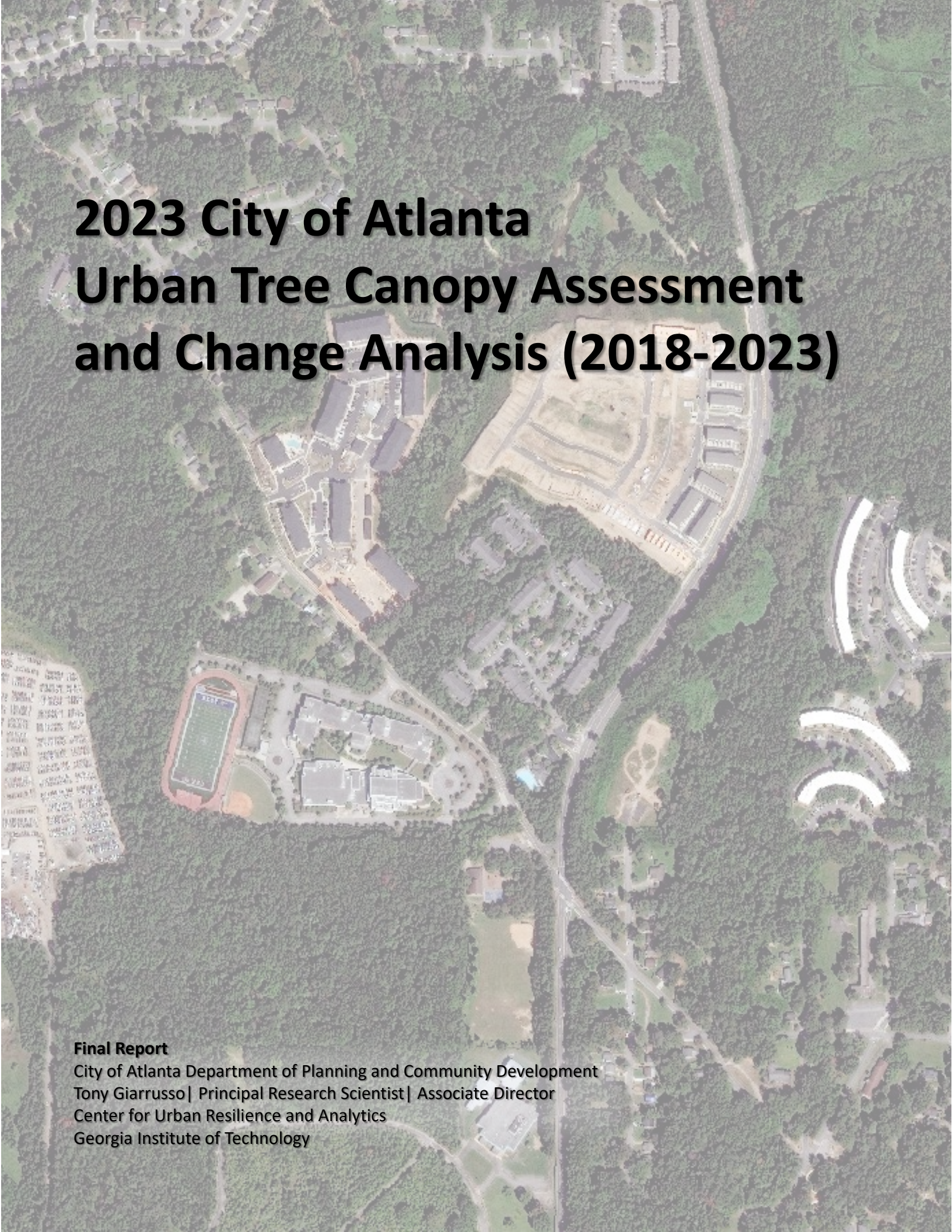


An aerial photograph of a suburban area. The landscape is dominated by dense green trees. Scattered throughout are residential houses with grey roofs. In the lower-left quadrant, there is a sports field with a red running track and a green field. To the right of the sports field, there are several large, curved, light-colored structures that appear to be part of a park or recreational area. The overall scene is a mix of nature and urban development.

2023 City of Atlanta Urban Tree Canopy Assessment and Change Analysis (2018-2023)

Final Report

City of Atlanta Department of Planning and Community Development
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Section 1: Introduction

1.1 Benefits of Urban Trees

Trees provide numerous well-documented environmental, ecological benefits, economic, and human health benefitsⁱ. In urban areas, trees prevent or reduce flooding, erosion, and the “urban heat island effect”, which causes higher temperatures in cities than surrounding areas by lowering surface and air temperatures and reducing energy demand. Trees also clean particulates and other pollutants from the air and stormwater, and provide critical habitat for birds and native wildlife. Mature trees enhance privacy, provide shade, add beauty, and increase the quality of life for residents. Studies show that the presence of trees and greenspaces in urban environments offers significant human health and social benefits, including quicker recovery time from illness, increased duration of physical activity and exercise, reduced stress levels, improved social cohesion, and even a longer life span.

Trees and Heat

Trees cool the environment through shading and evapotranspiration--the process by which water vapor is released into the air from the surface of a tree’s leaves into the air. The larger the tree, the greater the leaf surface area and cooling effect. Lower temperatures decrease energy demand, thereby reducing pollutant emissions from fossil fuel-based energy production.

In warm climates, reduced urban air temperatures lead to fewer heat-related illnesses and deaths, especially among vulnerable populations such as children, the elderly, outdoor workers, and individuals with pre-existing health conditionsⁱⁱ. One study found that in U.S. urban areas, heat wave mortality risk increased by 2.5% for each 1.0° F rise in air temperature. A review of 308 studies revealed that urban forests are, on average, 3.0° F cooler than non-green urban areasⁱⁱⁱ. Greener spaces also improve human thermal comfort--a measure of how people perceive heat. The cooling benefits of tree-covered areas can extend up to three-quarter of a mile beyond the boundaries of a greenspace.

According to the 2023 *Heat and Flood Vulnerability Study of Atlanta* (conducted by Urban Adapt, LLC, commissioned by Atlanta City Council Commissioners Liliana Bakhtiari and Matt Westmoreland), heat-related illness causes more annual deaths in the U.S. than any other extreme weather, contributing to an estimated 12,000 deaths per year. Atlanta ranks third nationally for the increase in the urban heat island effect, having added a full month of extreme heat days annually since 1970. The study modeled that reaching 40% tree canopy cover across all Atlanta neighborhoods would decrease average maximum temperatures by up to 3.0° F. Increasing canopy to 50% could reduce maximum temperatures by 4.0° F, and increasing the canopy coverage to 60% could yield reductions nearing 5.0°F. Additionally, achieving 50% canopy cover over streets could cool some neighborhoods by 1.2° F.

Reducing summer temperatures in urban settings also improves housing affordability by lowering the energy burden--the percentage of household income spent on home energy bills. Low-income Atlantans

have the third-highest energy burden in the country^{iv}, and nationally, the top reason people take out payday loans is to pay utility bills.

Trees and Watersheds

All trees, and especially trees adjacent to rivers and waterways (riparian trees), play a vital role in filtering runoff and sediment from slopes and slowing floodwaters. This helps maintain water quality, protects homes from flooding, and supports a healthy ecosystem. Shade provided by riparian trees also moderates water temperature, which is critical to aquatic life. Forested areas in proximity to streams and other surface water also provide important habitat for birds and other wildlife.

Riparian trees are particularly significant in Atlanta, a city developed at the intersection of ten stream drainage basins and having numerous creeks and rivers. Situated in the foothills of the Appalachian Mountains at 1,050 feet above sea level, Atlanta has the highest elevation among major cities east of the Mississippi River and straddles the Eastern Continental Divide (Champlin, 2016). Rainfall east and south of the divide flows toward the Atlantic Ocean via the South, Ocmulgee, and Altamaha Rivers, while rain falling to the west and north of the divide flows to the Gulf of Mexico via the Chattahoochee, Flint, and Apalachicola Rivers. Headwaters for several creeks in the basins originate within a 15-block radius of the downtown's Five Points. Tree cover, therefore, plays a critical role in protecting on water quality both Watershed protection is especially important in a city where 98% of the region's drinking water comes from surface sources. Healthy watersheds also support recreational opportunities biodiversity, and habitat. Non-point source pollution, caused by storm water runoff that transports oil and pollutants from impervious surfaces and particles associated with soil erosion, is a leading threat to water quality, exceeding point-source pollution from regulated industrial facilities. As forests and greenspaces are cleared for development, and land cover is converted to impervious surfaces such as streets, sidewalks, and parking lots, rainwater that would naturally infiltrate the ground becomes surface runoff. Because land and the water are deeply interconnected, a watershed-based approach is essential for maintaining water quality and healthy ecosystems.

Atlanta Flooding

The Atlanta region faces increasing flood risk due to extensive impervious surfaces and more frequent and intense rainfall events (3+ inches in 24 hours). Flooding now represents one of the greatest threats to infrastructure and property, with approximately 17,356 properties in Atlanta projected to be at risk of flooding over the next 30 years^v

According to the Department of Watershed Management, Atlanta experiences five types of flooding:

- **Riverine flooding** occurs along rivers and streams during heavy rain. The rise and fall of water levels depends more on river capacity and basin characteristics than on rainfall amounts. Smaller and more elongated basins, respond more quickly. The Chattahoochee River and the South River,

which are relatively large thus rise and fall more slowly than their tributaries. Compared with forested drainage basins, more intensely developed drainage basins—with a greater amount of impervious surface cover—reach peak flows and fall more quickly.

- **Flash flooding** results from short-duration intense rainfall that overwhelms streamflow and drainage capacity. Ponding occurs when concave areas such as parking lots, roads, and natural low or clay-lined areas, collect water that is unable to drain.
- **Urban flooding** a form of flash flooding unique to built environments, where drainage systems cannot keep pace with heavy precipitation, causing water to accumulate on impervious surfaces. Most urban flooding is caused by slow-moving thunderstorms or torrential rainfall, which has been occurring with greater frequency in Atlanta in recent years.
- **Ponding** occurs when water collects in low-lying or clay-lined areas that cannot drain.
- **Backwater flooding** occurs when downstream flow is restricted such as when culverts become blocked by debris.

The 2023 Atlanta Heat and Flood Vulnerability Study identified the city’s most heat- and flood-vulnerable neighborhoods. Nine of the ten most flood-prone areas had canopy coverage between 5.9% and 28.4%; the tenth had 35.3%. Only three of the most heat-vulnerable areas had canopy cover above 37.9%, likely due to the number of elderly residents and/or limited access to air conditioning.

1.2 History of the Project

In 2008, the City of Atlanta obtained high-resolution, multi-spectral satellite imagery and contracted Georgia Tech researchers from the Center for Geographic Information Systems (CGIS) and the Center for

Quality Growth and Regional Development (CQGRD) to assess and quantify existing tree cover within the City of Atlanta, establish an accurate baseline tree canopy estimate, and develop methodologies and procedures for future studies.

