41	0.00	0.00	1.41	0.00	0.00	0.00	
Buck Thomas Park	Moore	7.91	1.37	17.25	1.67	3.68	1.20	0.00	68.02
Butler Dr	Norman	0.47	0.16	33.61	0.30	0.02	0.00	0.00	34.82

Trail Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Byers Ave	Oklahoma City	19.61	1.92	9.78	13.72	3.86	0.11	0.00	29.35
California	Oklahoma City	0.48	0.00	0.51	0.47	0.01	0.00	0.00	1.33
Camden Way	Norman	2.77	0.80	28.93	1.93	0.04	0.00	0.00	30.12
Canal Rd	Oklahoma City	5.89	0.55	9.30	3.96	1.20	0.00	0.17	29.38
Capitol View Linkage	Edmond	2.38	0.64	26.75	1.69	0.05	0.00	0.00	29.33
Castlerock Road	Norman	4.21	0.03	0.68	4.13	0.05	0.00	0.00	1.81
Central Ave	Oklahoma City	6.56	0.08	1.24	6.30	0.17	0.00	0.00	3.82
Chautauqua Ave	Norman	4.41	0.96	21.80	2.82	0.63	0.00	0.00	35.54
Chautauqua Ave.	Norman	2.38	0.49	20.64	1.57	0.32	0.00	0.00	33.40
Chautauqua Path	Norman	4.73	1.86	39.33	1.28	1.58	0.00	0.00	71.22
Cherry Creek Dr	Norman	1.96	0.29	14.57	1.52	0.15	0.00	0.00	21.91
Cherry Stone St	Norman	1.38	0.47	33.97	0.79	0.12	0.00	0.00	42.14
Chisholm Creek Trib. Trail	Edmond	17.11	11.49	67.11	0.91	4.38	0.34	0.00	94.52
Chisholm Elementary Linkage	Edmond	10.85	3.12	28.76	7.26	0.47	0.00	0.00	32.67
Chisholm Trail Park Trail	Yukon	11.66	3.54	30.37	1.93	5.70	0.22	0.27	80.80
Chowning	Edmond	2.86	0.08	2.86	1.80	0.98	0.00	0.00	37.56
Cimarron Middle School	Edmond	1.79	0.41	22.86	1.31	0.07	0.00	0.00	25.72
City Ave	Moore	2.05	0.01	0.55	2.01	0.03	0.00	0.00	1.71
Claremont Dr	Norman	2.38	0.57	23.83	1.61	0.20	0.00	0.00	31.99
Classen Blvd	Oklahoma City	27.14	2.14	7.88	13.72	11.27	0.01	0.00	49.34
Classen Blvd	Norman	1.21	0.00	0.00	1.21	0.00	0.00	0.00	
Classen Dr	Oklahoma City	1.14	0.12	10.13	1.00	0.02	0.00	0.00	11.45
Clegern Ave Linkage	Edmond	0.90	0.20	22.63	0.65	0.04	0.00	0.00	26.10
Coffee Creek Road Linkage	Edmond	32.02	5.47	17.08	24.16	2.39	0.00	0.00	23.90
Coffee Creek Trail	Edmond	16.33	11.44	70.07	0.48	4.25	0.15	0.01	95.08
College	Norman	1.15	0.55	48.32	0.57	0.02	0.00	0.00	49.48
College Ave.	Bethany	7.38	1.17	15.82	5.41	0.80	0.00	0.00	26.11
Coltrane Linkage	Edmond	31.58	4.19	13.26	25.50	1.85	0.03	0.00	19.14
Constellation St	Norman	0.50	0.06	11.12	0.40	0.04	0.00	0.00	18.55
Cornwell Dr	Yukon	9.73	0.02	0.17	9.55	0.17	0.00	0.00	2.11
Covell Linkage	Edmond	29.00	2.06	7.11	23.96	2.98	0.01	0.00	17.15
Creek Bend Trail	Edmond	5.98	4.53	75.67	0.04	1.35	0.06	0.00	99.31
Creekside Dr	Norman	1.88	0.09	4.99	1.75	0.04	0.00	0.00	6.72
Crest Pl	Norman	0.34	0.02	6.46	0.29	0.03	0.00	0.00	13.35
Crestland Dr	Norman	1.51	0.03	2.29	1.43	0.05	0.00	0.00	4.69
Crestmont	Norman	2.75	0.37	13.29	2.21	0.17	0.00	0.00	18.93
Cross Timbers Elementary Linkage	Edmond	5.23	0.28	5.27	4.59	0.34	0.03	0.00	12.19
Crossroads Blvd	Norman	3.43	0.11	3.08	3.08	0.25	0.00	0.00	9.70

Trail Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Cruce St	Norman	3.75	1.37	36.47	2.18	0.20	0.00	0.00	41.67
Crutcho Creek	Midwest City	12.86	7.07	54.99	1.56	3.91	0.30	0.02	87.46
Crutcho Creek Connector	Midwest City	10.11	1.62	15.97	7.59	0.91	0.00	0.00	25.08
Culbertson Ave	Oklahoma City	5.16	0.62	11.97	3.33	1.20	0.02	0.00	35.17
Dakota St	Norman	0.30	0.03	8.92	0.22	0.05	0.00	0.00	26.85
Danforth Linkage	Edmond	3.69	0.01	0.35	3.16	0.52	0.00	0.00	13.47
Danforth Road Linkage	Edmond	9.65	0.55	5.68	7.31	1.77	0.03	0.00	23.82
Dean A McGee	Oklahoma City	0.87	0.01	0.88	0.84	0.03	0.00	0.00	4.05
Deep Fork Trail	Oklahoma City	15.28	5.74	37.56	2.51	6.94	0.04	0.05	82.70
Denison Dr	Norman	4.05	0.47	11.58	3.30	0.28	0.00	0.00	18.13
Dewey	Oklahoma City	6.01	0.84	14.06	4.72	0.38	0.06	0.00	20.80
Dewey Ave	Oklahoma City	2.18	0.06	2.76	2.04	0.08	0.00	0.00	5.67
Dorchester Dr	Norman	0.56	0.02	3.49	0.52	0.02	0.00	0.00	8.27
Downtown Regional Detention Trail	Edmond	2.34	0.45	19.14	0.87	1.01	0.01	0.00	61.96
Drainage Trail	Midwest City	2.16	0.38	17.61	1.17	0.58	0.00	0.02	43.93
Draper Lake	Midwest City	3.31	2.23	67.53	0.15	0.92	0.00	0.00	95.36
E Acres St	Norman	2.61	0.27	10.16	2.26	0.09	0.00	0.00	13.42
E Boyd St	Norman	1.04	0.09	8.14	0.95	0.01	0.00	0.00	8.44
E Boyd St.	Norman	2.44	0.14	5.83	2.27	0.03	0.00	0.00	6.98
E Brooks St	Norman	0.48	0.03	5.87	0.46	0.00	0.00	0.00	
E Brooks St.	Norman	1.94	0.12	6.13	1.77	0.05	0.00	0.00	8.63
E Constitution St	Norman	4.97	0.06	1.13	4.48	0.42	0.02	0.00	9.79
E Duffy St	Norman	2.19	0.48	22.11	1.59	0.12	0.00	0.00	26.22
E Eufaula	Norman	5.54	0.51	9.24	4.77	0.25	0.00	0.00	13.44
E Gray St	Norman	1.07	0.15	14.22	0.83	0.09	0.00	0.00	22.82
E Imhoff Road	Norman	4.37	0.03	0.59	4.15	0.19	0.00	0.00	4.95
E Lindsey	Norman	5.45	1.12	20.50	3.06	0.60	0.66	0.00	42.71
E Lindsey St	Norman	9.74	0.08	0.79	9.22	0.44	0.00	0.00	5.33
E Main St	Norman	2.45	0.00	0.00	2.43	0.02	0.00	0.00	0.99
E Main St.	Norman	4.33	0.10	2.39	3.57	0.66	0.00	0.00	17.20
E Park	Oklahoma City	3.65	0.46	12.55	2.89	0.30	0.00	0.00	20.92
E Robinson St	Norman	9.74	0.09	0.93	8.65	0.99	0.00	0.00	11.06
E Rock Creek Road	Norman	9.60	0.33	3.43	8.22	1.04	0.00	0.00	13.21
E Tecumseh Road	Norman	9.83	0.14	1.39	9.19	0.49	0.01	0.00	6.35
Earlywine	Oklahoma City	5.08	0.42	8.21	2.07	2.43	0.02	0.13	17.06
Earlywine Park	Oklahoma City	7.34	2.29	31.12	2.03	3.03	0.00	0.00	71.56
Earlywine Trail	Oklahoma City	29.02	2.06	7.12	17.81	9.05	0.09	0.00	36.83
Eastern	Oklahoma City	5.11	0.17	3.42	4.91	0.02	0.00	0.00	3.52
Eastern Ave	Oklahoma City	19.75	0.70	3.56	16.13	2.87	0.04	0.00	18.13

Trail Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Eastern Ave	Moore	3.34	0.00	0.01	3.34	0.00	0.00	0.00	
Eastern Ave.	Moore	23.17	0.15	0.64	20.47	2.53	0.02	0.00	11.44
Edmond Rd.	Edmond	9.79	0.35	3.59	9.41	0.02	0.00	0.00	3.79
Eldon Lyon Park	Bethany	8.70	4.06	46.70	1.04	3.51	0.09	0.00	87.39
Elementary School Connector	Midwest City	0.37	0.04	11.59	0.31	0.02	0.00	0.00	16.09
Elm	Norman	1.14	0.13	11.60	0.95	0.06	0.00	0.00	17.28
Elmwood	Norman	0.60	0.27	44.51	0.32	0.01	0.00	0.00	45.87
Exchange	Oklahoma City	8.02	0.14	1.75	6.00	1.89	0.00	0.00	25.23
Fairmoore Pk	Moore	3.38	0.30	8.83	0.60	1.90	0.53	0.06	80.67
Felix Dr	Midwest City	3.83	0.38	10.03	2.90	0.54	0.00	0.00	19.55
Fink Park Linkage	Edmond	9.97	2.90	29.10	6.83	0.24	0.00	0.00	31.19
Fink Park Trail	Edmond	5.70	2.78	48.81	1.74	1.17	0.00	0.00	69.55
Fox Lake Linkage	Edmond	5.14	0.68	13.15	4.35	0.11	0.00	0.00	15.15
Fox Lake Trail	Edmond	2.92	2.40	82.02	0.13	0.39	0.00	0.00	95.49
Fretz Ave Linkage	Edmond	18.17	0.89	4.90	16.49	0.77	0.02	0.00	9.11
Future Facility	Norman	1.60	0.09	5.92	1.19	0.14	0.17	0.00	25.10
Garrison Dr	Norman	1.36	0.30	22.30	0.92	0.13	0.00	0.00	30.95
Garth Brooks Trail	Yukon	4.14	0.01	0.19	4.10	0.03	0.00	0.00	0.67
Gaylord	Oklahoma City	2.71	0.07	2.49	2.62	0.02	0.00	0.00	3.15
General Pershing	Oklahoma City	6.23	0.72	11.64	4.34	1.13	0.03	0.00	29.77
Goddard Ave	Norman	2.48	0.00	0.03	2.06	0.42	0.00	0.00	16.75
Grand Blvd	Nichols Hills	4.81	0.63	13.03	3.65	0.53	0.00	0.00	23.50
Grand Blvd Link	Oklahoma City	5.04	0.18	3.52	4.59	0.27	0.00	0.00	8.31
Grand View Ave	Norman	1.71	0.36	20.76	1.20	0.15	0.00	0.00	28.34
Grassland Dr	Norman	0.54	0.01	2.08	0.50	0.03	0.00	0.00	6.88
Greenway Ave	Yukon	2.41	0.29	11.96	1.41	0.72	0.00	0.00	42.06
Greenway Link Trail	Oklahoma City	73.12	28.20	38.57	6.96	32.44	3.74	1.77	84.39
Greystone Ave	Oklahoma City	6.27	0.65	10.32	4.52	1.11	0.00	0.00	26.77
Griffin Park Path	Norman	4.16	0.61	14.64	2.00	1.50	0.05	0.00	46.81
Hafer Park Trail	Edmond	6.96	5.03	72.34	0.51	1.41	0.00	0.00	92.47
Harvey	Oklahoma City	5.13	0.64	12.39	4.43	0.07	0.00	0.00	13.48
Harvey Ave	Oklahoma City	0.46	0.00	0.00	0.46	0.00	0.00	0.00	
Havenbrook St	Norman	1.62	0.06	3.55	1.52	0.04	0.00	0.00	6.17
Hefner	Oklahoma City	1.58	0.03	1.91	1.06	0.49	0.00	0.00	19.04
Hefner Rd	Oklahoma City	54.20	0.42	0.77	49.88	3.80	0.11	0.00	7.81
Hefner/Overholser	Oklahoma City	26.49	1.40	5.27	14.80	10.21	0.05	0.04	26.12
Hemphill	Norman	1.54	0.01	0.95	1.52	0.01	0.00	0.00	1.44
High Meadows Dr	Norman	1.73	0.02	0.99	1.67	0.04	0.00	0.00	2.86
Highland Pkwy	Norman	1.44	0.18	12.88	1.12	0.13	0.00	0.00	21.09
Hollywood Ave	Norman	0.62	0.12	19.90	0.45	0.05	0.00	0.00	27.82