In 2014, the City again commissioned Georgia Tech to perform a second urban tree canopy assessment to include canopy change analysis between 2008 and 2014. Researchers conducted over 100 site visits conduct qualitative assessments of and evaluate the pattern and causes of canopy change observed in the satellite imagery

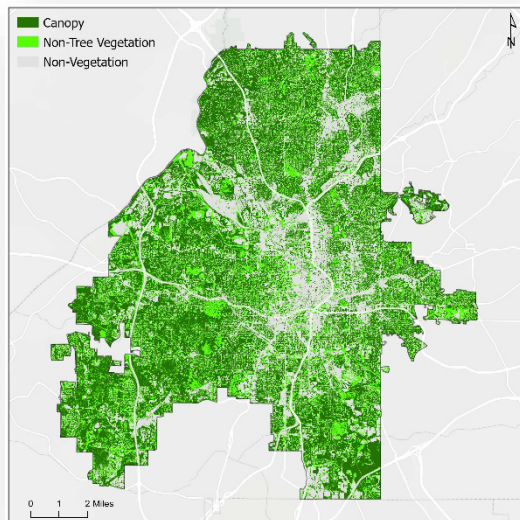


Figure 1. 2023 Land Cover

In 2018, Georgia Tech conducted a third canopy assessment and change analysis for Atlanta. The City annexed almost 3,000 acres of land between 2008 and 2018 making change estimates of the overall city-wide canopy coverage difficult to interpret. To address this, researchers evaluated change within the 2008 city boundaries as well as the 2018 results. Researchers again conducted over 100 site visits to assess the pattern and causes of canopy change observed in the satellite imagery.

In 2024, the city of Atlanta again contracted with Georgia Tech to perform a fourth urban tree canopy assessment and change analysis, covering the period from 2018 to 2023. The results of that assessment are presented in this report.

1.3 Research Objectives

The objective of the fourth urban tree canopy study was to update the 2008, 2014, and 2018 canopy numbers using 2023 satellite imagery and determine change in tree canopy from 2018 and 2023, which could be used to help the City understand the pattern of tree loss and gain over time, and how to better manage this change through policy development and planning. The information will ultimately help the City make science-based policy decisions regarding Atlanta's forest cover. The new data provided by this research enables the City to accurately identify areas of tree loss and gain and to target efforts to minimize loss and maximize gain so that the city's trees will continue to provide the greatest benefits to water and air quality, and habitat protection, and support an enhanced quality of life for city residents.

1.4 Report Organization

This report describes the project objectives, methods, results, and recommendations, and is organized as follows. Section 1 summarizes the project's history, goals and objectives. Section 2 is the Executive Summary.; Section 3 provides a detailed explanation of the project research methodology; Section 4 presents city-wide and sub-city research findings in detail and includes 2023 canopy statistics as well as 2018-2023 change analyses; Section 5 presents conclusions, discusses possible policy implications of this research, and provides recommendations for further tree cover classification studies in the City of Atlanta. Finally, the Appendices contain full page maps and complete summary data tables with findings across all geographies.

ⁱ McDonald, R. I., Biswas, T., Sachar, C., Housman, I., Boucher, T. M., Balk, D., Nowak, D., Spotswood, E., Stanley, C. K., & Leyk, S. (2021). The tree cover and temperature disparity in US urbanized areas: Quantifying the association with income across 5,723 communities. *PLOS ONE*, 16(4). <https://doi.org/10.1371/journal.pone.0249715>

ⁱⁱ Anderson, G. B., & Bell, M. L. (2011). Heat waves in the United States: Mortality risk during heat wave and effect modification by heat wave characteristics in 43 U.S. communities. *Environmental Health Perspectives*, 119(2), 210–218. <https://doi.org/10.1289/ehp.1002313>

ⁱⁱⁱ Knight, T., Price, S., Bowler, D., Hookway, A., King, S., Konno, K., & Richter, R. L. (2021). How effective is 'greening' of urban areas in reducing human exposure to ground-level ozone concentrations, UV exposure and the 'Urban Heat Island Effect'? an updated systematic review. *Environmental Evidence*, 10(1). <https://doi.org/10.1186/s13750-021-00226-y>

^{iv} American Council for Energy-Efficient Economy, ACEEE. (2016), Dreihobl, A., Ross, L.,
<https://www.aceee.org/sites/default/files/publications/researchreports/u1602.pdf>

^v First Street, Atlanta Flooding Risk. https://firststreet.org/city/atlanta-ga/1304000_fsid/flood. first street. (n.d.).
<https://www.aceee.org/sites/default/files/publications/researchreports/u1602.pdf>

Section 2 Executive Summary

Tree canopy is defined as the layer of leaves, branches, and stems of trees that cover the ground when viewed from above. Tree canopy is affected by local geography and climate, as well as land use patterns and development. Studying urban tree canopy helps cities better understand land cover and the distribution of trees which can inform planning and policy decisions to maximize benefits associated with a healthy urban forest.

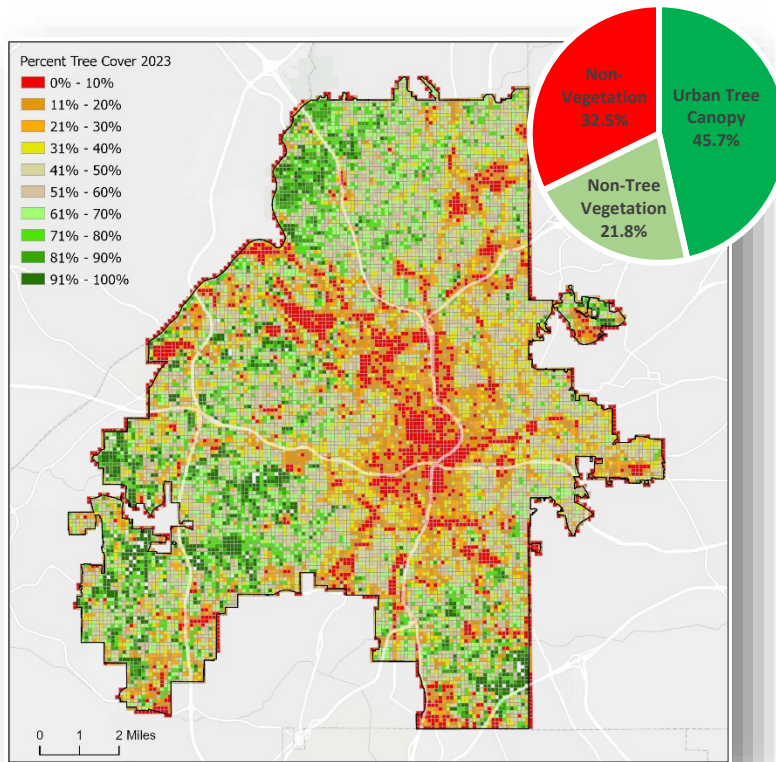


FIGURE 3. 2023 CANOPY DISTRIBUTION

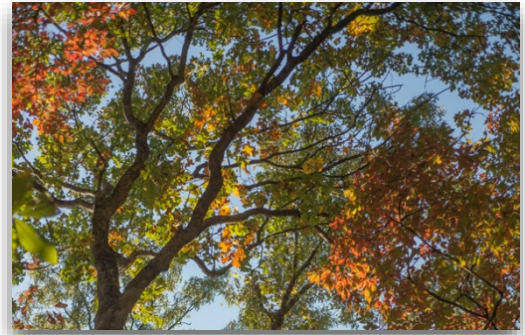


FIGURE 2. MIXED NATIVE HARDWOOD CANOPY

Analyses of satellite imagery are utilized to reliably evaluate the quantity of tree canopy, but site visits are required to determine the quality, species make-up, and biodiversity of the canopy. Though imagery alone usually does not provide enough information to distinguish between invasive and native species, or young and older trees, the spatial distribution of canopy provides clues that help distinguish between planted street trees, trees in landscaped areas, forest patches, and larger forested areas. Because Atlanta's canopy analysis includes extensive field visits, this report includes qualitative observations as well.

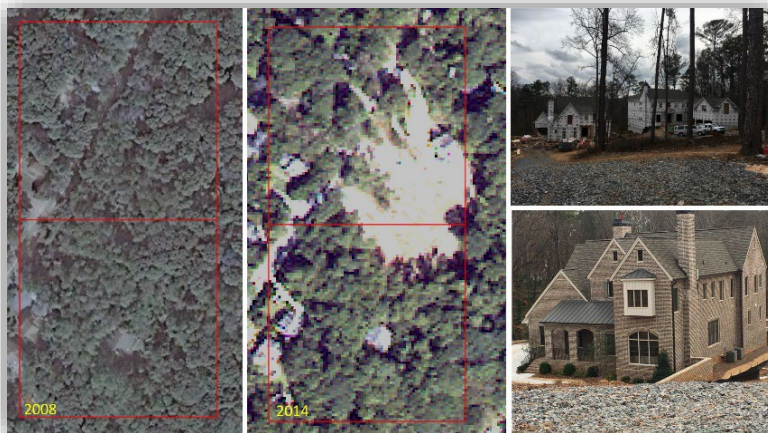


FIGURE 4. SINGLE-FAMILY REDEVELOPMENT

2.1 CANOPY ASSESSMENTS 2008-2014

Atlanta's Department of City Planning completed the first-ever city-wide analysis of tree canopy utilizing 2008 satellite imagery. This baseline analysis revealed that Atlanta's overall tree canopy coverage in 2008 was 47.9% (40,524 acres) and that canopy coverage within the city varied tremendously, from less than 10% downtown and along transportation corridors to over 90% in nature

preserves and along stream corridors. In 2014, the City completed a second tree canopy analysis and determined tree canopy coverage had decreased to approximately 47.1% (40,740 acres), which was not a significant change from the 2008 baseline, at least at the city-wide scale.

However, a closer evaluation of the data, which included over 100 site visits, showed significant canopy gain and loss across the City and provided a greater understanding of patterns, trends, and underlying causes of the changes in the quantity and quality of tree canopy. Notably, though the acreage of tree canopy increased (by 216 acres), the percentage of canopy decreased due to annexations that added hundreds of acres to the city.

Most of the canopy loss between 2008 and 2014, which likely occurred after 2012 when intense development resumed in the post-2008 recession period, was primarily due to redevelopment of single-family homes, where smaller, older houses on large lots were replaced with much larger houses built-out to the maximum allowed size (Figure 4). Often, several adjacent homes and small subdivisions were demolished and redeveloped with no increase in the number of residential units but were associated with substantial decreases in tree canopy. Other areas showing significant loss between 2008-2014 were new industrial developments, where clear-cutting is permitted. The remaining loss was attributed to other types of ongoing development and redevelopment for commercial, mixed-use, institutional, and multi-family residential uses.

As expected, there also were several areas across the City showing tree canopy gain between 2008 and 2014. New residential subdivisions and multi-family developments constructed just before or after 2008 showed

significant canopy gains as many of these new developments planted young, quick growing trees. Older neighborhoods with established, older canopy cover also showed gains, though, of course, less dramatic than areas with younger trees. The most significant and substantial



FIGURE 5. PIPE FARMS IN THE CITY OF ATLANTA

gains, however, were observed in areas that had been cleared for development circa 2008 but remained undeveloped in 2014 and were subsequently overgrown by fast growing, low quality trees in the interim. These sites, where pipes and other infrastructure were installed before construction was halted are commonly referred to as “pipe farms” (Figure 5). Over 25 of these sites (~ 500 acres) were identified between 2008 and 2014. Because canopy growth on a pipe farm is almost certainly temporary and these areas will eventually be developed, this canopy gain can be categorized as temporary or “false growth”. With false growth taken into account, canopy

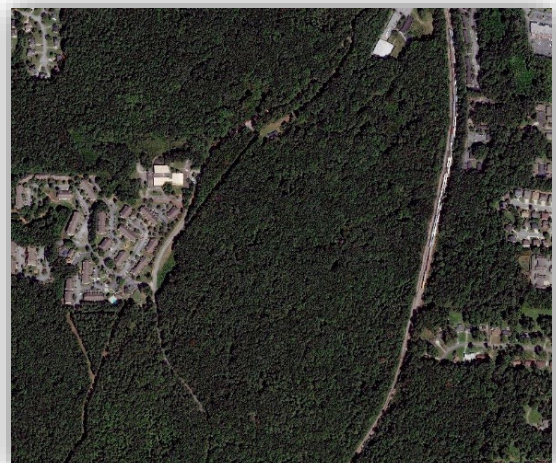


FIGURE 6. UNPROTECTED FOREST IN SW ATLANTA

coverage estimates fell to approximately 45% in 2014. While these recently graded areas, covered with quick-growing invasive species or a monoculture of dense young pines, appear as “tree canopy” when viewed by satellite, they cannot be categorized as canopy of the same quality and character as the forests that were cleared before development.

2.2 Patterns of Change 2014-2018

In 2018, the City conducted the third canopy assessment and estimated overall tree canopy coverage to be 46.5% (40,609 acres), a slight decrease from 2014 and almost 1.5% less than 2008. It should be noted, however, that the City annexed almost 3,000 acres of land between 2008 and 2018 making change estimates of the overall city-wide canopy coverage difficult to interpret. Researchers again conducted over 100 site visits to assess the pattern and causes of canopy change observed in the satellite imagery.

The patterns of change between 2014 and 2018 were similar to those observed between 2008 to 2014, with the majority of canopy loss associated with demolition and redevelopment of single-family homes. However, the pace and scale of redevelopment increased substantially between 2014 and 2018. During the 2018 site visits,



FIGURE 7. SINGLE-FAMILY REDEVELOPMENTS

many neighborhoods, especially north of I-20, showed extensive loss of canopy due to single-family redevelopment, often with multiple sites on the same street or same neighborhood (Figure 7). Trees planted on the redeveloped sites rarely represented the same species or diversity of trees that had been removed. The most commonly replanted trees were red maples, and many others were non-native, ornamental species. Both the quantity and quality of the city’s urban forest continue to change based on this pattern. Tree removal from redeveloped single-family sites, which was the most common source of canopy loss between 2014 and 2018,

often goes unnoticed because it occurs lot by lot and doesn't become apparent until an entire street or neighborhood has been redeveloped.

While single-family redevelopment was the main, overall contributor to canopy loss between 2008 and 2018, development on land with industrial zoning was the source of the greatest loss of large, contiguous forested

tracts because land with industrial zoning has few limits on tree clearing. For example, the largest contiguous areas of canopy loss between 2008 and 2018 were on land with industrial zoning. The largest clearing was approximately 190 acres and several others cleared between 20 and 30 acres each.

Canopy gain trends observed between 2008 and 2018 were also like the gains observed between 2008 and 2014, and



FIGURE 8. STALLED DEVELOPMENT SHOWING CANOPY GROWTH

the gains were more pronounced, especially the tree growth detected in new developments circa 2008 and regrowth observed at pipe farms and other incomplete developments. Normal growth of existing trees continued to occur and was substantial in some areas, but the most significant contiguous areas of growth were regrowth or “temporary/false growth” on land cleared sometime around 2008. These areas were covered with invasive vegetation or very dense small pines and had no resemblance to surrounding forests. These areas, where development stopped after curb and gutters, piping, and other infrastructure was installed, will likely be cleared again when development resumes (Figure 8). With this false growth considered, canopy coverage estimates likely fell to approximately 45% in 2018. In essence, the change in the overall quantity of the City’s canopy measured via satellite imagery was small but the change in the quality and composition of the canopy as it previously existed was substantially diminished.

2.3 2023 URBAN TREE CANOPY ASSESSMENT

In 2023, the City conducted the fourth canopy assessment and estimated overall tree canopy coverage to be 45.7% (39,830 acres), almost a one percent decrease from 2018 and 2.2% less than 2008, which equates to roughly .40 acres of tree canopy lost per day between 2008 and 2023 (Figure 2). Over 100 site visits were performed in late 2024 to assess the pattern and causes of canopy change observed in the satellite imagery.



FIGURE 9. AERIAL VIEW OF ATLANTA FROM THE WEST

The patterns of change between 2018 and 2023 were quite different than those observed between 2008, 2014 and 2018, where most of the canopy loss was associated with demolition and redevelopment of single-family homes. Between 2018 and 2023, the largest areas of canopy loss resulted from development of multi-family housing (Figure 10), mixed-use, or clustered single-family housing. During the 2023 site visits, many neighborhoods, primarily in the east, west and southwest, showed extensive loss of canopy as a result of clearing for multi-family development or redevelopment. This observed pattern is supported by permit data for the period, which shows that 2% of development sites removed 50% of the trees permitted for removal, with each site removing 100 or more trees. Trees planted on the redeveloped sites rarely represented the same species or diversity of trees that had been removed. The most commonly replanted trees were red maples, and many others were non-native, ornamental species. Both the quantity and quality of the city's urban forest will continue to change based on this pattern.

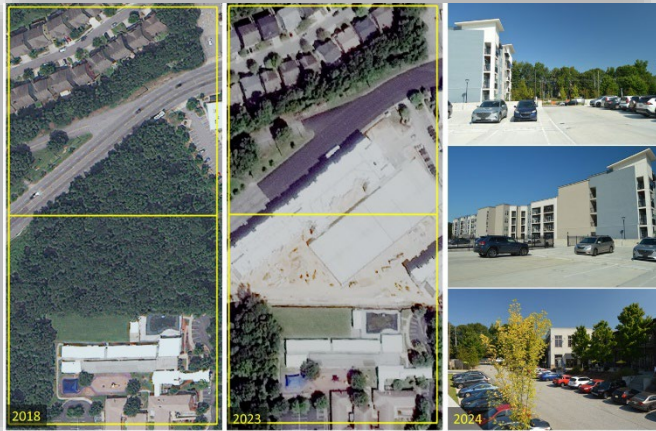


FIGURE 10. 2023 CANOPY LOSS-MULTI-FAMILY DEVELOPMENT

While multi-family redevelopment was the main, overall contributor to canopy loss between 2018 and 2023, development on land with industrial zoning continues to be a significant source of loss of large, contiguous tracts of forest (Figure 11) because these zones have few limits on tree clearing. For example, the largest contiguous areas of canopy loss between 2008 and 2018 and between 2018 and

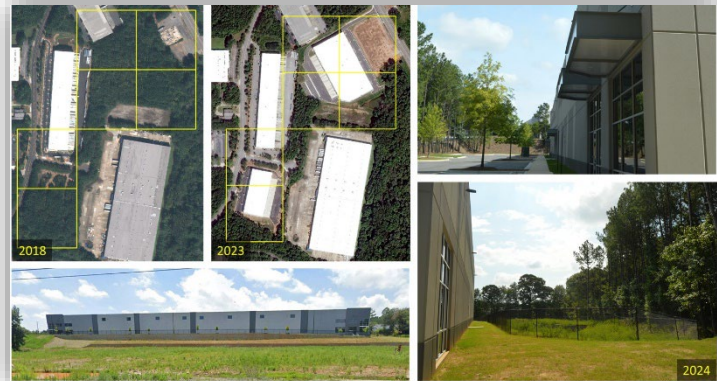


FIGURE 11. 2023 CANOPY LOSS-INDUSTRIAL DEVELOPMENT



FIGURE 12. CLEARED DEVELOPMENT SHOWING CANOPY REGROWTH

2023 were all zoned industrial, with several sites losing between 20 and 30 acres of trees. The development projects on sites with industrial zoning included warehouses, truck facilities, a concrete plant, and sound stages. Other sites with large tree losses included a private school, a gas station, and a motel.

Single-family redevelopment continued to contribute significantly to canopy loss in the city, primarily in the north and east, though not as extensively as the losses observed between 2008-2018. According

to permit data, 21% of healthy trees permitted for removal were removed from 84% of the sites, where 16 or fewer trees were removed from each site.

Though most observed canopy loss was associated with construction, permit data also help illuminate other patterns of loss observed during site visits where canopy was missing but not associated with construction. According to the City's database, between 2018 and 2023, some 55,634 trees were permitted for removal associated with construction, 47,102 trees were permitted as dead, dying, or hazardous, and 5,471 trees were removed without a permit (25% of which were removed from one 22-acre site).



FIGURE 13. CANOPY LOSS.GAIN.LOSS SITE

Canopy gain trends observed between 2018 and 2023 were very similar to gains observed between 2008 and 2018, yet were more pronounced, especially the growth of street trees planted in developments occurring circa 2008. Normal growth of existing trees continued to occur and was substantial in some areas but the most significant contiguous areas of growth were again canopy regrowth or “temporary/false growth” on land cleared sometime around 2008 (Figure 12). These areas are covered with invasive vegetation or very dense small pines and have no resemblance to surrounding forests. On these sites, development had either stopped after curbs and gutters, piping, and other infrastructure was installed, or previous housing developments had been cleared, and will likely be cleared again when development plans are implemented. In fact, during site visits, the project team observed several locations that had been cleared in 2008, showed canopy regrowth in 2014 and/or 2018, and then were cleared again and developed by 2023 (Figure 13). This phenomenon of loss-gain-loss on multiple sites is noteworthy as it skews the overall canopy values over time. Even more significant, however, is the observation that the first clearing of trees was usually older, mature forests, eventually followed by “volunteer”

growth of a monoculture of pines or invasive trees in the clearing, (which was detected by satellite imagery as “canopy growth”), but was then ultimately re-cleared for development.

2.4 Canopy Distribution Across the City - 2023

While Atlanta enjoys some of the highest tree canopy coverage within the city limits of a major US city, the canopy coverage varies widely across the city. Densely developed and urbanized **neighborhoods** such as Downtown (1,257 acres), Castleberry Hill (181 acres), Atlantic Station (163 acres), and Lenox (152 acres) had less than 9% canopy coverage, with the Oakland neighborhood (34 acres) having the lowest at 3%. In contrast, fifteen single-family residential neighborhoods outside the city’s core had canopy coverage of 70% or greater. The highest canopy coverage was in the Boulder Park (84%) and Fernleaf (80%) neighborhoods of southwest and west Atlanta (Figure 14). These areas are characterized by greater biodiversity than canopy found closer to the urban core.