Trail Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Hospital Connector	Midwest City	1.40	0.16	11.43	1.16	0.06	0.02	0.00	16.76
Howard Ave.	Moore	1.42	0.17	11.86	1.13	0.12	0.00	0.00	20.14
Hudson	Oklahoma City	2.50	0.50	19.89	1.88	0.12	0.00	0.00	24.04
I-35 Frontage	Oklahoma City	45.83	0.36	0.78	40.28	4.92	0.28	0.00	11.98
I-35 FRONTAGE LINK	Edmond	1.91	0.04	2.33	0.18	1.25	0.43	0.00	90.48
I35 NB Frontage Linkage	Edmond	12.41	0.03	0.22	10.50	1.87	0.00	0.01	15.29
I35 SB Frontage Linkage	Edmond	14.51	0.03	0.19	12.74	1.73	0.00	0.01	11.80
I-35 Srv Rd	Oklahoma City	13.33	0.03	0.21	10.98	2.14	0.17	0.01	17.09
Imhoff Rd.	Norman	2.34	0.66	28.26	1.52	0.15	0.01	0.00	34.71
Independence	Oklahoma City	0.25	0.10	41.45	0.07	0.08	0.00	0.00	71.27
Independence Ave	Oklahoma City	22.03	3.17	14.37	16.18	2.68	0.00	0.00	26.03
Indian Hills Rd	Norman	33.61	0.71	2.11	25.44	7.43	0.03	0.00	22.99
Indiana Ave	Oklahoma City	8.30	1.11	13.39	5.76	1.36	0.07	0.00	29.93
Iowa St	Norman	3.43	0.55	15.91	2.64	0.24	0.00	0.00	21.91
J. Barnes Connector Upgrade	Midwest City	4.03	0.49	12.28	2.37	1.15	0.02	0.00	39.92
Jackson Dr	Norman	2.56	0.05	1.94	2.46	0.05	0.00	0.00	3.61
Janeway Ave	Moore	10.63	0.18	1.71	8.29	1.74	0.21	0.20	19.96
Janeway Ave.	Moore	0.23	0.01	6.38	0.22	0.00	0.00	0.00	6.70
Jenkins Ave	Norman	3.11	0.36	11.44	1.43	1.24	0.09	0.00	52.57
Jenkins Ave.	Norman	2.56	0.87	34.08	1.19	0.50	0.00	0.00	52.69
Joe Barnes	Midwest City	1.62	0.22	13.66	1.12	0.17	0.10	0.00	30.58
Joe Carter Ave	Oklahoma City	2.52	0.04	1.55	2.36	0.10	0.02	0.00	5.60
John Conrad Park	Midwest City	4.16	0.54	12.99	2.15	1.06	0.37	0.03	46.70
Kansas St	Norman	2.48	0.45	18.25	1.88	0.15	0.00	0.00	24.00
Katy Trail	Oklahoma City	32.44	4.79	14.75	16.61	10.34	0.71	0.00	42.63
Kelley Ave.	Oklahoma City	4.86	0.02	0.37	4.81	0.03	0.00	0.00	1.23
Kelly Linkage	Edmond	28.69	0.94	3.26	25.09	2.66	0.01	0.00	12.30
Kelly Park Trail	Edmond	1.49	0.26	17.53	0.04	1.18	0.00	0.00	95.92
Key Blvd	Midwest City	7.88	0.70	8.93	6.80	0.38	0.00	0.00	13.55
Kickingbird Linkage	Edmond	11.18	3.46	30.92	7.48	0.24	0.01	0.00	32.93
Kickingbird Powerline Trail	Edmond	8.45	1.73	20.46	1.01	5.55	0.16	0.00	34.11
Kiwanis Connector	Midwest City	3.40	0.84	24.72	1.14	1.41	0.01	0.00	66.03
Kiwani's Park Trail	Midwest City	2.33	0.54	23.38	0.89	0.87	0.02	0.00	61.38
Laird Ave	Oklahoma City	4.14	0.91	21.91	2.89	0.34	0.00	0.00	29.22
Lake Draper Trail	Oklahoma City	64.88	31.13	47.98	3.92	27.50	2.03	0.31	93.23
Lake Hefner	Oklahoma City	24.65	0.88	3.59	17.02	6.70	0.01	0.03	27.18
lake Hefner	Oklahoma City	3.18	0.06	1.83	2.67	0.45	0.00	0.00	15.33
Lake Hefner Trail	Oklahoma City	66.84	7.74	11.58	31.07	27.76	0.01	0.26	50.12
Lake Overholser	Oklahoma City	24.87	2.62	10.54	16.09	5.91	0.02	0.22	33.97

Trail Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Lake Overholser E	Oklahoma City	12.76	2.21	17.35	5.25	5.29	0.00	0.00	58.40
Lake Trail (Thompson)	Del City	6.42	1.67	25.95	1.15	3.58	0.00	0.02	81.69
Lakeshore Dr	Yukon	2.54	0.01	0.43	2.07	0.46	0.00	0.00	17.77
Lamp Post Road	Norman	1.94	0.14	7.26	1.59	0.20	0.00	0.00	17.42
Lawrence Ave	Norman	2.78	0.04	1.41	2.37	0.36	0.00	0.00	13.81
Legacy Trail	Norman	0.46	0.01	2.17	0.29	0.16	0.00	0.00	35.61
Legacy Trail - Duffy	Norman	0.92	0.06	6.53	0.63	0.22	0.00	0.00	29.74
Lightning Creek	Oklahoma City	14.32	1.43	9.97	10.47	2.39	0.03	0.00	26.53
Lightning Creek Trail	Oklahoma City	10.69	2.71	25.31	3.81	3.03	0.12	1.03	53.97
Lincoln Blvd	Oklahoma City	28.34	0.91	3.20	24.69	1.96	0.79	0.00	12.77
Lindsey	Norman	4.49	0.37	8.17	3.01	1.12	0.00	0.00	32.00
Linwood	Oklahoma City	1.46	0.01	0.71	1.44	0.01	0.00	0.00	1.15
Linwood Blvd	Oklahoma City	3.03	0.31	10.19	2.22	0.50	0.00	0.00	25.87
Lions Park Connector	Midwest City	1.12	0.02	1.50	0.64	0.42	0.05	0.00	31.33
Little River Pk	Moore	5.65	0.35	6.17	1.22	3.89	0.20	0.00	78.53
Littler Ave Linkage	Edmond	6.53	1.40	21.49	4.84	0.29	0.00	0.00	25.69
Lottie	Oklahoma City	7.57	0.57	7.55	6.45	0.54	0.00	0.00	14.27
Lyrewood LN	Oklahoma City	5.26	0.36	6.94	4.03	0.82	0.05	0.00	23.01
Macy St	Norman	0.65	0.27	41.43	0.34	0.04	0.00	0.00	47.62
Main St	Yukon	14.45	0.05	0.36	11.47	2.90	0.00	0.02	20.62
Main St	Oklahoma City	10.85	0.36	3.29	10.32	0.17	0.00	0.00	4.78
Main St	Moore	4.84	0.28	5.87	3.95	0.59	0.01	0.00	18.57
Main St.	Moore	4.87	0.13	2.71	4.69	0.05	0.00	0.00	3.64
Main Street Linkage	Edmond	5.69	0.48	8.43	4.98	0.23	0.00	0.00	11.38
Maple Ave	Norman	2.48	0.60	24.40	1.61	0.27	0.00	0.00	34.69
May Ave	Oklahoma City	36.23	1.02	2.82	33.09	2.10	0.03	0.00	8.45
McGee Dr	Norman	0.62	0.14	22.16	0.48	0.00	0.00	0.00	22.64
McGee Dr.	Norman	5.21	0.11	2.11	4.90	0.20	0.00	0.00	5.39
McKee Ave	Oklahoma City	14.42	0.70	4.83	11.01	2.70	0.01	0.00	18.63
McKee Blvd	Oklahoma City	6.86	1.14	16.64	5.00	0.72	0.00	0.00	26.93
McKinley	Oklahoma City	7.97	0.35	4.34	6.61	1.00	0.02	0.00	16.03
Meadow Lakes Park Linkage	Edmond	3.52	0.55	15.77	2.78	0.18	0.00	0.00	20.32
Melrose Dr	Norman	0.20	0.01	2.68	0.19	0.00	0.00	0.00	4.26
Merkle Dr	Norman	0.24	0.02	7.93	0.15	0.07	0.00	0.00	37.20
Mid-America Trail	Midwest City	0.76	0.25	33.67	0.04	0.46	0.00	0.00	94.70
Mimosa Dr	Norman	2.44	0.34	14.02	1.87	0.23	0.00	0.00	24.50
Mitch Park/Coffee Creek Trail	Edmond	32.54	8.48	26.07	9.36	14.61	0.00	0.08	66.55
MLK	Oklahoma City	23.91	0.42	1.77	21.51	1.95	0.02	0.00	9.63
Moore Central Park	Moore	3.87	0.01	0.13	1.93	0.35	1.42	0.16	45.63

Trail Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Moore Riverwalk	Moore	3.00	0.22	7.47	1.54	0.80	0.05	0.38	35.58
Morren Dr	Norman	0.45	0.02	3.32	0.42	0.02	0.00	0.00	6.49
Mustang Rd	Oklahoma City	29.17	0.00	0.00	28.99	0.18	0.00	0.00	0.80
MWC Lakes	Midwest City	9.63	4.28	44.45	0.74	4.38	0.20	0.03	62.40
N 11th St	Yukon	0.96	0.19	19.41	0.39	0.38	0.00	0.00	58.98
N 12th St.	Moore	12.00	0.09	0.73	11.78	0.13	0.00	0.00	1.77
N 3rd St.	Moore	1.19	0.14	12.08	0.86	0.19	0.00	0.00	28.04
N 5th St.	Moore	7.12	0.11	1.49	6.73	0.27	0.02	0.00	5.33
N Ann Arbor Ave	Oklahoma City	14.56	1.45	9.93	11.87	1.24	0.00	0.00	18.13
N Berry Road	Norman	6.40	0.38	5.95	5.19	0.84	0.00	0.00	18.80
N Blackwelder Ave	Oklahoma City	7.60	1.88	24.68	4.86	0.87	0.00	0.00	35.51
N Boulevard Linkage	Edmond	2.35	0.29	12.35	1.89	0.17	0.00	0.00	17.67
N Broadway Linkage	Edmond	7.55	0.21	2.80	6.70	0.64	0.00	0.00	10.76
N Bryant Ave	Oklahoma City	2.42	0.01	0.26	1.95	0.46	0.00	0.00	18.70
N Carter Ave	Norman	2.34	0.31	13.18	1.92	0.11	0.00	0.00	16.36
N Classen Blvd	Oklahoma City	3.00	0.20	6.79	1.84	0.96	0.00	0.00	39.05
N Eastern Ave	Oklahoma City	10.20	0.02	0.17	9.82	0.36	0.00	0.00	3.55
N Eastern Ave	Oklahoma City	11.71	0.27	2.33	11.43	0.00	0.00	0.00	
N Front St	Norman	3.24	0.52	16.04	1.45	1.27	0.00	0.00	55.23
N Grand Trail	Oklahoma City	16.68	1.01	6.04	13.61	2.06	0.00	0.00	18.16
N Jones Ave	Norman	1.98	0.44	22.28	0.92	0.62	0.00	0.00	53.13
N Lincoln Blvd	Oklahoma City	19.65	1.10	5.60	16.49	2.06	0.00	0.01	16.30
N McKinley Ave	Oklahoma City	3.77	0.34	8.96	3.09	0.35	0.00	0.00	17.42
N Meridian Ave	Oklahoma City	18.39	1.25	6.79	11.88	4.34	0.92	0.00	35.14
N Peters Ave	Norman	3.79	0.44	11.49	3.24	0.12	0.00	0.00	14.73
N Pickard Ave	Norman	1.25	0.05	4.34	1.05	0.15	0.00	0.00	14.71
N Ponca Ave	Norman	0.89	0.09	10.66	0.74	0.05	0.00	0.00	16.09
N Porter Ave	Norman	0.45	0.00	0.00	0.45	0.00	0.00	0.00	
N Portland Ave	Oklahoma City	10.01	0.83	8.31	8.58	0.60	0.00	0.00	14.00
N Santa Fe Ave Linkage	Edmond	9.39	1.24	13.25	7.21	0.94	0.00	0.00	21.59
N Sherry Ave	Norman	2.82	0.84	29.84	1.70	0.27	0.00	0.00	38.90
N University Blvd	Norman	2.37	0.31	13.02	1.90	0.16	0.00	0.00	18.90
N Villa Ave	Oklahoma City	12.77	1.30	10.21	10.64	0.80	0.03	0.00	16.43
N Walker Ave	Oklahoma City	3.32	0.66	20.01	2.50	0.14	0.01	0.00	23.70
N Walnut Ave	Oklahoma City	2.55	0.00	0.08	2.28	0.25	0.01	0.00	9.92
N Youngs/Villa Ave	Oklahoma City	17.01	2.92	17.18	11.86	2.23	0.00	0.00	29.50
N. 36th St.	Oklahoma City	6.08	0.21	3.53	3.80	2.06	0.00	0.00	37.59
N. 39th St.	Oklahoma City	8.45	1.16	13.69	6.78	0.51	0.00	0.00	19.49
NE 10th St	Oklahoma City	9.64	0.09	0.89	9.10	0.45	0.00	0.00	5.60
NE 12th St	Moore	4.80	0.03	0.72	4.64	0.12	0.00	0.00	3.44

Trail Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
NE 12th St.	Moore	4.87	0.04	0.79	3.85	0.97	0.01	0.00	20.71
NE 16th St	Oklahoma City	7.44	0.49	6.53	5.73	1.23	0.00	0.00	22.88
NE 21st St	Oklahoma City	0.22	0.02	9.24	0.17	0.03	0.00	0.00	20.64
NE 23rd St	Midwest City	2.33	0.14	6.21	0.94	1.24	0.01	0.00	60.48
NE 36th St	Oklahoma City	9.45	0.21	2.22	9.02	0.22	0.00	0.00	4.30
NE 4th St	Oklahoma City	6.13	0.13	2.16	5.46	0.53	0.00	0.00	10.42
NE 50th St	Oklahoma City	10.74	0.33	3.04	10.35	0.04	0.03	0.00	3.75
NE 6th St	Oklahoma City	3.82	0.00	0.05	3.82	0.00	0.00	0.00	0.12
NE Hefner Rd	Oklahoma City	33.65	3.76	11.17	23.42	6.30	0.12	0.05	26.59
Newcastle Rd	Oklahoma City	58.05	2.73	4.70	41.43	13.66	0.24	0.00	28.43
Newman St	Norman	0.24	0.00	1.95	0.23	0.01	0.00	0.00	5.45
Normandy Park Dr	Norman	0.54	0.15	27.29	0.31	0.08	0.00	0.00	42.51
North Boulevard Trail	Edmond	3.16	0.41	12.86	1.63	0.90	0.23	0.00	29.27
North Canadian Connector	Midwest City	3.07	0.40	13.00	1.59	1.02	0.06	0.00	49.23
North Coffee Creek Trib.Trail	Edmond	13.18	9.16	69.46	0.92	2.35	0.70	0.06	92.44
North Spring Creek Trail	Edmond	7.29	3.31	45.41	1.33	2.43	0.21	0.01	81.66
Northampton Dr	Norman	0.41	0.02	5.21	0.36	0.04	0.00	0.00	13.41
Northcliff Ave	Norman	0.88	0.04	4.01	0.80	0.05	0.00	0.00	9.25
NW 10th St	Oklahoma City	14.57	1.62	11.09	12.39	0.50	0.06	0.00	14.47
NW 10th St	Yukon	8.91	0.00	0.00	8.79	0.08	0.04	0.00	1.33
NW 12th St	Oklahoma City	0.87	0.05	5.70	0.71	0.12	0.00	0.00	17.67
NW 16th St	Oklahoma City	26.06	4.02	15.42	20.86	1.17	0.02	0.00	19.78
NW 22nd St	Oklahoma City	7.13	1.02	14.26	5.62	0.49	0.00	0.00	20.57
NW 23rd St	Oklahoma City	14.47	0.28	1.95	11.63	2.49	0.07	0.00	19.79
NW 23rd St.	Moore	2.50	0.17	6.77	2.04	0.29	0.00	0.00	17.89
NW 24th St	Oklahoma City	6.20	0.83	13.44	4.85	0.39	0.13	0.00	20.81
NW 27th St	Moore	14.47	0.25	1.76	13.06	1.15	0.00	0.00	9.27
NW 27th St	Oklahoma City	5.69	0.40	7.03	4.73	0.56	0.00	0.00	16.59
NW 35th St	Oklahoma City	1.90	0.08	4.17	1.70	0.12	0.00	0.00	10.25
NW 36th Ave	Oklahoma City	4.79	0.45	9.33	3.76	0.58	0.00	0.00	20.96
NW 36th St	Oklahoma City	17.42	1.63	9.38	14.15	1.64	0.00	0.00	18.65
NW 36th St.	Bethany	11.05	0.37	3.35	9.98	0.70	0.00	0.00	9.67
NW 50th St	Oklahoma City	16.61	0.58	3.47	15.14	0.89	0.00	0.00	8.55
NW 65th St	Oklahoma City	3.71	0.52	13.95	2.59	0.60	0.00	0.00	29.90
NW 6th St	Oklahoma City	0.92	0.00	0.29	0.91	0.01	0.00	0.00	0.70
NW Grand Blvd.	Nichols Hills	4.57	1.91	41.87	0.51	2.14	0.00	0.00	88.95
NW Hefner Rd	Oklahoma City	0.93	0.00	0.00	0.93	0.00	0.00	0.00	
Oak Tree Ave	Norman	3.38	0.29	8.56	2.93	0.16	0.00	0.00	12.88
Oakhurst Ave	Norman	5.11	0.17	3.28	4.77	0.17	0.00	0.00	6.11

Trail Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
OC Trail	Oklahoma City	10.96	1.16	10.58	1.85	7.56	0.02	0.38	67.70
Oklahoma Ave	Oklahoma City	2.03	0.01	0.48	2.01	0.01	0.00	0.00	1.07
Oklahoma Ave	Norman	1.51	0.29	19.23	1.08	0.14	0.00	0.00	28.64
Oklahoma River	Oklahoma City	0.07	0.00	1.49	0.06	0.00	0.00	0.00	8.55
Oklahoma River RR Bridge	Oklahoma City	0.88	0.05	5.49	0.29	0.33	0.00	0.21	42.64
Oklahoma River Trail	Oklahoma City	64.68	2.90	4.49	31.65	28.14	1.27	0.71	49.80
Palmer Loop	Midwest City	14.63	2.77	18.95	7.22	4.50	0.13	0.00	48.97
Parmele Pk	Moore	1.32	0.01	0.62	0.28	0.77	0.01	0.25	59.39
Pendleton Dr	Norman	2.25	0.06	2.86	2.06	0.13	0.00	0.00	8.27
Phase 4	Yukon	13.95	0.14	0.97	12.78	1.03	0.00	0.00	8.33
Phillips	Oklahoma City	2.11	0.86	40.80	0.92	0.32	0.01	0.00	55.75
Piedmont Rd.	Yukon	1.00	0.00	0.00	0.88	0.12	0.00	0.00	13.11
Portland	Oklahoma City	0.01	0.00	0.00	0.01	0.00	0.00	0.00	
Portland Ave	Oklahoma City	37.86	0.62	1.63	34.46	2.75	0.03	0.00	8.87
Prospect	Oklahoma City	15.52	1.94	12.49	10.16	3.42	0.00	0.00	33.91
Quail Dr	Norman	2.80	0.15	5.39	2.48	0.17	0.00	0.00	10.87
Quinlan/Holoway Connector	Midwest City	2.91	1.11	38.23	0.63	1.12	0.00	0.05	76.25
Rail Trail	Oklahoma City	8.62	2.08	24.15	3.98	2.42	0.15	0.00	53.66
Rail with Trail	Midwest City	5.13	0.21	4.16	0.97	3.17	0.78	0.00	81.12
Rail with Trail phase 2	Midwest City	1.58	0.08	4.77	0.15	1.36	0.00	0.00	91.11
Rail with Trail phase 3	Midwest City	2.87	0.04	1.29	0.97	1.84	0.02	0.00	65.97
Rail with Trail phase 4	Midwest City	2.41	0.28	11.79	0.44	1.63	0.05	0.00	82.00
Rambling Oaks Dr	Norman	5.05	0.24	4.80	4.52	0.28	0.00	0.00	10.06
Ranchwood Blvd	Yukon	6.27	0.13	2.11	4.57	1.57	0.00	0.00	27.09
Rankin St Linkage	Edmond	8.58	1.17	13.63	7.01	0.41	0.00	0.00	17.80
Ray Trent Park Extension	Del City	5.40	0.71	13.22	1.08	3.60	0.00	0.01	80.05
Ray Trent Park Trail	Del City	6.51	2.83	43.54	0.52	3.00	0.01	0.14	89.86
Reed	Midwest City	0.60	0.00	0.16	0.58	0.02	0.00	0.00	2.76
Reed Extension	Midwest City	2.86	0.15	5.09	0.96	1.75	0.01	0.00	66.47
Reno	Midwest City	12.93	0.85	6.56	10.36	1.69	0.04	0.00	19.46
Reno Ave	Oklahoma City	29.65	0.37	1.26	27.60	1.66	0.01	0.01	6.74
Reno Ave	Del City	1.23	0.00	0.00	1.08	0.15	0.00	0.00	11.63
Riverwalk Trail	Moore	1.46	0.24	16.43	0.23	0.85	0.00	0.14	74.45
Robinson	Oklahoma City	0.44	0.00	0.00	0.44	0.00	0.00	0.00	
Robinson Ave	Oklahoma City	30.14	4.33	14.37	24.21	1.60	0.00	0.00	19.35
Robinson St. Trail	Norman	8.47	0.92	10.89	2.49	5.04	0.03	0.00	51.79
Rock Creek Rd.	Norman	8.72	0.01	0.06	5.39	3.25	0.07	0.00	37.92
Rockwell Ave	Oklahoma City	4.05	0.59	14.64	1.84	1.59	0.03	0.00	54.52
Roff Ave	Oklahoma City	6.41	1.22	19.00	4.13	1.05	0.01	0.00	35.16

Trail Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Rolling Lane	Midwest City	6.17	0.73	11.85	5.24	0.19	0.00	0.00	14.72
Rose State Connector	Midwest City	10.32	1.38	13.38	7.63	1.31	0.00	0.00	26.11
Ross School Trail	Edmond	3.50	1.41	40.36	0.16	1.92	0.00	0.00	95.74
RR Trail	Yukon	12.15	1.82	14.97	7.16	3.17	0.00	0.00	40.69
RWT East Extension	Midwest City	4.61	1.60	34.72	0.08	2.73	0.20	0.00	81.57
S 19th St.	Moore	19.14	0.11	0.56	17.29	1.41	0.33	0.00	10.01
S 34th St.	Moore	14.57	0.21	1.42	11.48	2.86	0.02	0.00	20.98
S 4th St.	Moore	19.15	0.03	0.16	18.97	0.15	0.00	0.00	0.94
S Agnew Ave	Oklahoma City	7.74	0.01	0.12	7.73	0.00	0.00	0.00	0.19
S Berry Road	Norman	2.94	0.23	7.79	2.57	0.15	0.00	0.00	12.49
S Blackwelder Ave	Oklahoma City	7.28	0.46	6.37	5.44	1.38	0.00	0.00	24.91
S Council Rd	Oklahoma City	25.82	0.13	0.52	24.08	1.61	0.00	0.00	6.43
S EASTERN AVE	Oklahoma City	10.79	0.00	0.00	10.54	0.25	0.00	0.00	2.41
S Grand Blvd Trail	Oklahoma City	50.58	5.50	10.88	23.05	21.60	0.41	0.02	54.02
S High Ave	Oklahoma City	7.28	0.30	4.09	6.46	0.47	0.06	0.00	11.43
S Jenkins Ave	Norman	1.77	0.13	7.28	1.58	0.06	0.00	0.00	10.83
S Jones Ave	Norman	2.18	0.53	24.07	0.82	0.84	0.00	0.00	62.06
S Pickard Ave	Norman	9.57	3.84	40.16	5.33	0.40	0.00	0.00	43.75
S Ponca Ave	Norman	3.73	1.01	27.06	2.69	0.03	0.00	0.00	27.68
S Sherry Ave	Norman	1.04	0.18	17.73	0.81	0.04	0.00	0.00	21.06
S University Blvd	Norman	2.72	0.49	18.09	2.01	0.22	0.00	0.00	25.17
S Villa Ave	Oklahoma City	14.79	2.03	13.76	9.32	3.43	0.01	0.00	35.39
S Webster Ave	Norman	0.70	0.05	7.33	0.61	0.04	0.00	0.00	12.98
Sage Ave	Oklahoma City	0.60	0.09	14.62	0.29	0.21	0.00	0.00	44.60
Sandpiper Lane	Norman	2.24	0.07	3.30	2.13	0.04	0.00	0.00	4.62
Santa Fe Ave	Oklahoma City	5.71	0.47	8.23	4.01	1.17	0.06	0.00	29.56
Santa Fe Ave.	Moore	23.97	0.37	1.54	22.28	1.32	0.01	0.00	6.94
Santa Fe Ave.	Oklahoma City	9.71	0.00	0.00	9.66	0.05	0.00	0.00	0.46
Santa Fe HS Linkage	Edmond	13.54	1.43	10.53	11.81	0.30	0.00	0.00	12.75
Santa Fe Linkage	Edmond	28.42	0.86	3.03	25.55	1.97	0.03	0.00	10.08
Schooner Dr	Norman	0.39	0.00	1.26	0.36	0.02	0.00	0.00	7.75
SE 104th St	Oklahoma City	21.13	1.62	7.67	16.91	2.38	0.21	0.00	19.59
SE 15th St	Oklahoma City	4.64	0.06	1.20	4.56	0.02	0.00	0.00	1.64
SE 29th St	Midwest City	4.74	0.06	1.18	4.23	0.46	0.00	0.00	10.59
SE 34th St	Moore	9.68	0.17	1.71	7.94	1.54	0.03	0.00	17.44
SE 44th St	Oklahoma City	7.25	0.03	0.41	7.21	0.01	0.00	0.00	0.51
Sequoyah Middle School Linkage	Edmond	9.63	1.14	11.84	8.22	0.27	0.00	0.00	14.30
Service Rd	Oklahoma City	10.32	2.69	26.08	3.43	3.46	0.74	0.00	66.80
Shartel	Oklahoma City	11.99	3.13	26.15	7.86	0.99	0.00	0.00	34.15
Shartel Ave	Oklahoma City	4.63	0.52	11.16	3.72	0.38	0.01	0.00	19.15