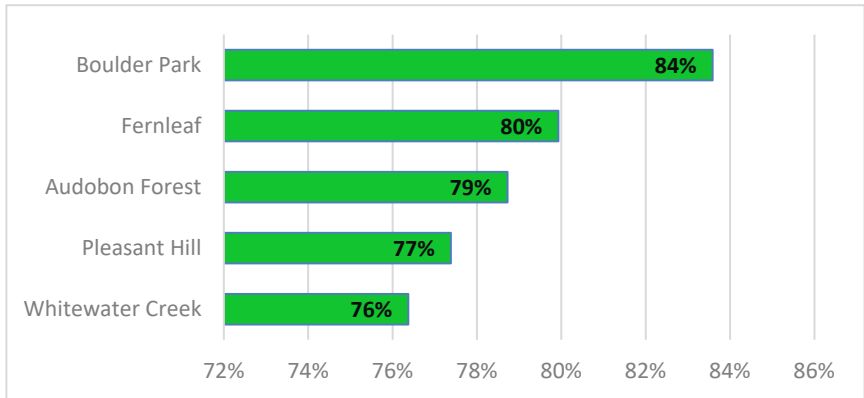


FIGURE 14. FIVE HIGHEST TREE CANOPY NEIGHBORHOODS 2023

City parks make up approximately 5.1% land in the city and contain approximately 7% of the city’s tree canopy. The average tree canopy coverage on park land (54%) is slightly higher than the city’s overall tree canopy



FIGURE 15. SKYLINE VIEW FROM PIEDMONT PARK

coverage of 45.7%, reflecting the varied uses of Atlanta’s parks, which range from open lawn to forested nature preserves. Among parks over 20 acres in size, canopy coverage ranges from a low of 19% at Boulevard Crossing to a high of over 95% at Gun Club Park. Lionel Hampton-Beecher Hills Nature Preserve, Cascade Springs Nature Preserve and Lake Charlotte Nature Preserve.

Canopy coverage is strongly related to zoning and land use (Figures 16 and 17). The largest land use in Atlanta is single-family residential, making up 59% of the city’s land area. The next largest zoning designations are industrial (11% of total land area), residential multi-family (12% of total land area), and special public interest (7% of total land area). Figure 15 shows canopy coverage for several zoning categories, as well as the percentage that each area contributes to Atlanta’s total tree canopy.

Tree Canopy Distribution by Zoning Designation

Canopy coverage is strongly related

2023 Tree Canopy Coverage by Zoning		
Zoning Category	Canopy Coverage within Zoning Area	Contribution to Overall Tree Canopy
Single-Family Residential	56%	72%
Multi-Family Residential	37%	10%
Industrial	26%	6%
Commercial	26%	2%
Office/Institutional	42%	2%
Planned Development	47%	4%

FIGURE 16. CANOPY COVER BY ZONING CATEGORY

land zoned industrial, which totals approximately 2,150 acres, is subject to eventual loss from development, which would lower the City's overall canopy by 2.5%. Tree canopy on undeveloped land zoned residential multi-family or commercial will likely be similarly developed, which would potentially lower the city's canopy coverage by another 4%.

It is important to note that some zoning categories (e.g. mixed-use and special public interest) allow several uses. In addition, underlying zoning may not reflect current land use, especially on undeveloped or vacant land. This may explain the relatively high canopy coverage on land zoned residential multi-family (37%), industrial land (26%), and commercial land (26%), as significant acreage in these zoning areas may remain undeveloped. Furthermore, land zoned industrial, commercial or multi-family residential typically leaves little space for trees when fully developed to the maximum extent of impervious lot coverage allowable per zoning requirements. Given these facts, one can safely assume that at least 90% of the tree canopy on

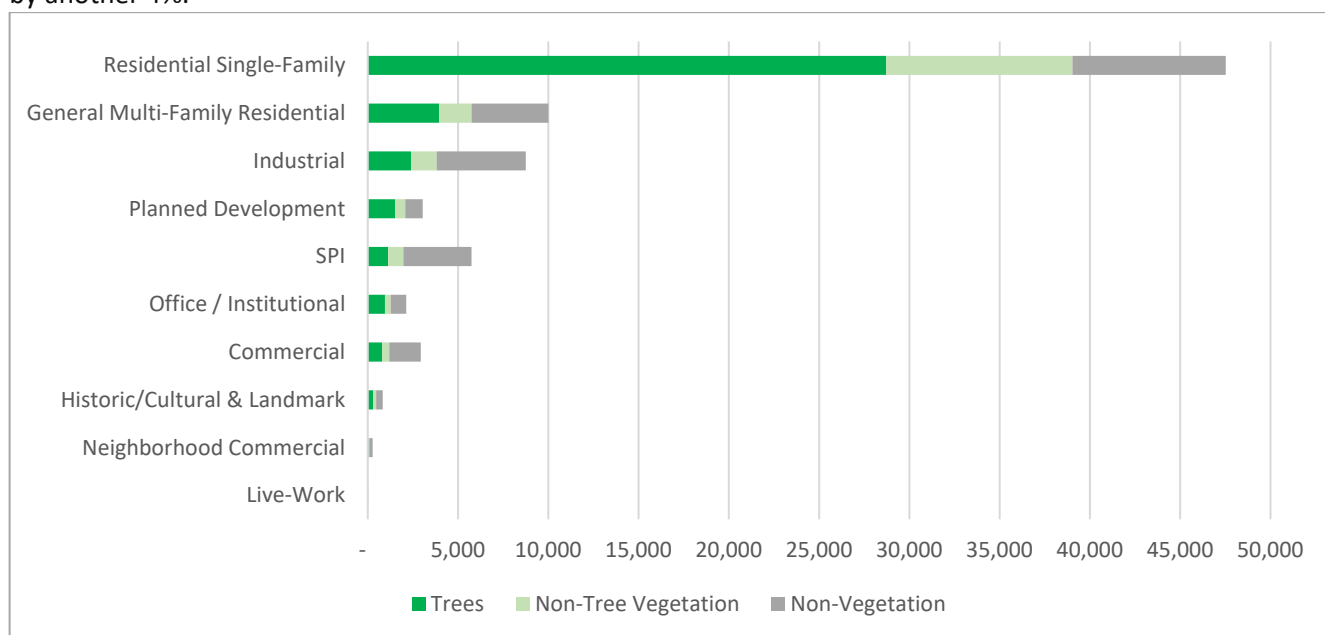


FIGURE 17. LAND COVER DISTRIBUTION BY ZONING CATEGORY

2.5 2018 - 2023 URBAN TREE CANOPY CHANGE – QUALIFYING THE RESULTS

A primary objective of the fourth canopy study was to quantify and qualify canopy change occurring since the third canopy assessment in 2018 and the baseline assessment in 2008. At the city-wide scale, interpretation of overall change was complicated because the City annexed almost 3,000 acres of land between 2008 and 2018 and even lost a small area of land between 2018 and 2023. Consequently, the city boundary changed significantly, making it difficult to measure *overall canopy change* precisely between 2008 and 2023. However,

since the changes in the city limits between 2018 and 2023 were insignificant, canopy comparison between this time period is relatively straightforward.

Interestingly, due to annexations, the total *acreage* of the City's urban tree canopy (UTC) was higher in 2014 (40,740 acres) than it was in 2008 (40,524 acres), as well as in 2018 (40,609 acres) and in 2023 (39,830 acres). However, because the physical boundaries of the City expanded, the observed *percentage* of tree canopy decreased from 47.9% in 2008 to 47.1% in 2014; further to 46.5% in 2018; and then to 45.7% in 2023.

Aggregating 2023 Canopy to 2008 Boundaries

When the 2023 tree canopy is aggregated to 2008 city boundaries, the percentage of 2023 canopy on the land that comprised the City in 2008 drops to 45.5%. This overall change equates to an estimated loss of approximately 2,100 acres of tree canopy between 2008 and 2023, or a loss of .40 acres per day. When we look

at canopy change between 2018 and 2023, the estimated loss of canopy is approximately 780 acres equating to a loss of .43 acres of canopy per day. While this measurement of change may not seem significant, it indicates an ongoing trend towards canopy loss at the city-scale.

To better understand *where* the canopy change occurred between 2018 and 2023 across the city, tree canopy values for each time-period were aggregated to a city-wide grid of cells approximately six acres in size and analyzed. The six-acre grid-cell analysis yielded much more detailed and site-specific information about the City's canopy and its change over time. Researchers observed tree canopy *loss* greater than 1.5 acre in 948 cells and tree canopy *gain* greater than 1.5 acre in 133 cells.

The project team then visually

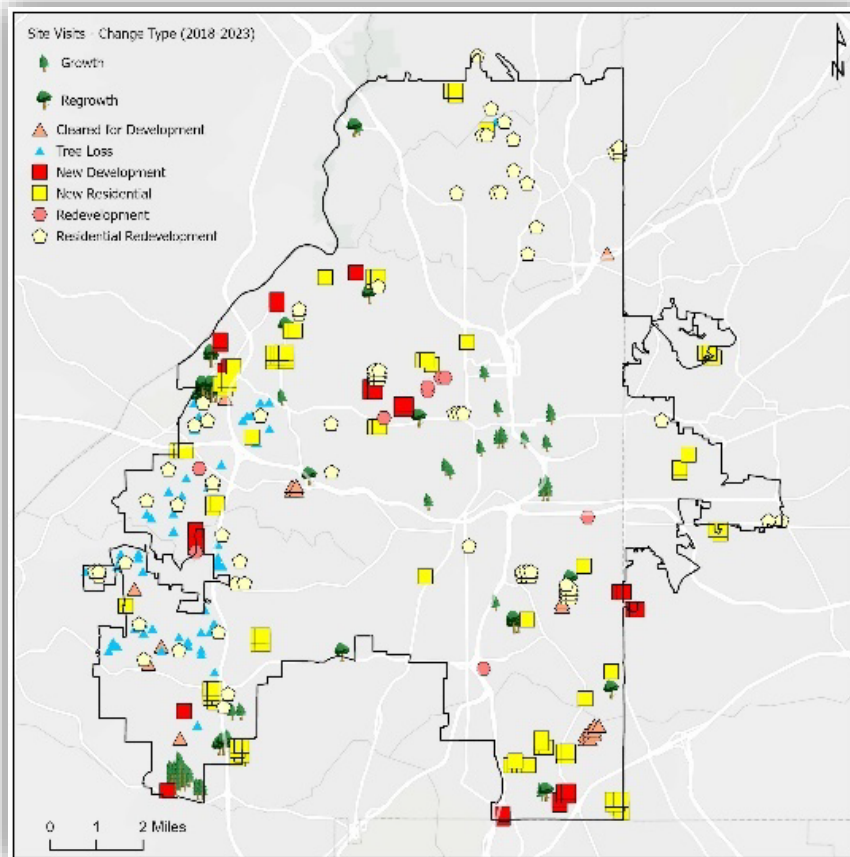


FIGURE 18. SITE INSPECTIONS

inspected over 1,000 sites using the satellite photos from 2018 and 2023 and subsequently visited 160 locations to verify site conditions (Figure 18). This detailed validation provided added confidence and revealed important trends. Most notable, the site visits revealed that numerous (98) cells detected on the imagery as “canopy gain” were previously cleared sites with scrubby vegetation, invasive plant growth, and very dense stands of fast-growing pines. These sites equated to over 500 acres of land classified as tree canopy growth as measured by satellite imagery, but the sites had almost no large canopy trees. These sites can arguably be classified as “false or temporary growth” and omitted from the calculation of overall all canopy coverage. While technically classified as tree canopy by satellite, the quality of the woody vegetation and young trees is low and many, if not most, of these sites will be re-cleared when development restarts.

Areas Losing 1.5+ Acres UTC: New multi-family developments and redevelopments were the greatest contributors to significant canopy loss between 2018 and 2023 (Figure 19). The project team identified 94 grid cells where multi-family housing was built or rebuilt and 1.5 or more acres of canopy were lost. Single-family residential developments (on a previously undeveloped site) and single-family residential redevelopments (on a site where a house was demolished) were the next largest contributor to canopy loss with 76 grid cells identified. New industrial and commercial developments were also significant with 25 sites totaling roughly 100 acres of canopy loss. It should be noted that loss of large individual trees or clusters of trees was also detected, primarily in the southwest of Atlanta (55 grid cells). Comparison with tree removal permit data showed that most of these trees were permitted for removal though some were locations where fines had been issued for unpermitted removal.

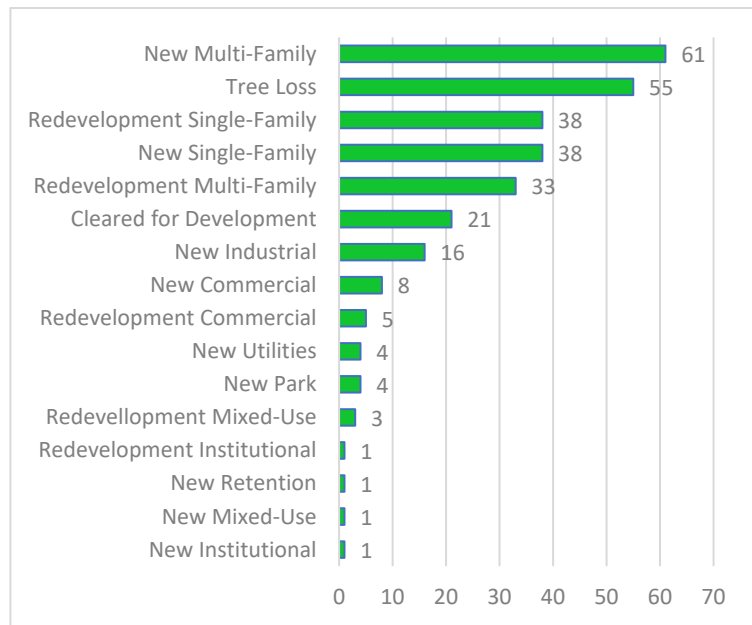


FIGURE 19. CANOPY LOSS TYPES (LOSS OF 1.5-ACRE+)

Areas Gaining UTC: The project team also identified many areas showing an increase in canopy coverage between 2018 and 2023. Several locations showing canopy gain were the result of the rapid growth of trees planted in new subdivisions or on individual properties around 2008 (Figure 20). While this growth is positive, it

should also be noted that many of these trees are quick growing and non-native or ornamental species (e.g. crape myrtles, cryptomeria, and Chinese elms). As such, they do not provide the same long-term ecological benefits as native trees such as oaks, hickories, beeches, and other diverse species that made up



FIGURE 20. CANOPY GROWTH ON MULTI-FAMILY PROPERTY

the mature hardwood forests that covered many of the sites prior to being cleared. Based on observations in the field, the diversity of replanted trees is limited and the most commonly planted species in the city by far is red maple.

Canopy Change 2008 – 2023

It is important to note that unlike previous canopy assessments, only a few sites showed growth or regrowth of tree canopy on unfinished or partially unfinished subdivisions (i.e., land cleared, roads and sewer constructed

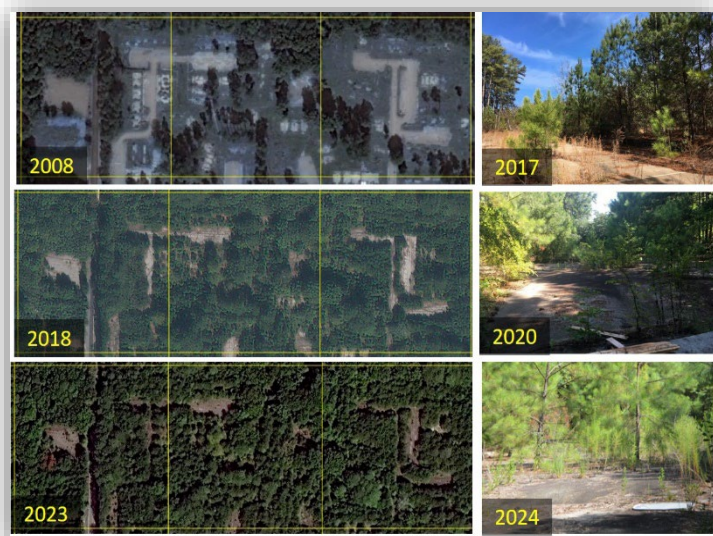


FIGURE 21. FORMER AHA PROPERTY SHOWING REGROWTH

but no buildings), which are often referred to as “pipe farms.” As mentioned above, most of the previously identified pipe farms that showed regrowth in 2014 and 2018 have been recleared and developed. However, regrowth was observed at a few former Atlanta Housing Authority sites, almost all of which were cleared pre-2008 and remain vacant today (Figure 21), as well as at a few pipe farms identified in 2014. The remaining pipe farms and former AHA sites are now almost completely overgrown with small, tightly spaced volunteer pines or quick-growing invasive trees.

The satellite imagery shows that some of these sites have grown to over 90% canopy since 2008 (Figure 20). However, visits revealed that sites were populated with a monoculture of young pines or poor-quality invasive trees with some growing in crumbling asphalt of former parking areas. These trees do not provide the ecosystem services of forested land. Almost certainly, they also represent temporary growth since the sites that will be cleared again when development plans are implemented. These sites are excellent locations for redevelopment since restoration would be expensive if not impossible to implement. Based on extensive site visits and review of the satellite imagery, the project team estimates that this “false” growth in areas where the land cover can be classified as “tree canopy” as measured by satellite (but is not comprised of mature canopy-providing individual trees), represents approximately 500 acres or 1.25% of the city’s canopy, indicating a more accurate estimate of true canopy in 2023 is approximately 44.5%.

2.6 CANOPY POST-2023

The trends observed between 2018 and 2023 have likely continued, based on field observations in 2024 and analysis of permitting data. While new building permits in the city of Atlanta have declined slightly since their peak in 2017-2018, substantial development is occurring in the City (Figure 22). Single-family residential permits continue to hover around 800 permits per year, almost double the number submitted 10 years ago. These permits include those associated with redevelopment where an existing residence was demolished, as well as permits for new residences constructed on previously undeveloped land. This type of development has contributed significantly to the loss of canopy since 2008 and will undoubtedly continue. Though the number of non-single-family permits is much lower, each permit has the potential to impact on a much larger area and a more significant number of trees. The number of new multi-family permits has varied since 2016, but between 200 and 400 new permits have been submitted each year from 2015 to 2022. The number of commercial permits

issued each year has remained somewhat steady since 2017 (between 100 and 200). Measures to offset tree losses should be undertaken if the City is to achieve its goal of 50% canopy cover.

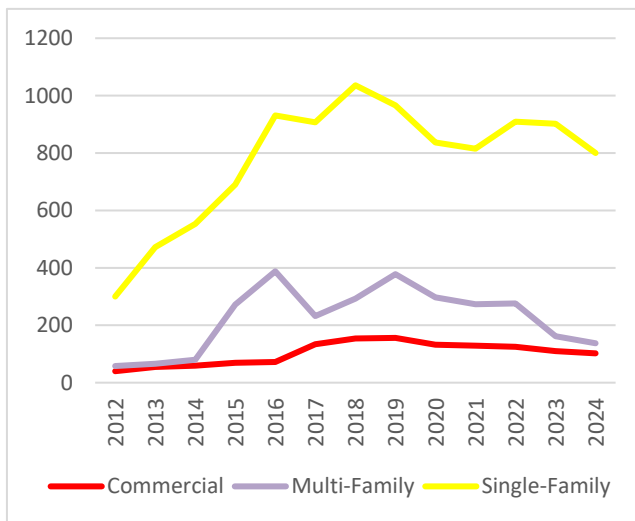


FIGURE 22. DEVELOPMENT PERMITS 2012-2024

2.7 RECOMMENDATIONS

The analysis undertaken by Georgia Tech to evaluate tree canopy change between 2008 and 2023 provides documented, science-based data that can be used to inform decision-making related to policy, planning, and urban tree and forest management in Atlanta. Information about canopy change from 2008 to 2023 offers a resource to help the City evaluate and quantify how the interaction of policy, land use, and the free market affect urban tree canopy in Atlanta over time.

Specific recommendations for consideration and discussion:

- Identify methods for reducing tree loss during development and redevelopment of individual single-family sites and single-family subdivisions.
- Promote or require retention of existing trees on larger new developments and redevelopments where feasible.
- Consider incentives for redeveloping vacant previously developed public housing properties with trees growing in poor conditions such as former parking lots and building foundations.
- Identify measures to prevent clearing of large sites that will not be completed, specifically as it applies to “pipe farms” (where subdivisions were partially developed but not completed for a decade or longer).
- Evaluate maximum allowable lot coverages for impervious surfaces, requiring a minimum area for trees, especially on residential land.
- Evaluate open space requirements and transitional yards as they relate to establishing tree save areas and potential planting areas on multi-family and other developments.
- Implement conservation measures for new subdivisions.
- Identify incentives for redevelopment of underdeveloped and previously cleared land, and incentives for protecting land with the highest ecological value.
- Permanently protect the largest remaining tracts of undisturbed mature forests.
- Consider expanding riparian buffers to increase tree cover along streams in impaired and non-supporting watersheds.
- Align replanting requirements with the species of trees that are removed or require replanting of native trees to ensure tree replacements are of similar quality to the removed trees. Consider feasibility of topsoil saving or restoration.
- Develop minimum standards for ecological preservation and/or restoration on high-acreage development sites such as corporate campuses.

Section 3: Methods

3.1 Establishing the Workflow

Since the primary goal of this research is to quantify tree cover, the final methodology consists of a land cover classification process that differentiates the city into three distinct land cover classes (tree, non-tree vegetation and non-vegetation) using supervised¹ imagery classification techniques, followed by an accuracy assessment, and numerous site visits to qualify the findings.

The finalized imagery classification process is described in further detail below.

3.2 Imagery Capture and Preparation

After review of the available imagery options, Digital Globe Inc.'s WorldView2 satellite imagery was

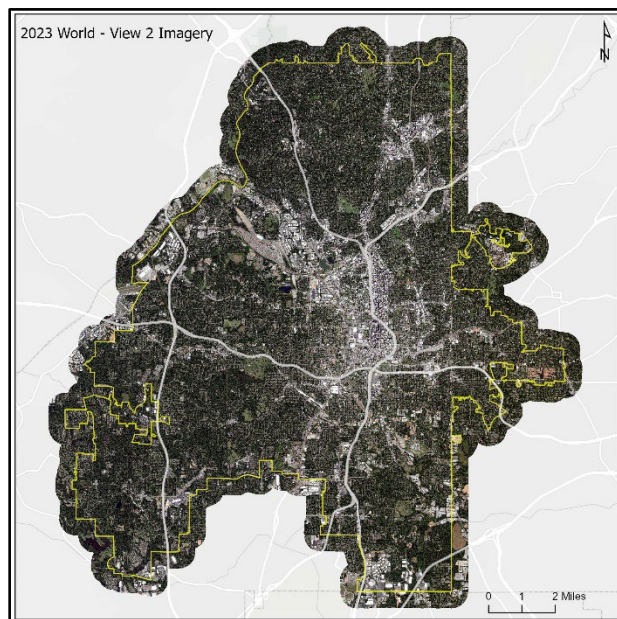


Figure 23. 2023 World-View 2 imagery

selected as the best option, primarily due to its high spectral resolution. The cloud-free satellite imagery was captured by the WorldView 2 satellite on September 24, 2023 (Figure 23). This detailed 16-bit, .5 meter, pan-sharpened, 4-banded data (Red, Green, Blue and Near IR) served as the basis for all analyses.