Trail Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Sheridan Ave	Oklahoma City	1.25	0.00	0.08	1.24	0.00	0.00	0.00	0.54
Sheridan	Oklahoma City	0.86	0.04	4.98	0.79	0.04	0.00	0.00	10.61
Sheridan Ave	Oklahoma City	3.17	0.04	1.15	3.13	0.01	0.00	0.00	1.29
Sheridan Ave.	Oklahoma City	1.17	0.00	0.17	1.17	0.00	0.00	0.00	
Shiloh Dr	Norman	2.26	0.06	2.49	2.13	0.08	0.00	0.00	5.13
Shortgrass Rd Linkage	Edmond	7.92	0.75	9.47	6.85	0.33	0.00	0.00	13.25
Silver Creek	Midwest City	11.31	4.38	38.73	4.46	2.13	0.34	0.00	60.31
Silver Creek Connector	Midwest City	10.11	3.53	34.91	4.49	2.09	0.00	0.00	55.03
Silver Meadows	Midwest City	8.63	0.82	9.56	7.51	0.29	0.00	0.00	12.73
Smiling Hill Trail	Edmond	3.43	0.22	6.43	2.89	0.33	0.00	0.00	15.83
Smiling Hills Linkage	Edmond	1.25	0.17	13.95	0.81	0.27	0.00	0.00	32.84
Soldier Creek	Midwest City	18.16	9.13	50.27	3.87	4.84	0.09	0.23	77.14
Soldier Creek Black Trail	Midwest City	1.38	0.88	63.89	0.00	0.48	0.01	0.00	99.84
Soldier Creek Blue Loop	Midwest City	6.49	4.80	73.96	0.01	1.55	0.13	0.00	99.89
Soldier Creek Extension	Midwest City	3.73	3.38	90.46	0.04	0.31	0.00	0.00	98.73
Soldier Creek Green Loop	Midwest City	2.72	0.80	29.38	0.10	1.30	0.53	0.00	96.42
Soldier Creek Lolly Track	Midwest City	1.21	1.19	97.84	0.01	0.01	0.00	0.00	98.78
Soldier Creek Trail	Midwest City	2.74	1.18	43.19	0.02	1.42	0.04	0.08	96.35
Sooner Rd	Del City	2.44	0.00	0.00	2.44	0.00	0.00	0.00	
Sooner Road Linkage	Edmond	19.12	0.76	3.96	15.89	2.39	0.08	0.00	16.62
South Coffee Creek Trib. Trail	Edmond	8.38	5.25	62.66	0.36	2.33	0.44	0.00	91.86
Spencer	Midwest City	4.85	0.46	9.58	3.38	1.00	0.00	0.00	29.85
Spring Creek Trail	Edmond	12.01	7.04	58.59	2.14	2.16	0.65	0.02	81.45
Spring Lake	Oklahoma City	5.58	0.44	7.82	4.47	0.68	0.00	0.00	19.29
Springlake	Oklahoma City	4.57	0.42	9.08	2.81	1.34	0.00	0.00	38.09
Stanley Draper Dr	Oklahoma City	56.03	0.99	1.77	47.43	7.06	0.55	0.00	14.75
Stanley Draper Dre	Oklahoma City	0.05	0.00	0.00	0.04	0.01	0.00	0.00	26.09
State Hwy 9	Norman	8.02	0.03	0.37	3.76	4.22	0.01	0.00	53.11
Statford	Oklahoma City	8.23	0.48	5.89	6.43	1.31	0.00	0.00	21.66
Stiles	Oklahoma City	1.75	0.03	1.83	1.72	0.00	0.00	0.00	
Stinson St.	Norman	0.37	0.18	48.73	0.17	0.02	0.00	0.00	52.60
Stonewall	Oklahoma City	2.09	0.51	24.58	1.42	0.16	0.00	0.00	31.53
Stubbeman Ave	Norman	3.45	0.03	0.76	3.38	0.04	0.00	0.00	1.64
Sundown Dr	Norman	0.84	0.23	27.40	0.54	0.06	0.00	0.00	34.56
Sunnylane Rd.	Moore	14.46	0.51	3.50	12.54	1.40	0.01	0.00	13.17
Sunrise St	Norman	1.86	0.18	9.88	1.60	0.08	0.00	0.00	14.16
SW 11th St	Moore	2.66	0.00	0.07	2.49	0.14	0.02	0.00	5.82

Trail Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
SW 15th St	Oklahoma City	8.15	0.00	0.00	7.99	0.16	0.00	0.00	1.81
SW 25th St	Oklahoma City	20.96	1.66	7.92	16.04	2.93	0.33	0.00	23.03
SW 29th / Portland	Oklahoma City	15.88	0.31	1.97	11.24	4.28	0.05	0.00	28.33
SW 49th St	Oklahoma City	1.17	0.14	11.90	0.78	0.25	0.01	0.00	32.13
SW 51st St	Oklahoma City	14.33	1.91	13.30	8.72	3.70	0.00	0.00	37.37
SW 82nd St	Oklahoma City	10.68	0.82	7.65	8.04	1.81	0.01	0.01	23.83
Telephone Rd	Moore	7.69	0.35	4.58	7.30	0.04	0.00	0.00	5.01
Telephone Rd.	Moore	7.20	0.02	0.26	6.70	0.48	0.00	0.00	6.44
Terrace Pl	Norman	0.34	0.16	48.03	0.17	0.01	0.00	0.00	49.64
Thatcher Street Linkage	Edmond	3.16	0.57	18.16	2.19	0.24	0.14	0.00	30.31
Thomas Trail	Edmond	2.72	0.54	19.74	0.84	1.34	0.00	0.00	68.72
Thompkins Ave.	Bethany	7.25	1.17	16.10	4.67	1.42	0.00	0.00	35.50
Timberdell Path	Norman	2.37	1.08	45.62	0.54	0.75	0.00	0.00	76.62
Tinker/Draper Trail	Oklahoma City	19.30	0.21	1.11	7.63	11.19	0.27	0.00	60.60
Tinker/Draper Trail	Del City	4.83	0.14	2.97	1.42	3.26	0.00	0.00	70.98
Trib 4	Midwest City	10.06	5.61	55.74	3.44	0.89	0.12	0.01	65.49
Trib 4 Extension	Midwest City	0.30	0.03	8.82	0.00	0.27	0.00	0.00	99.92
Tulsa Ave	Oklahoma City	14.49	1.39	9.57	11.78	1.32	0.00	0.00	18.62
UCO Linkage	Edmond	14.31	0.89	6.24	12.70	0.71	0.00	0.00	11.07
UNKNOWN	Midwest City	5.76	0.49	8.57	2.18	3.02	0.02	0.05	61.21
UNKNOWN	Oklahoma City	3.38	0.46	13.55	2.32	0.59	0.01	0.00	30.47
Vand/Holly	Yukon	3.25	0.00	0.00	3.17	0.08	0.00	0.00	2.33
Vandament Ave	Yukon	4.73	0.06	1.28	4.51	0.16	0.00	0.00	4.55
Venice Ave	Oklahoma City	3.17	1.36	42.82	1.35	0.46	0.00	0.00	56.84
Vicksburg Ave	Norman	3.45	0.04	1.25	3.18	0.12	0.11	0.00	7.62
Villa Ave	Oklahoma City	0.43	0.00	0.00	0.43	0.00	0.00	0.00	
Village Parkway Linkage	Edmond	2.93	0.12	4.21	2.49	0.30	0.01	0.00	14.60
Vine St	Norman	1.03	0.28	27.65	0.73	0.01	0.00	0.00	28.34
W Acres St	Norman	3.41	0.38	11.06	2.97	0.05	0.00	0.00	13.47
W Boyd St	Norman	0.29	0.00	0.08	0.29	0.00	0.00	0.00	0.34
W Brooks St	Norman	9.20	1.88	20.43	6.94	0.38	0.00	0.00	24.36
W Duffy St	Norman	0.37	0.01	2.44	0.36	0.00	0.00	0.00	2.51
W I-44 Trail	Oklahoma City	38.99	2.85	7.31	22.60	12.08	1.45	0.00	41.88
W Imhoff Road	Norman	3.91	0.20	4.99	3.60	0.12	0.00	0.00	7.35
W Lindsey St	Norman	12.38	0.07	0.59	11.44	0.18	0.68	0.00	7.39
W Main St	Norman	8.01	0.05	0.58	7.82	0.15	0.00	0.00	2.32
W RIVER TRAIL	Oklahoma City	37.06	17.11	46.17	5.09	13.68	0.41	0.78	84.20
W Robinson St	Norman	7.25	0.00	0.01	7.25	0.01	0.00	0.00	0.05
W Rock Creek Road	Norman	10.12	0.06	0.58	9.52	0.53	0.00	0.00	6.06
W State Hwy 9	Norman	1.71	0.00	0.00	0.74	0.97	0.00	0.00	56.71

Trail Name	Municipality	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
W Symmes St	Norman	3.90	0.93	23.91	2.89	0.08	0.00	0.00	25.59
W Tecumseh Road	Norman	19.06	0.01	0.06	18.88	0.12	0.04	0.00	1.04
W Timberdell Road	Norman	1.16	0.37	31.98	0.76	0.03	0.00	0.00	34.73
Walker	Oklahoma City	2.64	0.03	1.16	2.60	0.02	0.00	0.00	1.94
Walker Ave	Oklahoma City	46.74	3.51	7.52	41.80	1.41	0.03	0.00	10.44
Walnut	Oklahoma City	2.45	0.01	0.32	2.42	0.02	0.00	0.00	0.96
Waverly McKinley	Oklahoma City	10.25	1.51	14.69	6.71	2.03	0.00	0.00	34.09
West 10th Street	Midwest City	12.06	0.00	0.01	12.05	0.01	0.00	0.00	0.07
West 15th	Midwest City	9.72	0.04	0.45	9.23	0.08	0.36	0.00	5.06
Western	Oklahoma City	16.53	0.43	2.62	15.56	0.53	0.01	0.00	5.61
Western Ave	Oklahoma City	22.20	0.39	1.77	20.90	0.90	0.01	0.00	5.57
Western View Dr	Norman	1.63	0.04	2.23	1.55	0.04	0.00	0.00	4.77
Westheimer Dr	Norman	2.51	0.01	0.56	2.11	0.39	0.00	0.00	15.90
Westport Dr	Norman	0.98	0.02	1.61	0.94	0.03	0.00	0.00	4.38
Westside Dr	Norman	0.27	0.05	16.76	0.16	0.06	0.00	0.00	39.65
Westwood Ave	Oklahoma City	2.91	1.03	35.54	1.53	0.35	0.00	0.00	46.87
Westwood Dr	Norman	1.13	0.17	14.61	0.93	0.04	0.00	0.00	18.01
White St	Norman	0.49	0.06	12.19	0.43	0.00	0.00	0.00	12.34
Wild Horse Park Trail	Mustang	7.70	0.49	6.32	2.51	4.25	0.41	0.05	60.73
Wiley Post	Oklahoma City	0.82	0.15	18.28	0.23	0.45	0.00	0.00	73.05
Will Rogers Trail	Oklahoma City	17.39	0.83	4.76	13.39	2.98	0.19	0.00	23.06
Willow Branch Road	Norman	1.74	0.07	4.29	1.60	0.06	0.00	0.00	7.36
Wilshire Blvd	Oklahoma City	6.17	0.52	8.37	1.57	3.98	0.10	0.00	74.43
Woodcreek	Norman	1.86	0.03	1.64	1.79	0.04	0.00	0.00	3.41
Yukon Prkwy	Yukon	9.48	0.15	1.54	8.47	0.87	0.00	0.00	10.96
All Trails Total		**4,538.17**	**572.68**	**12.62%**	**3,124.53**	**785.93**	**40.71**	**14.32**	**29.74%**

Table 32: Tree Canopy by Oklahoma City Neighborhood Associations

Neighborhood Association	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
10 18 Neighborhood Watch Assoc	200.05	92.84	46.41	61.58	44.84	0.79	0.00	68.91
38th Street Preservation Assn	39.65	12.27	30.95	20.83	6.55	0.00	0.00	47.03
39th Street	4.47	0.02	0.34	3.10	1.35	0.00	0.00	29.28
Airline NA	436.23	111.38	25.53	213.22	111.52	0.11	0.00	50.77
Airpark NA	323.29	91.59	28.33	149.38	80.90	1.06	0.36	53.37
Akers Park NWA	1,166.90	190.26	16.30	420.44	471.54	53.21	31.46	61.21
Apple Valley HOA	111.97	67.09	59.91	19.22	25.65	0.01	0.00	82.59
Asian District	35.44	2.20	6.21	28.97	3.40	0.87	0.00	18.09

Neighborhood Association	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Auburn Meadows HOA	7.00	1.28	18.25	4.39	1.34	0.00	0.00	36.82
Aurora NA	80.66	21.70	26.90	44.22	14.55	0.20	0.00	44.62
Autumn Leaves HOA	61.25	15.65	25.55	30.87	12.13	2.04	0.55	48.58
Avalon Woods HOA	5.49	2.25	41.01	2.58	0.66	0.00	0.00	52.66
Bartlett NA	631.38	385.65	61.08	51.22	188.16	3.46	2.90	90.36
Belle Isle View/50 Penn West NA	19.06	4.59	24.09	9.92	4.55	0.00	0.00	47.56
Belle Isle West	128.54	35.84	27.88	68.56	24.11	0.04	0.00	46.25
Bent Wood Creek Homeowners Association	119.79	22.52	18.80	38.98	51.72	6.45	0.11	67.25
Benttree HOA	10.87	1.04	9.54	8.58	1.26	0.00	0.00	20.66
Blue Quail Ridge HOA	299.21	11.89	3.98	183.89	79.99	21.24	2.20	37.69
Blue Stem HOA	109.85	45.88	41.77	46.14	13.26	0.00	4.56	53.31
Bluff Creek NA	143.01	31.75	22.20	78.05	33.19	0.01	0.00	45.04
Braden Park	20.39	0.70	3.45	3.49	16.20	0.00	0.00	82.51
Bradford Gardens Corp HOA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brandywine NA	2,116.78	341.93	16.15	625.86	969.59	120.75	58.65	62.28
Brasswood HOA	322.91	68.98	21.36	124.97	127.31	0.50	1.16	60.61
Brenton Hills HOA	210.86	69.22	32.83	53.77	60.94	21.94	5.00	72.03
Briarcreek NA	146.50	41.27	28.17	58.72	35.74	0.08	10.69	52.36
Briarwood Estates NA	55.56	35.54	63.97	13.62	6.39	0.01	0.00	75.07
Bricktown Assn	167.59	10.07	6.01	126.01	13.55	16.74	1.23	22.04
Brighton Place HOA	79.84	4.38	5.48	50.35	24.75	0.02	0.33	36.24
Brighton Pointe	98.47	8.71	8.85	34.87	49.09	4.26	1.53	60.46
Britton Court Yard Apt	139.35	26.55	19.05	84.18	28.47	0.04	0.11	39.29
Brookwood NA	306.37	56.28	18.37	173.82	74.62	0.75	0.90	42.55
Burendale Hts North	151.06	97.17	64.32	16.66	36.84	0.03	0.37	88.62
Bush Hills NA	139.93	64.97	46.43	34.21	36.66	0.40	3.69	72.55
Cambridge Park POA	44.93	2.36	5.25	32.11	10.42	0.04	0.00	28.49
Camden Place HOA	21.06	2.44	11.57	12.32	6.30	0.00	0.00	41.23
Camelot Estates NA	121.49	20.29	16.70	61.28	39.92	0.00	0.00	40.92
Camelot NA	169.02	32.41	19.18	90.56	46.05	0.00	0.00	46.13
Canyon North NA	159.29	48.52	30.46	79.08	31.64	0.06	0.00	49.91
Capitol Hill NA	817.86	181.54	22.20	348.02	246.66	24.60	17.03	54.04
Capitol View NA	303.57	52.60	17.33	132.41	117.09	1.21	0.26	56.16
Carverdale NA	68.76	28.26	41.09	24.57	15.91	0.03	0.00	64.04
CEENA	636.03	142.75	22.44	296.66	192.84	3.21	0.57	52.36
Central Park NA	160.15	53.22	33.23	75.39	31.42	0.12	0.00	50.85
Chadbrooke North NA	32.76	7.26	22.17	15.03	10.47	0.00	0.00	53.74

Neighborhood Association	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Chisholm Creek College Park NA	604.17	70.58	11.68	201.72	326.71	4.97	0.18	66.53
Chisholm Village I HOA	19.08	0.13	0.68	6.26	12.69	0.00	0.00	67.24
Chisholm Village II HOA	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Classens North Highland Parked NA	49.48	12.23	24.72	21.97	14.77	0.50	0.00	55.06
Classen-Ten-Penn NA	284.69	90.30	31.72	144.98	47.32	2.09	0.00	48.46
Classic Corbin Park NA	160.69	36.17	22.51	80.57	43.27	0.67	0.00	49.45
Cleveland UCD	163.21	41.11	25.19	80.80	38.30	3.00	0.00	45.05
Cloverleaf NA	431.94	71.59	16.57	200.94	153.52	5.58	0.31	53.24
Cobblestone HOA	78.37	21.00	26.79	33.47	15.91	0.03	7.97	46.75
College Hill NA	90.85	18.40	20.25	49.69	22.12	0.64	0.00	39.21
Copper Creek NA	322.48	31.43	9.75	181.99	100.02	6.54	2.50	42.58
Cottonwood Farm	66.68	1.06	1.58	39.10	24.80	1.73	0.00	40.00
Council Heights NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Council Oaks NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Council Ridge HOA	83.96	0.49	0.59	31.20	38.51	13.74	0.02	61.67
Country Hollow HOA	29.99	6.61	22.03	17.60	5.74	0.04	0.00	40.87
Country Place	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Creekside HOA	2.57	0.60	23.21	1.86	0.11	0.00	0.00	26.88
Crestline Park/Southbrook NA	159.71	35.24	22.06	59.11	63.67	1.47	0.22	62.75
Crestwood NA	163.61	49.51	30.26	83.35	30.35	0.39	0.00	48.52
Crown Hts - Edgemere Hts HP	246.55	92.03	37.33	96.21	56.48	1.22	0.61	60.34
Crystal Gardens @ Greenbriar	14.34	1.05	7.33	9.74	3.53	0.00	0.02	31.66
Crystal Gardens HOA	19.96	2.64	13.22	13.58	3.35	0.00	0.38	29.60
Culbertson East Highland NA	317.45	87.07	27.43	135.00	94.55	0.83	0.00	57.21
Culbertson NA	9.37	1.27	13.58	6.46	1.57	0.07	0.00	30.65
Danforth Farms West HOA	160.62	44.96	27.99	73.65	39.63	0.21	2.17	52.63
Deer Creek Crossing HOA	28.72	5.99	20.86	15.36	7.31	0.06	0.00	46.11
Denniston Park NA	99.27	24.38	24.56	50.26	23.99	0.64	0.00	45.13
Doffing NA	118.95	4.94	4.15	61.10	50.66	2.25	0.00	48.61
Douglas-Edgemere Neighbors	206.29	60.97	29.56	94.44	49.66	1.22	0.00	53.84
Downtown Oklahoma City Inc	472.01	38.80	8.22	365.14	60.83	6.82	0.43	22.38
Drakestone HOA	136.45	10.68	7.83	69.90	52.76	3.11	0.00	48.66
Draper Park NWA	158.48	46.02	29.04	61.34	49.44	0.38	1.31	60.07
Drexel NA	29.25	8.88	30.36	12.33	8.02	0.01	0.00	57.46
Eagle Crest NA	115.31	39.91	34.61	45.62	29.53	0.24	0.01	60.02

Neighborhood Association	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Eagle Lake Estates HOA	159.93	40.45	25.30	76.68	33.59	0.03	9.16	45.50
Eagle Ridge HOA	39.79	3.98	10.00	26.85	8.96	0.01	0.00	32.06
East WIlshire Heights	234.68	88.17	37.57	10.70	128.88	5.22	1.71	94.75
Eastlake Patio Homes	628.05	98.24	15.64	320.19	190.34	13.40	5.88	47.53
Edgemere Park HP	105.17	37.23	35.40	39.62	27.65	0.07	0.59	61.43
Edgewater Park NA	45.92	8.41	18.31	28.85	8.66	0.00	0.00	36.85
Edgewater/Lakepointe NA	331.96	88.45	26.65	140.60	94.67	0.02	8.23	54.77
Edwards Community Club	288.64	86.17	29.85	99.20	93.18	2.14	7.95	62.75
Elizabeth Heights	670.75	45.33	6.76	208.63	366.93	44.43	5.44	68.06
Envision 240	815.27	66.88	8.20	444.92	279.32	8.88	15.26	38.06
Epworth NA	296.08	49.87	16.84	177.70	64.61	3.91	0.00	38.09
Fairhill HOA	159.64	21.49	13.46	73.75	63.14	0.97	0.29	53.31
Fairview Farms	40.79	13.57	33.27	19.80	7.42	0.00	0.00	51.01
Featherstone	21.45	4.10	19.10	3.61	13.04	0.70	0.00	82.90
Fenwick Garden Village HOA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fenwick HOA	321.13	41.36	12.88	168.59	106.33	1.39	3.47	46.34
Film Exchange District	103.00	3.45	3.35	84.36	10.85	4.34	0.00	17.94
Fisher Square NA	5.50	0.67	12.26	2.91	1.92	0.00	0.00	46.79
Flower Garden Park NA	185.69	64.89	34.95	84.01	36.04	0.02	0.73	53.98
Forest Park Neighborhood Association	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fountain Grass	103.00	8.99	8.73	44.94	43.29	0.33	5.45	50.91
Fox Run NA	96.80	23.40	24.18	55.72	17.58	0.09	0.01	41.98
Friends of 10th Street	4,227.91	947.94	22.42	1,866.53	1,274.28	87.34	51.83	52.85
Frolich Meadows Estates	231.53	63.40	27.38	82.87	84.35	0.90	0.01	64.15
Gaillardia	600.54	99.62	16.59	140.57	300.34	8.51	51.50	40.45
Garden Neighborhood Council	2,551.08	720.84	28.26	529.24	1,003.21	95.52	202.27	70.27
Gatewood UCD	276.99	86.55	31.25	150.03	39.44	0.97	0.00	45.17
Glen Eagles HOA	158.08	32.95	20.84	68.94	50.98	0.00	5.21	52.88
Glen Oaks Residential Community	41.91	3.51	8.38	21.93	16.46	0.00	0.00	47.12
Glenbrook HOA	135.82	24.33	17.91	77.41	33.33	0.00	0.75	30.81
Glenhurst	155.89	6.33	4.06	94.47	52.34	0.89	1.86	37.94
Glenhurst Villas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grammercy Park	75.07	2.90	3.86	36.85	35.33	0.00	0.00	49.38
Green Valley IV NA	15.91	2.83	17.81	8.48	4.60	0.00	0.00	46.55
Greenbriar Eastlake #13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Neighborhood Association	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Greenbriar Kingsbrook HOA	228.98	39.73	17.35	92.43	87.49	7.20	2.14	57.75
Greenbriar Kingspark HOA	159.82	18.90	11.83	90.03	49.73	1.15	0.00	43.33
Greenbriar Pointe HOA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Greenvale NA	237.57	76.07	32.02	107.45	53.08	0.96	0.00	54.48
Grenmoor-Casady Terrace	85.93	20.86	24.28	38.77	26.30	0.00	0.00	54.58
Hallbrook	638.15	139.40	21.84	38.78	444.11	7.36	8.49	58.89
Hardy Acres NA	297.92	30.31	10.17	50.98	215.15	0.81	0.67	59.22
Harrison Community NA	629.04	204.84	32.56	30.15	373.32	18.74	1.98	94.90
Harrison-Walnut Area NA	247.04	41.10	16.64	109.87	88.38	7.69	0.00	55.14
Harvest Hills HOA	241.77	45.24	18.71	115.32	80.53	0.07	0.62	51.33
Harvest Hills South NA	110.66	14.09	12.73	57.69	37.94	0.00	0.95	46.98
Harvest Hills V	32.78	5.94	18.11	19.07	7.77	0.00	0.00	41.19
Hathaway Heights NA	200.34	54.35	27.13	75.26	66.64	4.10	0.00	62.15
Hefner Village IV	109.14	14.95	13.70	52.96	40.98	0.17	0.08	51.22
Helm Farm NA	150.51	41.38	27.49	83.92	24.97	0.25	0.00	43.90
Heritage Hills	158.94	81.32	51.16	60.99	16.60	0.04	0.00	60.87
Heritage Hills East UCD	63.94	14.49	22.66	39.32	9.38	0.75	0.00	38.12
Heritage Square	19.35	1.76	9.11	7.50	9.73	0.37	0.00	40.46
Heronville NA	320.63	98.26	30.65	134.32	87.17	0.88	0.00	57.57
Hickory Creek HOA	35.59	5.66	15.89	17.59	11.71	0.63	0.00	42.11
Highland Hills NA	105.68	18.13	17.15	61.65	25.90	0.00	0.00	41.43
Highland Park NA	301.12	71.35	23.70	137.61	90.31	1.85	0.00	52.57
Highleys Wildewood NA	18.27	11.12	60.86	4.06	3.09	0.00	0.00	77.37
Hillcrest NA	329.08	51.54	15.66	174.31	102.08	1.05	0.09	46.69
Hilldale NA	242.94	62.15	25.58	110.04	66.84	3.90	0.00	54.50
Historic Brookhaven NA	37.05	19.72	53.24	11.64	4.81	0.02	0.85	65.94
Holliday Out NWA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hope Crossing CA	0.07	0.00	0.00	0.07	0.00	0.00	0.00	0.00
Janko HOA	79.00	20.48	25.93	8.17	45.94	2.36	2.05	86.88
Jefferson Park HP	127.83	35.90	28.09	70.39	21.24	0.29	0.00	44.40
John F Kennedy NA	202.10	30.88	15.28	86.28	80.15	4.80	0.00	57.07
John Glenn #1	8.32	2.65	31.89	3.36	2.30	0.00	0.00	59.25
John Glenn NWA #2	77.59	14.28	18.41	42.41	20.81	0.08	0.00	45.12
Kingsbrook	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Kingscreek HOA	20.16	5.32	26.40	10.32	4.51	0.00	0.00	48.63
Kingsridge HOA	620.11	76.28	12.30	308.62	213.15	10.70	11.37	48.16

Neighborhood Association	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Knight Lake NA	124.61	18.31	14.70	66.68	38.40	0.04	1.17	45.34
La Sonata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lake Crest Estates	30.37	10.93	35.98	13.40	5.12	0.00	0.93	52.35
Lake Hefner Boat Owners Assoc	3,313.78	144.37	4.36	153.61	479.63	3.31	2,532.86	12.84
Lake Ridge HOA	115.72	14.74	12.74	67.39	24.88	0.38	8.34	34.23
Lakeaire NA	44.59	7.61	17.08	26.01	10.93	0.05	0.00	40.78
Lakehurst HOA	121.74	31.29	25.70	62.75	27.59	0.12	0.00	48.15
Lakeridge Run IV HOA	51.55	9.61	18.65	28.38	11.16	0.09	2.31	40.27
Lakeshore Estates I NA	32.15	6.65	20.69	16.73	8.77	0.00	0.00	47.74
Lakeshore Estates II NA	43.65	5.75	13.18	22.45	14.59	0.86	0.00	33.02
Lakeside	122.42	36.35	29.69	60.00	26.04	0.04	0.00	49.12
Lakeview Estates HOA	109.05	1.83	1.68	71.25	29.39	6.59	0.00	34.54
Lakeview NA	150.79	32.46	21.53	86.56	31.77	0.00	0.00	42.29
Lansbrook HOA	223.71	63.20	28.25	115.55	39.69	0.08	5.20	45.71
Las Rosas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Las Vegas NA	80.28	27.27	33.97	37.70	15.27	0.04	0.00	52.56
Liberty Trails HOA	202.41	9.52	4.70	100.78	86.84	2.99	2.28	49.07
Lincoln Terrace HP	126.53	30.99	24.49	70.23	23.97	1.34	0.00	43.98
Linwood Place UCD	162.90	54.18	33.26	70.95	37.24	0.54	0.00	55.93
Lone Oak Park HOA	23.68	0.80	3.38	13.72	9.09	0.07	0.00	41.81
Lone Oak Pointe	645.55	72.27	11.20	207.59	318.83	36.20	10.66	66.18
Lumberman III NA	642.10	144.23	22.46	215.20	263.49	18.74	0.43	65.94
Lyons Park NA	217.83	70.94	32.57	89.12	57.56	0.21	0.00	58.63
Lytle Grove NA	9.56	8.16	85.40	0.63	0.77	0.00	0.00	93.26
Martin Luther King NWA	212.14	72.60	34.22	74.16	65.25	0.13	0.00	64.78
Mayfair Heights NA	83.59	26.39	31.57	39.18	17.98	0.04	0.00	52.75
Mayfair Hills Neighborhood	33.20	6.75	20.34	19.17	7.28	0.00	0.00	41.87
Mayfair West NA	266.15	87.32	32.81	119.94	58.88	0.01	0.00	54.53
May-Penn NA	177.06	49.28	27.84	97.91	29.70	0.16	0.00	44.40
McCourry Heights NA	30.26	10.53	34.81	4.93	14.79	0.00	0.00	83.58
Meadow Lake HOA	71.97	5.36	7.45	26.48	31.98	3.91	4.23	55.31
Meadowbrook Acres NA	33.25	7.26	21.84	18.73	5.95	1.31	0.00	43.35
Meadowcliff NA	159.54	23.20	14.54	77.24	58.58	0.52	0.00	51.38
Meadowridge Estates HOA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medical Business District	627.45	74.84	11.93	433.58	110.94	7.61	0.48	30.36
Medical Community NA	239.02	48.39	20.25	125.26	63.58	1.78	0.00	47.27
Memorial Heights NA	78.71	19.12	24.29	41.63	17.61	0.36	0.00	46.70