3.3 Imagery Classification

The research team established the following land cover classes:

- **Tree Canopy:** the layer of leaves, branches and stems of trees that cover the ground when viewed from above.
- **Non-Tree Vegetation:** primarily lawn, grass, and low-lying vegetation such as shrubs, kudzu, and other plants.
- **Non-Vegetation:** pavement, buildings, impervious surfaces, and bare soil.

¹ Supervised imagery classification is a technique where you train a model using labeled data (training samples) to classify pixels or segments in an image into predefined categories, like land cover types.

Researchers subset the raw imagery to the 13 USGS quarter quads to improve processing time and to allow for ease of editing (Figure 24). Using ArcGIS Pro 3.1, the project team conducted supervised

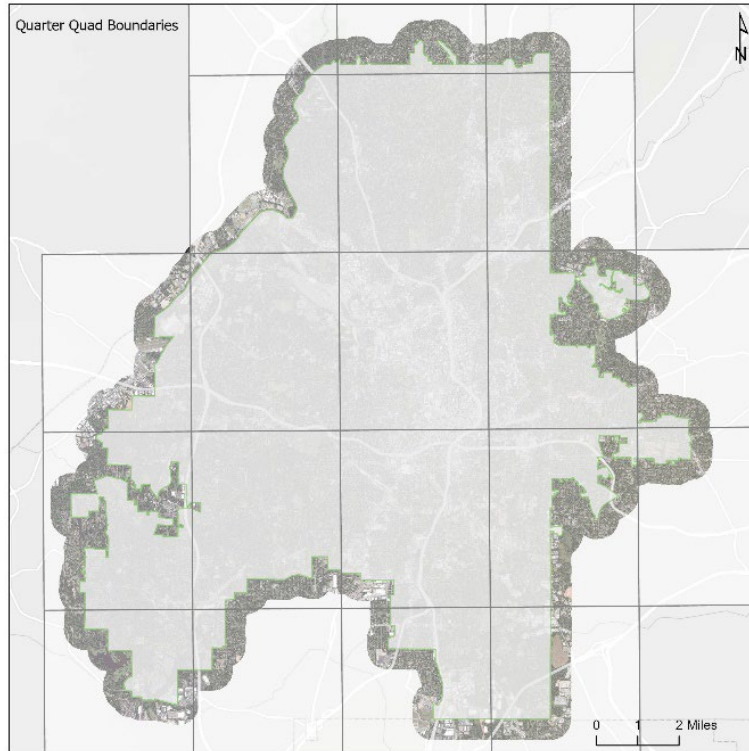


Figure 24. Imagery Processing Extent

classification on each image, which begins with selection of training samples. A minimum of 100 polygonal training samples for each land cover class were defined for each image. Once samples were collected, the supervised classification was performed using a random forest² classifier. The resultant classified images were inspected and edited manually using the pixel editor. Once edits were complete, the classified images were mosaicked to create a composite city-wide landcover dataset (Figure 25).

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3.4 Accuracy Assessment

Upon completion of the land cover classification, the project team conducted an accuracy assessment to

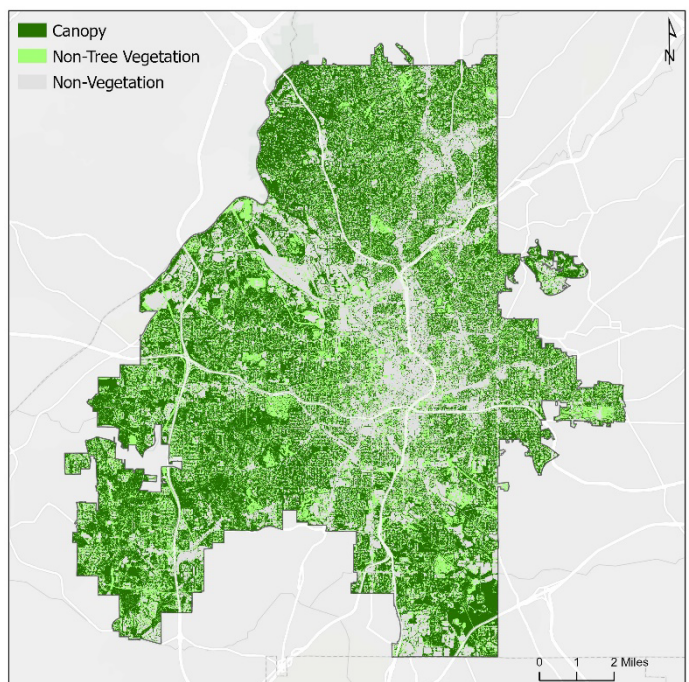


Figure 25. Final 2023 Landcover Dataset

² Random forest classification is an ensemble machine learning algorithm that uses multiple decision trees to classify data. By aggregating the predictions from various decision trees, it reduces overfitting and improves accuracy

Class Name	Reference Totals	Classified Totals	Number Correct	Producers Accuracy	Users Accuracy
Tree	116	114	113	97.4%	99.1%
Non-Tree Vegetation	59	58	53	89.8%	91.4%
Non-Vegetation	75	78	73	97.3%	93.6%
Overall Classification Accuracy = 95.6%					
Overall Kapp Statistics = 93.1%					

Figure 26. Imagery Classification Accuracy Assessment

The graphic above depicts the accuracy assessment results, including overall and individual class accuracies and Kappa statistics. The Kappa coefficient expresses the proportionate reduction in error generated by a classification process compared with the error of a completely random classification. For example, a value of 0.93 implies that the classification process is avoiding 93 percent of the errors that a completely random classification generates. $K > 0.80$ represent strong agreement and good accuracy. 0.40-0.80 is the middle range, and < 0.40 is poor.

The positive results of the accuracy assessment are likely due to several factors, including but not limited to excellent data quality; the classifiers' knowledge of the local area, both on the ground and as an image interpreter; and the low number of distinct land classes identified.

3.5 Site Inspections and Visits: Qualifying Canopy Coverage

In addition to a traditional accuracy assessment, the project team conducted computer-based visual inspections of canopy change for over 1,000 sites and in person visits to over 100 sites. The objective of

Change	Type	Description
Gain	Growth	Normal tree growth
Gain	Regrowth	Regrowth on cleared land
Loss	Cleared	Land cleared
Loss	Tree Loss	Large, individual tree loss
Loss	New Development	Tree loss for new non-residential development
Loss	New Residential	Tree loss due to new residential development
Loss	Redevelopment	Tree loss due to redevelopment of non-residential property
Loss	Residential Redevelopment	Tree loss due to residential redevelopment

Figure 27. Qualified Canopy Change Categories

both the visual inspections and in person site visits was to verify and validate observed change on sites with canopy change greater than 1 acre and to qualify or categorize the type of canopy change observed between 2018 – 2023. The project team categorized loss and gain into the following categories seen in Figure 27.

3.6 Calculating Tree and Land Cover Statistics

2023 Tree canopy cover and other land cover percentages and areas were calculated City-wide and for the following geographic areas within the City of Atlanta:

- City-wide
- City-wide grid (500 ft. x 500 ft. grid cells; approx. 6 acres)
- Parks
- Watersheds
- Sub-watersheds
- Zoning categories
- Neighborhoods
- Neighborhood Planning Units (NPU)
- City Council Districts
- Right of Way

These calculations were accomplished using ESRI's ArcGIS Pro 3.1 to perform standard vector GIS overlay operations and/or raster zonal functions between the land cover data derived through the imagery classification process and geospatial data layers obtained publicly or from the City. The majority of land cover statistics were generated using the Tabulate Area tool in ArcGIS Pro, which calculates cross tabulated areas between two datasets. In this case, the cross tabulation is between the values of the land cover raster and the geographies of the other datasets. The results are calculated in the units of the dataset (square meters) and then multiplied by a conversion factor (.000247105) to obtain the land cover area in acres per geographic area. Results and subsequent interpretations of these calculations are presented in the following section.

3.7 Calculating Change between 2018-2023: Tree and Landcover Statistics

Unlike the 2018 canopy assessment, calculating change between 2018 and 2023 is very straightforward as the area of the city changed little between the two time periods. Subsequently, canopy change for each geography was calculated as percentage change (2023 % UTC – 2018 % UTC) and area change in acres. All change calculations are included as attributes of the vector datasets. Unfortunately, to calculate change between 2008 and 2023 required an alternate approach since the city of Atlanta annexed almost 3,000 acres of land between 2008-2023. So, to assure that change between 2008-2023 was accurately calculated, the project team used various approaches to calculate change over time. For the city, change was calculated using 2008 city limits. For parks, neighborhoods, NPUS, and council districts, the 2018 boundaries were used and areas not classified in 2008 were omitted. For small watersheds, 2014 boundaries were used as no updated small watershed boundary has been released by the city since 2014. A detailed discussion of canopy change is presented in Sections 4 and 5.

Section 4: Land Cover Analysis and Change Findings

4.1 2023 City-Wide Tree and Land Cover Totals

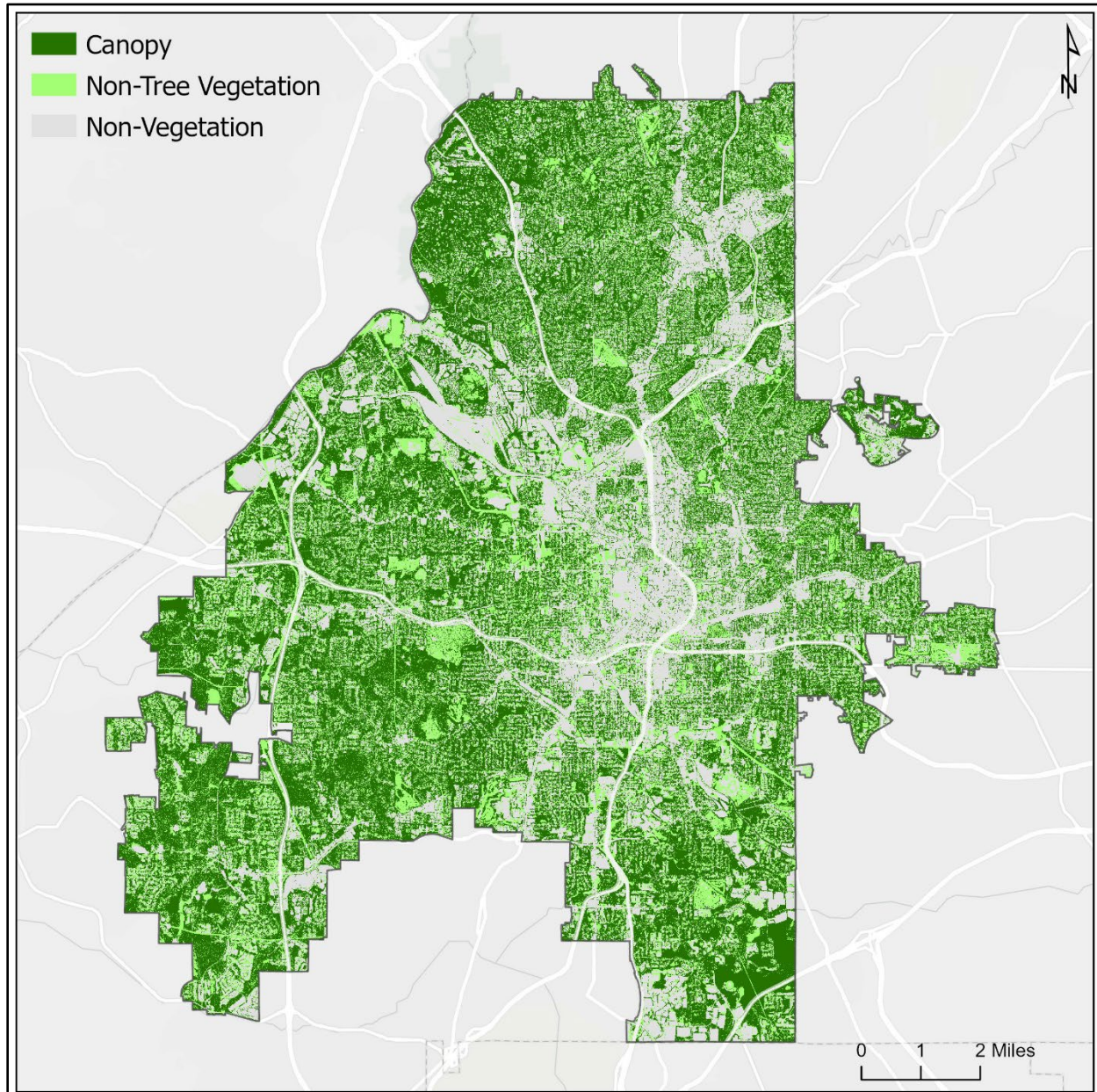


Figure 28. City of Atlanta 2023 Landcover

Figure 28 depicts the city-wide results of the 2023 tree canopy assessment, with dark green representing tree canopy, light green representing non-tree vegetation, and gray representing non-vegetation. Figure 28 shows the land cover values and percentages for 2023. In 2023, 45.7% (39,830 acres) of the city was tree-covered, 21.8% (18,959 acres) covered by non-tree vegetation (grass, shrubs, ground vegetation), and 32.5% (28,273 acres) covered by non-vegetation (impervious surfaces and water bodies).

Landcover Category	Sq. Miles 2023	Acres 2023	% Land Area 2023
Urban Tree Canopy	62.23	39,830	45.7%
Non-Tree Vegetation	29.62	18,959	21.8%
Non-Vegetation	44.18	28,273	32.5%
City Ares - Excludes Airport	136.03	87,061	

Figure 29. 2023 Landcover Values

As seen in Figures 28 and 29, trees dominate the landscape of the city at 45.7% particularly in single-family residential areas located on the city's periphery, especially in the northwest and southwest. Downtown and the surrounding neighborhoods have very limited tree cover (Figure 30).

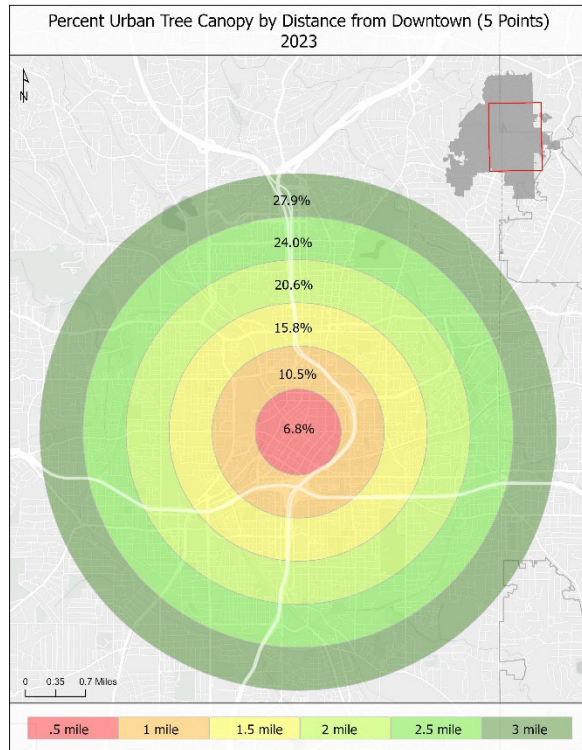


Figure 30. Percent Canopy by Distance from Downtown

Non-tree vegetation represents 21.8% of the city land and is distributed evenly throughout the city. Non-vegetation includes grass, shrubs and other low-lying vegetation. Major concentrations of non-vegetation are found in municipal parks with large open spaces, golf courses, cemeteries, and utility easements. A significant number of smaller vegetated areas without trees are scattered throughout the city, though many of these are underestimated to some extent since tree canopy can shade other vegetated and non-vegetated surfaces.

Non-vegetated areas represent 32.5% of the city land and includes buildings, roads, bare earth, water bodies, and other impervious surface. Non-vegetated areas dominate the transportation corridors, business districts and industrial areas. These non-vegetated areas have limited planting potential unless impervious ground surfaces are replaced with natural surfaces.

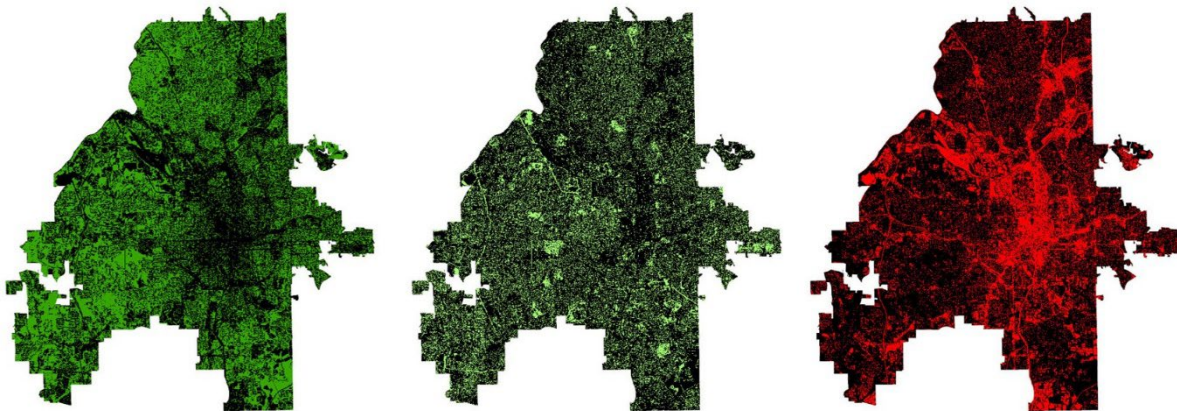


Figure 31. 2023 Tree, Non-Tree Vegetation and Vegetation

4.2 City-Wide Canopy Change 2008 – 2023 and 2018 - 2023

Figure 32 shows raw land cover values and percentages for 2008, 2014, 2018 and 2023. While it appears that the total amount of tree canopy has increased over some time periods, this is extremely misleading

	Square Miles 2008	Square Miles 2014	Square Miles 2018	Square Miles 2023	Acres 2008	Acres 2014	Acres 2018	Acres 2023	% Land Area 2008	% Land Area 2014	% Land Area 2018	% Land Area 2023
Urban Tree Canopy	63.32	63.66	63.45	62.23	40,524	40,740	40,609	39,830	47.9%	47.1%	46.5%	45.7%
Non-Tree Vegetation	29.25	30.87	29.05	29.62	18,722	19,758	18,595	18,959	22.1%	22.9%	21.3%	21.8%
Non-Vegetation	39.67	40.50	44.02	44.18	25,386	25,921	28,172	28,273	30.0%	30.0%	32.2%	32.5%
City Area - Excludes Airport	132.24	135.03	136.53	136.03	84,632	86,419	87,376	87,061				

Figure 32. Landcover Values for 2008, 2014, 2018 and 2023 Canopy Assessments

as the city has grown by 4.5 square miles due to multiple annexations between 2008 – 2018 and has even lost land since 2018. Despite the overall increase in city area since 2008, there has been a 2.8% decrease in percent canopy cover between 2008 - 2023. However, even this number, 2.8% canopy loss, is misleading and does not accurately represent the change in canopy over this 15-year period. A more accurate measurement of canopy change between 2008-2023 is a comparison of the 2023 and 2008 canopy values using the 2008 city boundary. This is necessary because the extent of the 2008 imagery does not cover the 2018 city limits and subsequently, the project team is unable to aggregate 2008 canopy values to the 2023 city limits. By using the 2008 city boundary as the unit of analysis for city-wide canopy change, the project team eliminates the effects on annexation on the canopy change values, ensuring a more realistic comparison of canopy change in the City of Atlanta between 2008 and 2023.

Figure 33 shows the results of aggregating the 2018 and 2023 canopy values to the 2008 city boundary. As expected, 2018 and 2023 canopy values change more significantly, with an estimated loss of approximately 2% of the city's canopy, or ~1,550 acres, between 2008 – 2018, and 2.2% or ~ 2,000 acres of canopy between 2008 – 2023. This equates to approximately .43 acres of canopy lost per day between 2008 – 2018 and .4 acres of loss per day between 2008-2023. This amount of loss is likely still an underestimate as many areas across the city that experienced significant canopy gains between 2008 – 2023 are likely temporary gains due to rapid tree growth on lands cleared for development circa 2008, most of which will be (or are being) re-cleared once development restarts. This is discussed in more depth later in this report.

	Square Miles 2008	Square Miles 2018	Square Miles 2023	Acres 2008	Acres 2018	Acres 2023	% Land Area 2008	% Land Area 2018	% Land Area 2023
Urban Tree Canopy	63.3	63.5	62.2	40,524	38,970	38,493	47.9%	46.0%	45.5%
Non-Tree Vegetation	29.3	29.1	29.6	18,738	18,180	18,519	22.1%	21.5%	21.9%
Non-Vegetation	39.7	44.0	44.2	25,386	27,498	27,636	30.0%	32.5%	32.6%
City Area - Excludes Airport	132.2	136.5	136.0	84,648	84,648	84,648			

Figure 33. 2018 and 2023 Canopy Aggregated to 2008 City Limits

4.3 City-Wide Grid

Figure 34 illustrates tree cover aggregated to a city-wide grid comprised of 500 ft. x 500 ft. (approximately 5.75 acre) cells. This aggregated grid helps illustrate the density of tree cover across the city, not simply total cover area. Areas in red, orange, or yellow have less tree cover than the city average. Tan represents

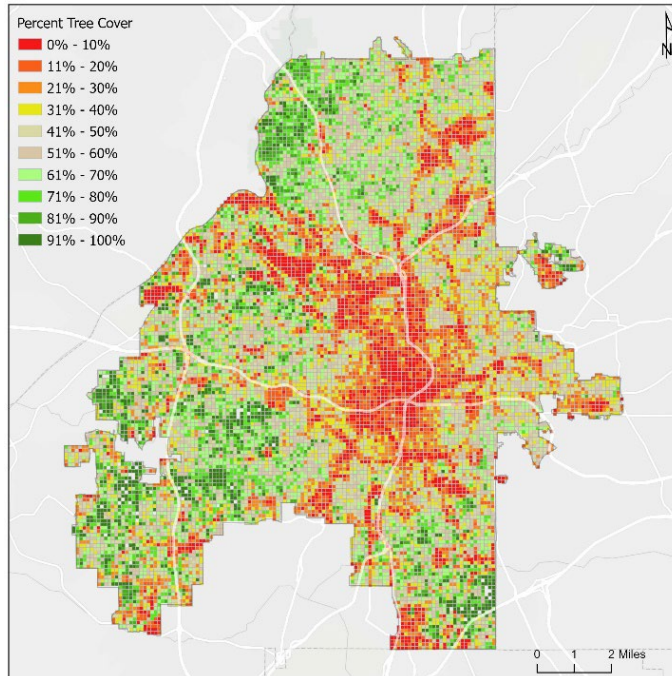


Figure 34. 2023 Percent Tree Cover Grid

areas just above or below the city tree cover average of 45.7%. Areas in green have higher than average tree cover percentages and represent the most densely tree-covered areas in the city. Many of these densely forested areas are residential neighborhoods along the city's primary stream tributaries (Peachtree, Nancy, Utoy, and Proctor Creeks). The mid-range or average tree cover grid cells (tan) include residential neighborhoods scattered between some of the stream corridors, with a majority of these areas running along an east-west mid-city band. The least densely forested areas are at the center of the city, radiating out along highways, industrial corridors (rail yards) and around commercial districts including Downtown, Midtown, Buckhead, and Lenox.