Neighborhood Association	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Meridian	1,330.78	150.99	11.35	716.84	397.78	16.04	49.13	40.77
Meridian Hills-Manor NA	51.11	29.10	56.94	14.30	7.71	0.00	0.00	71.59
Mesa Point HOA	38.23	6.85	17.93	13.81	15.21	0.02	2.33	57.74
Mesta Park HP	191.45	67.25	35.12	102.06	21.43	0.72	0.00	45.97
Metro Park NA	259.41	49.07	18.92	160.97	44.23	5.14	0.00	37.53
Midtown Redevelopment Corp	129.35	12.63	9.77	95.61	16.93	4.18	0.00	25.86
Milam Place NA	79.84	18.08	22.65	44.49	16.97	0.30	0.00	43.87
Military Park NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Military Park Residents Association	209.22	84.29	40.29	84.64	40.29	0.01	0.00	59.07
Miller NA	162.60	55.52	34.14	78.48	28.05	0.55	0.00	51.14
Monticello HOA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Morris-Will Rogers Neighborhood	32.84	9.38	28.55	15.63	7.81	0.03	0.00	51.95
MPHHE Security	10.00	2.24	22.37	7.22	0.55	0.00	0.00	27.36
Mulholland HOA	167.96	52.52	31.27	35.67	47.14	0.01	32.62	59.03
Musgrave NA	97.55	11.54	11.83	41.27	44.68	0.03	0.03	57.60
Musgrave-Pennington NA	320.78	85.48	26.65	155.02	80.00	0.28	0.00	51.27
Mustang Creek HOA	128.78	19.39	15.06	30.99	53.78	24.49	0.13	73.91
Mustard Seed Development Corporation	5,384.79	753.55	13.99	1,707.23	2,721.13	122.17	80.70	62.73
NE Renaissance Neighborhood Association	320.93	99.71	31.07	93.16	120.14	7.91	0.00	67.27
Nichols Hills Suburban NA	167.10	51.99	31.11	68.58	44.17	2.37	0.00	58.69
Nichols Hills Suburban Tracts Vicinity	136.95	42.25	30.85	60.85	33.76	0.09	0.00	55.24
North Coronado Heights	127.58	33.61	26.35	64.76	29.16	0.05	0.00	48.86
North Coronado Heights NA	35.22	11.35	32.24	15.69	8.18	0.00	0.00	54.99
North Creston Hills NA	158.61	47.19	29.75	52.98	58.11	0.32	0.00	66.42
North Highland/Estes Park	293.17	63.88	21.79	129.23	98.36	0.01	1.70	55.09
North Oklahoma City Addition NA	186.38	21.88	11.74	99.83	62.29	0.67	1.71	44.66
Northampton HOA	49.09	0.22	0.44	29.78	17.29	0.00	1.80	35.77
Northaven NA	160.22	43.05	26.87	83.79	33.32	0.07	0.00	47.19
Northgate	79.33	9.01	11.35	40.46	28.56	1.31	0.00	48.86
Northlake II HOA	12.12	2.33	19.25	7.44	2.35	0.00	0.00	38.29
Northridge NA	169.61	26.93	15.88	97.54	44.92	0.21	0.00	41.28
Northwood NA	194.08	77.53	39.95	70.93	41.54	3.75	0.32	62.99
Nosey Neighbors NA	169.96	43.03	25.31	62.89	63.63	0.42	0.00	62.66

Neighborhood Association	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
NOVA HOA	212.75	34.86	16.38	119.78	58.07	0.05	0.00	43.37
NW OK County Neighborhood Watch	468.98	27.55	5.87	120.29	258.08	60.65	2.42	73.88
Oakcliff NA	330.75	74.19	22.43	141.07	111.00	1.99	2.50	56.26
Oaks 1 & 2	366.21	107.46	29.34	101.78	146.75	10.14	0.09	44.92
Oklahoma City Adventure District	638.17	282.54	44.27	179.29	163.04	3.62	9.68	70.09
Ole Windmill Estates HOA	86.45	27.89	32.27	33.50	25.05	0.00	0.00	60.88
Park Estates North/Cashions Wildewood NA	111.84	29.21	26.12	45.08	37.34	0.21	0.00	59.07
Parkview NA	637.08	106.35	16.69	307.54	210.94	11.52	0.73	51.43
Parmelee NA	310.82	50.55	16.26	142.59	111.06	6.27	0.36	53.81
Pasadena Heights Security Association	1,363.90	389.18	28.53	558.07	371.96	42.15	2.53	58.77
Paseo Business District	0.03	0.00	10.48	0.03	0.00	0.00	0.00	0.00
Paseo UCD	160.47	33.66	20.98	75.75	49.28	1.78	0.00	32.78
Penn Park NA	28.82	6.70	23.25	13.60	8.52	0.00	0.00	52.55
Pennsylvania Place HOA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Persimmon Hill NA	626.93	318.88	50.86	73.60	216.51	12.63	5.30	86.94
Pike Pointe	38.02	0.55	1.46	18.91	17.06	1.50	0.00	49.51
Plaza District	22.94	7.23	31.50	13.36	2.34	0.01	0.00	41.26
Prairie Queen NA	231.57	31.86	13.76	110.38	89.05	0.28	0.00	51.10
Prairie Ridge HOA	177.32	13.39	7.55	101.15	62.60	0.19	0.00	42.75
Preston Hills HOA	71.06	19.36	27.25	31.00	19.03	0.36	1.31	54.32
Putnam Heights HP	57.51	24.93	43.35	21.49	11.09	0.01	0.00	62.22
Putnam Heights West	69.50	22.47	32.33	31.44	15.59	0.01	0.00	54.43
Quail Creek Apartment Committee	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Quail Creek Area	1,186.06	343.02	28.92	466.14	359.93	4.81	12.15	50.08
Quail Ridge Estates Phase I HOA	64.04	33.97	53.04	9.88	19.89	0.00	0.30	84.02
Quail Springs Mall Security	609.71	23.29	3.82	284.73	239.90	59.67	2.12	52.82
Rambling Acres NA	167.31	30.03	17.95	86.33	50.87	0.08	0.00	48.13
Ranchwood Area	149.81	32.87	21.94	77.78	39.14	0.02	0.00	47.68
Ravenswood Manor NA	315.18	122.42	38.84	43.70	144.06	1.29	3.71	84.92
Redbud Estates NA	20.03	5.22	26.07	9.88	4.92	0.00	0.00	50.30
Redlands NA	92.74	17.85	19.25	43.33	31.55	0.00	0.00	53.04
Reed Park NA	320.23	86.13	26.90	145.60	87.43	0.77	0.31	54.12
Remington HOA	592.57	248.85	41.99	144.08	188.52	8.63	2.49	75.21
Riverbend Estates HOA	170.78	13.68	8.01	76.57	56.24	0.22	24.07	35.06

Neighborhood Association	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Riverpark NA	161.90	44.41	27.43	67.72	49.26	0.51	0.00	57.98
Riverside NA	589.50	65.50	11.11	281.44	178.34	44.80	19.43	47.34
Roberts-Crest NA	64.96	18.50	28.48	33.38	13.08	0.00	0.00	48.10
Rock Knoll HOA	94.51	24.37	25.79	44.34	25.77	0.03	0.00	52.76
Rock Manor Estates/Mimosa Heights NA	692.98	263.35	38.00	61.74	322.27	13.77	31.86	81.45
Rockwood NA	524.97	146.18	27.85	218.58	156.86	3.14	0.22	58.11
Rollingwood NA	239.24	81.01	33.86	106.77	45.14	0.20	6.12	52.36
Rose Lake and Villas	232.61	6.08	2.61	79.00	124.31	14.59	8.64	41.56
Rosedale Gardens	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rosemeade on Springcreek HOA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ross Heights NA	160.75	43.79	27.24	71.51	45.45	0.00	0.00	55.26
Roxboro NA	97.46	20.14	20.66	46.52	30.52	0.27	0.00	46.62
Royal Oaks NA	155.22	78.26	50.42	50.69	25.64	0.63	0.00	67.15
Santa Fe Villas HOA	20.27	1.93	9.53	11.66	5.86	0.00	0.82	38.23
Savannah Lakes POA	169.17	13.00	7.68	86.78	57.82	7.65	3.91	46.21
Seminole Pointe NA	164.37	7.92	4.82	90.40	58.93	0.49	6.62	40.75
Sequoyah NA	147.44	55.19	37.43	59.81	32.44	0.00	0.00	59.00
Shallow Brook NA	131.95	9.11	6.90	63.92	51.97	6.96	0.00	51.50
Shepherd HP	121.87	26.99	22.14	74.74	19.99	0.15	0.00	38.26
Shidler-Wheeler NA	907.78	273.21	30.10	354.81	216.36	28.11	35.30	56.39
Shields NA	72.08	27.51	38.17	26.97	17.39	0.20	0.00	62.06
Shields-Davis NA	642.49	112.49	17.51	299.00	212.93	17.99	0.08	49.14
Sierra Madre NA	42.48	14.28	33.63	18.71	9.45	0.03	0.00	55.46
Silver Creek NA	63.79	4.27	6.69	32.32	26.39	0.81	0.00	49.26
Silver Lake Inc NA	116.47	50.01	42.94	24.63	19.53	0.01	22.28	59.50
Silver Tree POA	34.04	5.94	17.46	18.26	9.84	0.00	0.00	46.15
Ski Island Lake Club, Inc	116.48	25.09	21.54	31.64	22.53	0.02	37.21	40.62
Sky Line NA	639.23	179.27	28.05	283.66	174.62	1.66	0.01	55.31
Sky Ranch Neighborhood Association	155.47	20.56	13.23	85.15	49.11	0.65	0.00	44.82
Sky View Village NA	47.43	4.95	10.43	26.84	15.59	0.06	0.00	43.18
Sonoma Lake HOA	79.93	5.66	7.08	42.54	27.17	0.00	4.56	40.79
South Creston Hills/White Orchard NA	235.61	67.69	28.73	89.71	77.68	0.53	0.00	61.63
South Lindsey NA	235.91	53.88	22.84	118.77	61.34	1.92	0.00	49.33
South Park Estates NA	639.92	211.04	32.98	211.83	212.33	3.17	1.54	66.45
South Pointe Estates HOA	14.76	2.98	20.18	8.75	3.03	0.00	0.00	40.61

Neighborhood Association	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
South Ridge/Shadow Lake NA	75.81	7.18	9.47	35.04	21.39	2.25	9.94	40.52
South Walker NWA	638.77	189.37	29.65	241.46	201.62	3.80	2.52	60.66
Southern Hills NA & 517 Crime Watch	612.56	83.69	13.66	287.89	233.21	6.72	1.05	50.81
Southern Oaks NA	319.08	74.66	23.40	142.66	94.52	5.26	1.99	54.43
Southlake HOA	71.19	1.76	2.47	36.03	30.29	1.01	2.11	46.23
Southwestern NA	128.25	20.24	15.78	66.12	41.63	0.27	0.00	48.18
Spring Creek NA	77.85	23.54	30.24	39.02	15.02	0.27	0.00	49.43
Springbrook HOA	57.83	9.27	16.03	35.01	13.54	0.00	0.00	39.21
Springhollow Condominiums	9.31	3.02	32.47	4.53	1.76	0.00	0.00	50.92
Sterling Canyon	636.56	58.98	9.27	120.98	395.31	31.88	29.40	76.24
Stockyards City Main Street	283.87	42.95	15.13	120.08	89.97	6.73	24.13	49.01
Stone Meadows South HOA	162.07	3.24	2.00	88.61	70.21	0.00	0.00	45.26
Stonebridge West HOA	151.09	27.24	18.03	51.42	72.06	0.04	0.34	62.77
Stonegate NA	113.18	23.47	20.74	53.66	36.05	0.00	0.00	48.20
Stoneridge NA	18.98	4.92	25.90	10.17	3.90	0.00	0.00	45.94
Suggs Park NA	207.48	58.22	28.06	104.59	44.26	0.14	0.27	48.49
Summerfield Community Association	197.62	60.55	30.64	101.65	35.37	0.00	0.05	48.07
Summit Place HOA	140.09	35.95	25.67	76.83	27.22	0.09	0.00	44.67
Sun Valley Acres NA	160.40	34.74	21.66	44.95	80.59	0.11	0.00	71.94
Sunny Pointe HOA	125.63	2.40	1.91	58.65	57.84	4.98	1.76	51.86
Sutton Place HOA	4.84	2.07	42.82	1.75	1.02	0.00	0.00	63.85
SW 29th Street	194.53	49.08	25.23	104.91	40.13	0.24	0.17	45.55
Sycamore Creek	78.61	29.16	37.09	28.92	20.16	0.38	0.00	54.84
Sycamore Square North	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Target-OKC North	12.64	0.02	0.12	10.89	1.73	0.00	0.00	13.83
Target-OKC NW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Target-OKC South	0.10	0.00	0.00	0.10	0.00	0.00	0.00	0.00
Target-Quail Springs Super Target	14.26	0.09	0.62	13.21	0.97	0.00	0.00	7.13
Taylor Park NA	171.30	20.05	11.70	84.27	65.68	1.30	0.00	44.10
The Crossing HOA	27.87	8.11	29.09	12.89	6.86	0.01	0.00	53.53
The Fountains	87.59	12.24	13.97	45.28	29.90	0.02	0.16	48.07
The Greens HOA	640.01	113.98	17.81	258.23	255.76	2.94	9.10	43.06
The Grove	644.81	4.96	0.77	170.73	381.89	78.34	8.88	72.14
The Lakes at Traditions	142.79	7.72	5.41	59.70	64.64	3.20	7.53	52.94
The Links Apartments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Neighborhood Association	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
The Meadows at River Bend HOA	79.33	2.10	2.65	48.61	23.98	0.44	4.20	33.27
The Pines HOA	41.45	13.75	33.17	14.70	7.22	0.01	5.77	50.23
The Ridge at Shadow Lake	382.61	35.51	9.28	209.99	126.46	0.44	10.20	42.19
The Valley POA	148.14	41.25	27.84	68.65	37.95	0.06	0.23	53.24
The Waterfront at Oakmond HOA	34.77	3.10	8.92	15.27	9.60	1.27	5.53	40.20
Thompson Woodland/Burr Oaks	148.94	92.84	62.33	25.64	30.33	0.08	0.04	82.55
Thornberry Place HOA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tierra Verde HOA	25.30	5.19	20.52	14.39	5.71	0.01	0.00	42.85
Timber Creek	3.21	0.24	7.42	1.38	1.60	0.00	0.00	56.39
Top of the Town NA	186.84	39.37	21.07	72.27	71.60	3.60	0.00	61.10
Trailswest HOA	160.52	31.16	19.41	17.67	106.09	5.01	0.60	84.44
Treadwell Grandview NA	103.97	28.10	27.03	54.99	20.73	0.15	0.00	46.70
Treadwell Hills NA	115.13	23.74	20.62	59.81	23.76	7.62	0.20	47.58
Turtle Lake HOA	636.30	115.76	18.19	123.88	345.12	23.42	28.11	76.04
Twin Oaks	158.65	32.48	20.47	95.06	31.03	0.08	0.01	39.78
United Founders	84.55	6.61	7.81	66.89	11.06	0.00	0.00	20.79
Urban Neighbors NA	360.52	10.10	2.80	150.08	109.61	24.68	66.04	40.04
Val Verde HOA	322.19	110.94	34.43	148.50	61.11	0.88	0.75	53.35
Valencia	634.72	12.66	1.99	257.35	295.85	56.32	12.54	57.46
Venice NA	162.57	45.78	28.16	84.15	32.59	0.05	0.00	47.86
Village Green HOA	112.73	34.66	30.75	47.60	30.44	0.03	0.00	57.42
VineHaven Homeowners Association	54.44	8.17	15.00	32.73	13.54	0.01	0.00	39.43
Vintage Gardens HOA	53.42	6.20	11.62	30.36	16.85	0.00	0.00	42.89
Walden Creek HOA	31.90	4.31	13.51	17.50	9.96	0.06	0.07	44.69
Walnut Creek Estates NA	79.76	19.18	24.05	43.50	17.05	0.03	0.00	45.15
Warwick 5 HOA	153.90	30.80	20.01	84.62	37.61	0.87	0.00	39.84
Warwick Estates HOA	160.11	60.10	37.54	72.90	25.11	0.07	1.93	51.76
Watchful Eyes NWA	126.51	29.28	23.15	55.57	41.39	0.26	0.00	55.82
West Watch	318.86	34.60	10.85	170.21	113.71	0.00	0.34	46.29
Westbrooke Estates HOA	84.87	5.54	6.52	50.46	28.79	0.08	0.00	40.39
Westbury North NA	648.73	67.92	10.47	302.10	271.97	6.75	0.00	44.13
Westbury South NA	622.75	120.98	19.43	180.74	252.58	63.71	4.75	70.14
Westcliffe HOA	55.40	4.70	8.49	35.03	15.44	0.00	0.23	35.68
Western Ave	196.55	25.81	13.13	75.32	72.81	22.52	0.09	61.42
Western Hills NA	159.44	18.22	11.43	83.23	51.73	6.25	0.00	43.43
Western Village NA	0.09	0.04	45.53	0.02	0.03	0.00	0.00	79.13

Neighborhood Association	Acres	Canopy Acres	Canopy %	Impervious Acres	Grass/ Low-lying Veg. Acres	Bare Soil Acres	Open Water Acres	Potential Canopy
Westgate Gardens HOA	309.80	3.90	1.26	71.91	126.15	107.84	0.00	54.88
Westlake HOA	73.04	21.11	28.90	30.62	14.96	0.86	5.49	50.19
Westlawn Gardens	638.44	105.52	16.53	308.48	183.42	38.45	2.58	49.82
Westmoor NA	156.99	6.89	4.39	82.35	65.19	1.93	0.63	47.03
Whitehall HOA	94.26	12.31	13.06	48.18	33.76	0.00	0.00	48.50
Wildewood Hills/Heights NA	252.89	83.88	33.17	79.42	82.47	6.65	0.47	68.27
Wildewood NA	150.36	78.93	52.49	32.29	38.78	0.37	0.00	78.37
Wildflower HOA	1.93	0.40	20.50	1.11	0.43	0.00	0.00	42.76
Wilemans 3rd NA	53.03	14.67	27.67	27.77	10.56	0.03	0.00	47.25
Wilemans 8th NA	33.29	9.75	29.27	15.59	7.92	0.04	0.00	52.76
Wilemans Belle Isle NA	246.72	82.69	33.52	94.59	68.37	1.06	0.00	49.51
Williamson Farm HOA	5.57	0.41	7.41	0.70	4.46	0.01	0.00	87.97
Willow Bend 6 NA	23.41	1.42	6.07	16.60	5.38	0.01	0.00	28.77
Willow Creek HOA	157.33	52.03	33.07	77.71	27.54	0.06	0.00	50.21
Willow Oaks Estates HOA	71.73	31.22	43.53	11.16	28.24	0.83	0.28	83.94
Wilshire Estates - Boulevard NA	139.56	34.95	25.04	48.48	48.11	1.17	6.86	57.95
Wilshire Hills NA	72.41	10.64	14.69	37.08	24.55	0.14	0.00	48.50
Wilshire Ridge NA	470.60	20.26	4.30	279.42	166.56	3.82	0.55	40.46
Wimberley Estates HOA	102.13	15.30	14.98	32.07	54.34	0.41	0.00	68.67
Windfield 2 Section 8	305.31	9.68	3.17	126.84	156.11	5.19	7.48	55.82
Winds West NA	315.55	21.00	6.65	143.33	101.49	49.73	0.00	52.46
Windsor Area	528.84	134.94	25.52	272.35	118.49	2.18	0.88	48.10
Windsor Court HOA	9.25	0.38	4.16	7.48	1.39	0.00	0.00	18.97
Windsor Forest NWA	161.21	36.15	22.42	86.08	38.50	0.48	0.00	46.35
Windsor Hills Garden Homes HOA	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Windsor Hills NA	244.18	72.03	29.50	109.32	62.60	0.23	0.00	54.87
Windsor Oaks NA	191.30	61.29	32.04	74.26	52.73	3.01	0.00	60.91
Windwood North Falcon Pointe POA	64.70	4.00	6.19	40.56	18.79	0.15	1.21	35.41
Wingspread NA	132.32	15.69	11.86	73.62	41.61	0.26	1.15	43.32
Woodlake HOA	51.20	9.55	18.65	24.02	15.92	0.08	1.63	49.75
Youngs-Englewood NA	160.58	48.98	30.50	82.91	28.18	0.51	0.00	47.76
Zachary Taylor NA	182.69	50.75	27.78	64.92	45.19	17.69	4.13	62.05

Table 33: Land Use Designation Descriptions

Land Use Designation	Description
Single-Family Residential	Urban and suburban single-family residences on lots smaller than one acre. Includes mobile home parks
Multi-Family Residential	Apartments and other residential dwelling units with 3 or more units under one roof
Commercial	Retail establishments including offices in commercial settings. Includes shopping malls
Office	Private offices including veterinarians and medical offices near hospitals
Public/Institutional	Schools, colleges, government office buildings, hospitals, places of worship, and other institutions
Industrial	Light, moderate, and heavy industrial, manufacturing, warehousing, utilities, mineral extraction, landfills, and public industrial properties
Parks/Open Space	Parks, open spaces, cemeteries, golf courses, drainage channels, stormwater basins, rivers, and open water
Transportation Corridors	Roads, highways, alleys, railroads, and other public rights-of-way
Suburban Residential	Single-family residential on lots between 1 - 5 acres
Mixed Use	Combination of land uses in one area, e.g. a building with retail on the ground floor and apartments above
Group Quarters	College dorms, jails, nursing homes, and other facilities where a large number of people live in one facility
Single-Family Attached	Attached single-family housing units, including duplexes and townhomes
Agriculture	Land primarily used for agriculture. May eventually contain residences and outbuildings at an extremely low density
Agriculture Residential	Single-family residential on lots greater than 5 acres

Table 34: Urban Forest Structure (Common and Botanical Names)

Common	Botanical	Number of Trees	SE	% of Population
eastern redcedar	*Juniperus virginiana*	8,558,770	1,852,607	13.24
slippery elm	*Ulmus rubra*	6,269,016	2,753,386	9.70
western soapberry	*Sapindus saponaria ssp. drummondii*	6,191,735	3,985,823	9.58
sugarberry	*Celtis laevigata*	5,139,411	1,335,301	7.95
post oak	*Quercus stellata*	4,819,227	1,855,968	7.45
northern hackberry	*Celtis occidentalis*	4,347,915	1,292,990	6.72
common persimmon	*Diospyros virginiana*	4,105,028	2,288,519	6.35
American elm	*Ulmus americana*	2,958,891	1,095,816	4.58
blackjack oak	*Quercus marilandica*	2,957,825	1,267,802	4.57
shining sumac	*Rhus copallina*	2,937,708	2,937,656	4.54
Siberian elm	*Ulmus pumila*	2,402,359	812,087	3.72

Common	Botanical	Number of Trees	SE	% of Population
hardwood[2]	*Magnoliopsida*	1,806,027	709,599	2.79
eastern redbud	*Cercis canadensis*	1,485,355	687,384	2.30
black locust	*Robinia pseudoacacia*	1,253,348	922,677	1.94
mulberry spp	*Morus*	1,128,561	552,663	1.75
honeylocust	*Gleditsia triacanthos*	672,402	395,067	1.04
Callery pear	*Pyrus calleryana*	599,635	186,043	0.93
chittamwood	*Bumelia lanuginosum*	575,715	207,737	0.89
black willow	*Salix nigra*	511,697	322,882	0.79
pecan	*Carya illinoinensis*	509,826	152,987	0.79
black walnut	*Juglans nigra*	456,119	279,004	0.71
chinkapin oak	*Quercus muehlenbergii*	437,914	240,803	0.68
loblolly pine	*Pinus taeda*	430,963	258,857	0.67
Chinese elm	*Ulmus parvifolia*	379,032	162,353	0.59
eastern cottonwood	*Populus deltoides*	371,370	153,847	0.57
common crapemyrtle	*Lagerstroemia indica*	355,473	151,786	0.55
boxelder	*Acer negundo*	311,371	206,002	0.48
saltcedar	*Tamarix ramosissima*	271,588	202,499	0.42
Chinese pistache	*Pistacia chinensis*	179,539	84,325	0.28
silver maple	*Acer saccharinum*	179,338	100,654	0.28
green ash	*Fraxinus pennsylvanica*	147,654	88,291	0.23
bur oak	*Quercus macrocarpa*	134,387	134,384	0.21
red maple	*Acer rubrum*	128,624	77,508	0.20
northern red oak	*Quercus rubra*	110,643	68,654	0.17
southern catalpa	*Catalpa bignonioides*	98,578	57,516	0.15
Freeman maple	*Acer x freemanii*	90,448	67,390	0.14
crapemyrtle spp.	*Lagerstroemia spp.*	90,366	90,365	0.14
oriental arborvitae	*Platycladus orientalis*	61,632	43,588	0.10
tree of heaven	*Ailanthus altissima*	60,407	42,599	0.09
Kentucky coffeetree	*Gymnocladus dioicus*	60,407	60,406	0.09
London planetree	*Platanus x acerifolia*	60,326	42,656	0.09
pond cypress	*Taxodium ascendens*	60,244	60,243	0.09
common privet	*Ligustrum vulgare*	58,643	41,482	0.09
white ash	*Fraxinus americana*	53,518	38,140	0.08
Mexican plum	*Prunus mexicana*	39,927	31,729	0.06
trident maple	*Acer buergerianum*	38,095	38,095	0.06
Shumard oak	*Quercus shumardii*	38,095	38,095	0.06
blue spruce	*Picea pungens*	30,518	30,518	0.05
northern catalpa	*Catalpa speciosa*	30,204	30,203	0.05
dogwood spp	*Cornus*	30,204	30,203	0.05

[2] Dead hardwood trees

Common	Botanical	Number of Trees	SE	% of Population
ash spp	*Fraxinus*	30,204	30,203	0.05
rose-of-sharon	*Hibiscus syriacus*	30,204	30,203	0.05
sweetgum	*Liquidambar styraciflua*	30,204	30,203	0.05
southern magnolia	*Magnolia grandiflora*	30,204	30,203	0.05
osage orange	*Maclura pomifera*	30,204	30,203	0.05
crabapple	*Malus tschonoskii*	30,204	30,203	0.05
red mulberry	*Morus rubra*	30,204	30,203	0.05
Swiss mountain pine	*Pinus mugo*	30,204	30,203	0.05
London plane	*Platanus hybrida*	30,204	30,203	0.05
common plum	*Prunus domestica*	30,204	30,203	0.05
peach	*Prunus persica*	30,204	30,203	0.05
water oak	*Quercus nigra*	30,204	30,203	0.05
willow spp	*Salix*	30,204	30,203	0.05
baldcypress	*Taxodium distichum*	30,204	30,203	0.05
rusty blackhaw	*Viburnum rufidulum*	30,204	30,203	0.05
sugar maple	*Acer saccharum*	30,122	30,122	0.05
white mulberry	*Morus alba*	30,122	30,122	0.05
sumac spp	*Rhus*	28,521	28,521	0.04
apple spp	*Malus*	23,396	23,396	0.04
roughleaf dogwood	*Cornus drummondii*	22,398	22,397	0.03
Chinese photinia	*Photinia davidiana*	15,714	15,714	0.02
softwood[3]	*Pinopsida*	15,714	15,714	0.02
privet spp	*Ligustrum*	9,723	9,723	0.02
common pear	*Pyrus communis*	246	245	0.00
		64,655,090	**10,010,128**	**100%**

Table 35: Importance Value for All Tree Species

Species	% of Population	% of Leaf Area	IV
eastern redcedar	13.24	20.80	34.00
slippery elm	9.70	12.80	22.50
western soapberry	9.58	2.30	11.90
sugarberry	7.95	8.80	16.80
post oak	7.45	6.20	13.70
northern hackberry	6.72	7.70	14.40
common persimmon	6.35	1.10	7.40
American elm	4.58	7.30	11.90

[3] Dead coniferous trees

Species	% of Population	% of Leaf Area	IV
blackjack oak	4.57	2.80	7.30
shining sumac	4.54	0.50	5.00
Siberian elm	3.72	3.20	7.00
hardwood	2.79	0.00	2.80
eastern redbud	2.30	1.20	3.50
black locust	1.94	0.70	2.60
mulberry spp	1.75	1.50	3.30
honeylocust	1.04	0.40	1.50
Callery pear	0.93	1.10	2.00
chittamwood	0.89	0.70	1.60
black willow	0.79	0.80	1.60
pecan	0.79	3.30	4.10
black walnut	0.71	2.20	2.90
chinkapin oak	0.68	0.30	1.00
loblolly pine	0.67	1.10	1.80
Chinese elm	0.59	1.70	2.30
eastern cottonwood	0.57	1.90	2.40
common crapemyrtle	0.55	0.30	0.80
boxelder	0.48	0.50	1.00
saltcedar	0.42	0.10	0.50
Chinese pistache	0.28	0.20	0.40
silver maple	0.28	1.00	1.30
green ash	0.23	0.70	0.90
bur oak	0.21	0.40	0.60
red maple	0.20	0.30	0.50
northern red oak	0.17	0.20	0.40
southern catalpa	0.15	0.10	0.30
Freeman maple	0.14	0.00	0.20
crapemyrtle spp	0.14	0.10	0.20
oriental arborvitae	0.10	0.20	0.30
Kentucky coffeetree	0.09	0.50	0.60
tree of heaven	0.09	0.00	0.10
London planetree	0.09	1.10	1.20
pond cypress	0.09	0.00	0.10
common privet	0.09	0.00	0.10
white ash	0.08	0.20	0.30
Mexican plum	0.06	0.00	0.10
trident maple	0.06	0.20	0.30
Shumard oak	0.06	0.20	0.20
blue spruce	0.05	0.00	0.00
water oak	0.05	0.60	0.70

Species	% of Population	% of Leaf Area	IV
osage orange	0.05	0.60	0.60
sweetgum	0.05	0.30	0.40
common plum	0.05	0.10	0.20
baldcypress	0.05	0.00	0.10
crabapple	0.05	0.00	0.10
dogwood spp	0.05	0.00	0.10
London plane	0.05	0.10	0.10
northern catalpa	0.05	0.00	0.10
peach	0.05	0.10	0.10
red mulberry	0.05	0.00	0.10
rose-of-sharon	0.05	0.00	0.10
rusty blackhaw	0.05	0.00	0.10
southern magnolia	0.05	0.00	0.10
Swiss mountain pine	0.05	0.00	0.10
willow spp	0.05	0.00	0.10
ash spp	0.05	0.00	0.00
sugar maple	0.05	0.80	0.90
white mulberry	0.05	0.20	0.30
sumac spp	0.04	0.00	0.10
apple spp	0.04	0.00	0.00
roughleaf dogwood	0.03	0.00	0.10
Chinese photinia	0.02	0.00	0.00
softwood	0.02	0.00	0.00
privet spp	0.02	0.00	0.00
common pear	0.00	0.00	0.00
All Species Total	**100.00**	**100.00**	**200.00**

Table 36: Condition and RPI for All Tree Species

Species	Excellent (%)	Good (%)	Fair (%)	Poor (%)	Critical (%)	Dying (%)	Dead (%)	RPI	# of Trees	Standard Error
eastern redcedar	5.80	28.50	15.50	30.30	9.00	9.80	1.00	**0.93**	8,558,770	1,852,871
slippery elm	0.00	10.10	55.20	27.10	6.60	0.50	0.50	**1.00**	6,269,015	2,753,654
western soapberry	0.50	29.80	35.60	19.50	2.90	4.90	6.80	**0.96**	6,191,735	3,985,907
sugarberry	3.30	51.20	30.70	14.30	0.60	0.00	0.00	**1.14**	5,139,410	1,336,131
post oak	0.00	30.70	46.10	22.60	0.00	0.00	0.60	**1.09**	4,819,226	1,856,186
northern hackberry	0.00	46.90	37.30	13.30	1.90	0.70	0.00	**1.12**	4,347,915	1,293,762
common persimmon	14.00	10.30	30.80	27.20	0.00	0.70	17.00	**0.90**	4,105,028	2,288,761

Species	Excellent (%)	Good (%)	Fair (%)	Poor (%)	Critical (%)	Dying (%)	Dead (%)	RPI	# of Trees	Standard Error
blackjack oak	21.40	42.60	20.80	11.20	3.00	0.00	1.00	**1.15**	2,957,825	1,267,937
American elm	0.00	34.20	50.50	13.40	0.00	1.00	0.80	**1.09**	2,958,891	1,097,339
shining sumac	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.21**	2,937,707	2,937,662
Siberian elm	1.30	39.40	31.50	15.20	1.30	0.00	11.30	**0.98**	2,402,359	813,108
hardwood	0.00	1.60	0.00	0.00	0.00	0.00	98.40	**0.02**	1,806,027	710,587
eastern redbud	4.10	17.50	58.20	16.10	2.00	2.00	0.00	**1.04**	1,485,355	688,018
black locust	0.00	16.90	2.40	14.50	8.40	0.00	57.80	**0.38**	1,253,348	923,229
mulberry spp	0.00	27.80	64.30	5.20	2.70	0.00	0.00	**1.13**	1,128,561	554,719
honeylocust	4.50	67.70	4.50	9.30	14.00	0.00	0.00	**1.11**	672,402	396,424
Callery pear	30.20	49.60	10.10	10.10	0.00	0.00	0.00	**1.21**	599,635	186,731
chittamwood	5.00	57.70	20.70	5.00	7.80	3.90	0.00	**1.12**	575,715	208,946
pecan	0.00	27.90	50.50	21.70	0.00	0.00	0.00	**1.07**	509,826	159,038
black willow	0.00	0.00	59.00	35.40	0.00	5.60	0.00	**0.94**	511,697	323,292
black walnut	0.00	42.90	31.20	4.90	16.10	4.90	0.00	**1.01**	456,119	279,563
chinkapin oak	0.00	13.00	46.00	34.50	6.50	0.00	0.00	**0.98**	437,914	241,829
loblolly pine	0.00	29.90	7.00	63.10	0.00	0.00	0.00	**0.97**	430,963	260,592
Chinese elm	39.80	60.20	0.00	0.00	0.00	0.00	0.00	**1.27**	379,032	164,646
eastern cottonwood	0.00	8.10	48.80	43.10	0.00	0.00	0.00	**1.00**	371,370	159,807
boxelder	0.00	70.90	19.40	9.70	0.00	0.00	0.00	**1.18**	311,371	210,707
common crapemyrtle	8.50	51.00	25.40	8.50	6.60	0.00	0.00	**1.12**	355,473	153,780
saltcedar	0.00	0.00	0.00	0.00	66.70	33.30	0.00	**0.43**	271,588	203,890
Chinese pistache	33.60	49.50	16.80	0.00	0.00	0.00	0.00	**1.24**	179,539	85,257
silver maple	15.90	67.30	0.00	16.80	0.00	0.00	0.00	**1.21**	179,338	101,773
northern red oak	74.20	25.80	0.00	0.00	0.00	0.00	0.00	**1.30**	110,643	69,992
red maple	53.00	23.50	23.50	0.00	0.00	0.00	0.00	**1.26**	128,624	79,449
southern catalpa	40.10	0.00	31.00	28.90	0.00	0.00	0.00	**1.13**	98,578	72,230
bur oak	0.00	66.70	0.00	33.30	0.00	0.00	0.00	**1.12**	134,387	134,384
green ash	0.00	19.30	60.20	20.50	0.00	0.00	0.00	**1.06**	147,654	89,336
trident maple	100.00	0.00	0.00	0.00	0.00	0.00	0.00	**1.31**	38,095	41,147
London planetree	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.27**	60,326	43,216
Shumard oak	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.27**	38,095	41,147
Freeman maple	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.25**	90,448	68,696
pond cypress	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.24**	60,244	61,661
tree of heaven	50.00	0.00	50.00	0.00	0.00	0.00	0.00	**1.23**	60,407	42,828
Kentucky coffeetree	0.00	50.00	50.00	0.00	0.00	0.00	0.00	**1.17**	60,407	60,568
common privet	0.00	51.40	48.60	0.00	0.00	0.00	0.00	**1.14**	58,643	42,418
white ash	0.00	43.70	56.30	0.00	0.00	0.00	0.00	**1.13**	53,518	39,204
Mexican plum	0.00	24.40	75.60	0.00	0.00	0.00	0.00	**1.11**	39,927	32,541

Species	Excellent (%)	Good (%)	Fair (%)	Poor (%)	Critical (%)	Dying (%)	Dead (%)	RPI	# of Trees	Standard Error
crapemyrtle spp	0.00	33.30	0.00	66.70	0.00	0.00	0.00	**0.99**	90,366	92,491
oriental arborvitae	0.00	0.00	51.00	49.00	0.00	0.00	0.00	**0.96**	61,632	43,644
baldcypress	100.00	0.00	0.00	0.00	0.00	0.00	0.00	**1.31**	30,204	30,284
blue spruce	100.00	0.00	0.00	0.00	0.00	0.00	0.00	**1.31**	30,518	35,239
crabapple	100.00	0.00	0.00	0.00	0.00	0.00	0.00	**1.31**	30,204	30,284
southern magnolia	100.00	0.00	0.00	0.00	0.00	0.00	0.00	**1.31**	30,204	30,284
Swiss mountain pine	100.00	0.00	0.00	0.00	0.00	0.00	0.00	**1.31**	30,204	30,284
common plum	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.27**	30,204	30,284
rose-of-sharon	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.27**	30,204	30,284
roughleaf dogwood	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.27**	22,398	24,535
rusty blackhaw	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.27**	30,204	30,284
apple spp	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.21**	23,396	24,217
London plane	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.21**	30,204	30,284
peach	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.21**	30,204	30,284
red mulberry	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.21**	30,204	30,284
sugar maple	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.21**	30,122	30,830
sweetgum	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.21**	30,204	30,284
water oak	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.21**	30,204	30,284
white mulberry	0.00	100.00	0.00	0.00	0.00	0.00	0.00	**1.21**	30,122	30,830
privet spp	0.00	0.00	100.00	0.00	0.00	0.00	0.00	**1.14**	9,723	11,908
sumac spp	0.00	0.00	100.00	0.00	0.00	0.00	0.00	**1.14**	28,521	29,134
common pear	0.00	0.00	100.00	0.00	0.00	0.00	0.00	**1.08**	246	347
northern catalpa	0.00	0.00	100.00	0.00	0.00	0.00	0.00	**1.08**	30,204	30,284
osage orange	0.00	0.00	0.00	100.00	0.00	0.00	0.00	**0.88**	30,204	30,284
Chinese photninia	0.00	0.00	0.00	100.00	0.00	0.00	0.00	**0.75**	15,714	22,222
dogwood spp	0.00	0.00	0.00	100.00	0.00	0.00	0.00	**0.68**	30,204	30,284
willow spp	0.00	0.00	0.00	100.00	0.00	0.00	0.00	**0.68**	30,204	30,284
ash spp	0.00	0.00	0.00	0.00	0.00	0.00	100.00	**0.00**	30,204	30,284
softwood	0.00	0.00	0.00	0.00	0.00	0.00	100.00	**0.00**	15,714	22,222
All Species Total	**4.50**	**33.80**	**31.00**	**18.60**	**3.40**	**2.30**	**6.40**	**1.00**	**64,655,087**	**10,010,365**