4.4 2018 – 2023 Canopy Change using the City-Wide Grid

In order to effectively examine canopy change for small areas across the city, 2008, 2018 and 2023 land

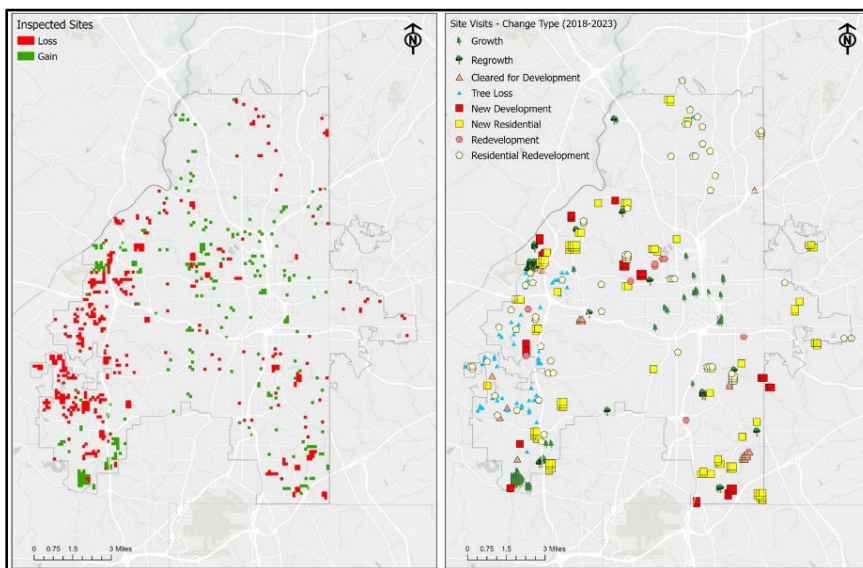


Figure 35. 2018-2023 Canopy Change using the City-Wide Grid

cover values were aggregated to the city-wide grid. This aggregation allowed the project team to compare and inspect land cover change results for many areas across the city. The project team also used the change grid as the basis for identifying areas for site visits to qualify canopy change between 2018 and 2023. Since there are approximately 15,800 5.75-acre grid cells in the city, only grid cells showing canopy

change greater than 1 acre were examined.

There were 1,057 grid cells across the city in 2023 with canopy loss or gain greater than or equal to 1 acre since 2018, 735 of which were inspected remotely on the computer to validate and qualify the cause of canopy change (Figure 35). From these 735 sites, 385 grid cells were chosen for site visits, which equated to approximately 148 sites. (Figure 35). Canopy change between 2018 – 2023 was categorized for the site visits into two main categories, Loss and Gain, and six subcategories (Figure 36).

Change	Type	Description
Gain	Growth	Normal tree growth
Gain	Regrowth	Regrowth on cleared land
Loss	Cleared	Land cleared
Loss	Tree Loss	Large, individual tree loss
Loss	New Development	Tree loss for new non-residential development
Loss	New Residential	Tree loss due to new residential development
Loss	Redevelopment	Tree loss due to redevelopment of non-residential property
Loss	Residential Redevelopment	Tree loss due to residential redevelopment

Figure 36. 2018-2023 Canopy Change Categories

Canopy Loss 2018 - 2023

There were 290 site visit grid cells with canopy loss greater than or equal to 1 acre. As seen in Figure 36, most small area canopy loss is concentrated in west and southwestern parts of the city. It should be noted that many areas of loss spanned multiple grid cells and subsequently were missed in these inspections where each grid cell contained loss less than 1 acre. Canopy loss in these 290 grid cells equaled 507 acres

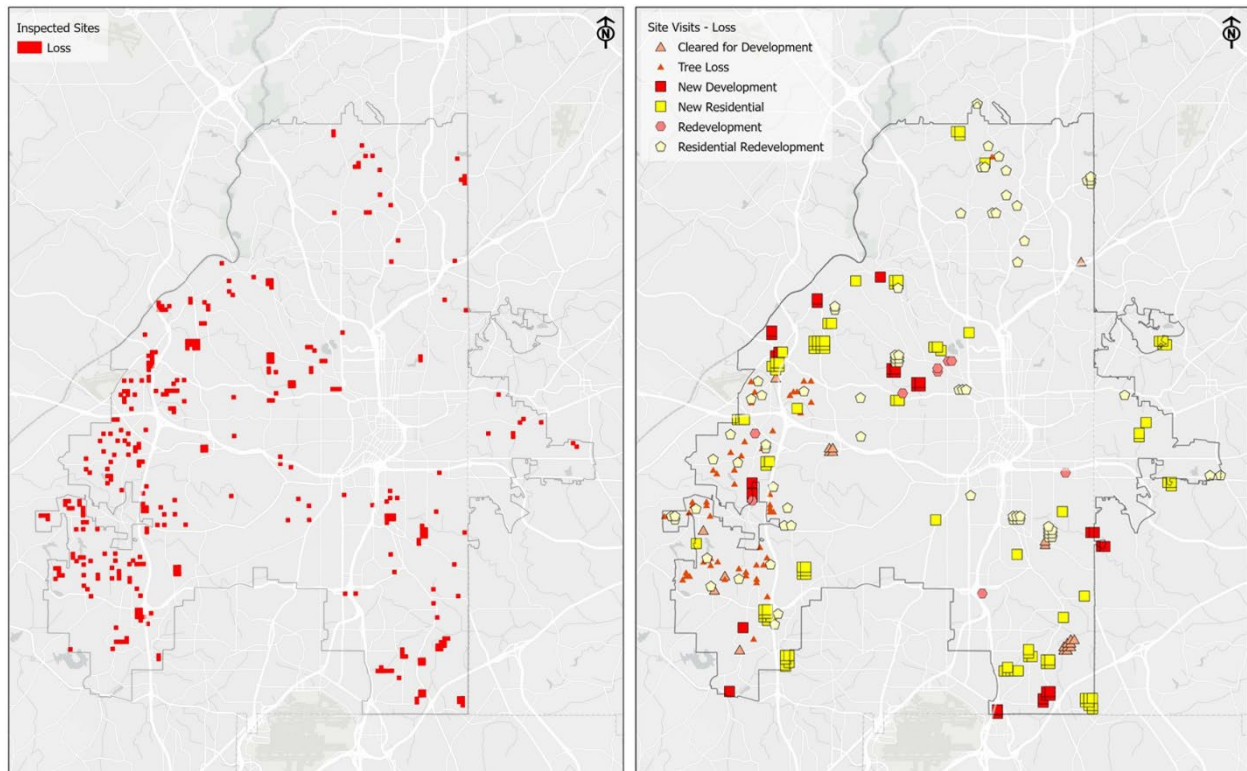


Figure 37. Canopy Loss Sites 2018-2023

and was categorized into sixteen distinct categories, with the majority loss caused by new development of multi-family housing followed by redevelopment and new development of single-family homes (Figure 38). Individual tree loss, primarily in the SW, was also observed. Figure 38 shows loss observed for a typical new multi-family site. Note the trees replanted.

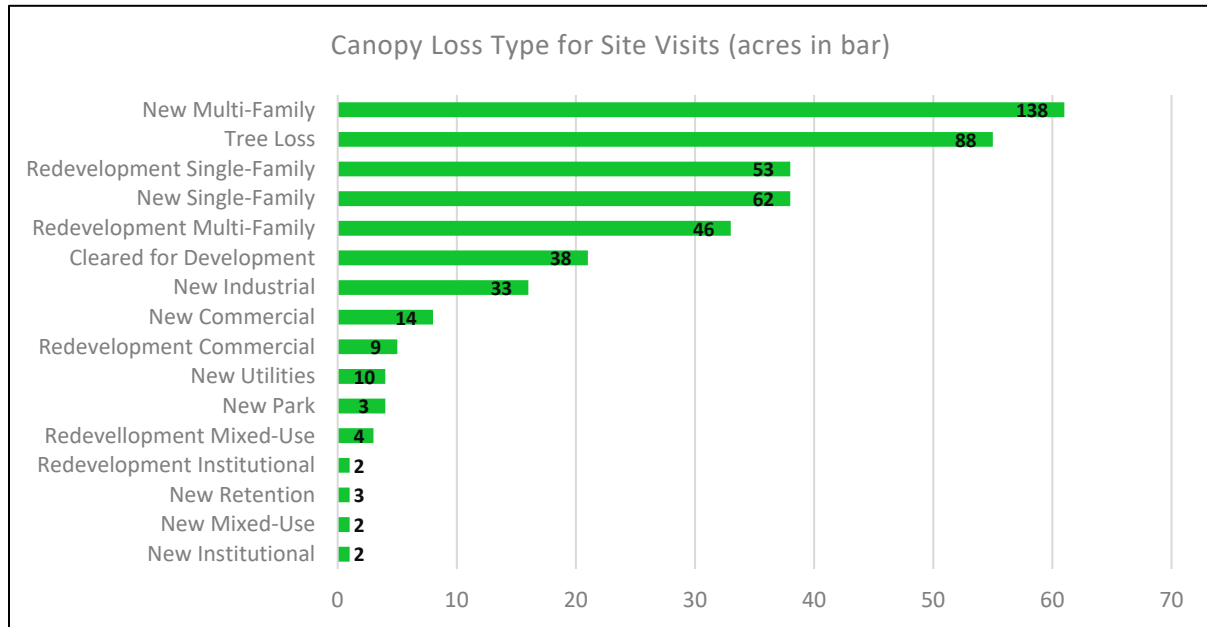


Figure 38. 2018-2023 Canopy Loss Categories



Figure 39. Canopy Loss due to Multi-Family Development

Canopy Gain 2018 - 2023

There were 95 site visit grid cells with canopy gain greater than or equal to 1 acre. As seen in Figure 40, most small area canopy gain is concentrated in the city center, and western and southwestern parts of the city. This gain in the city center undoubtedly helped raise the downtown neighborhoods' canopy coverage since previous studies.

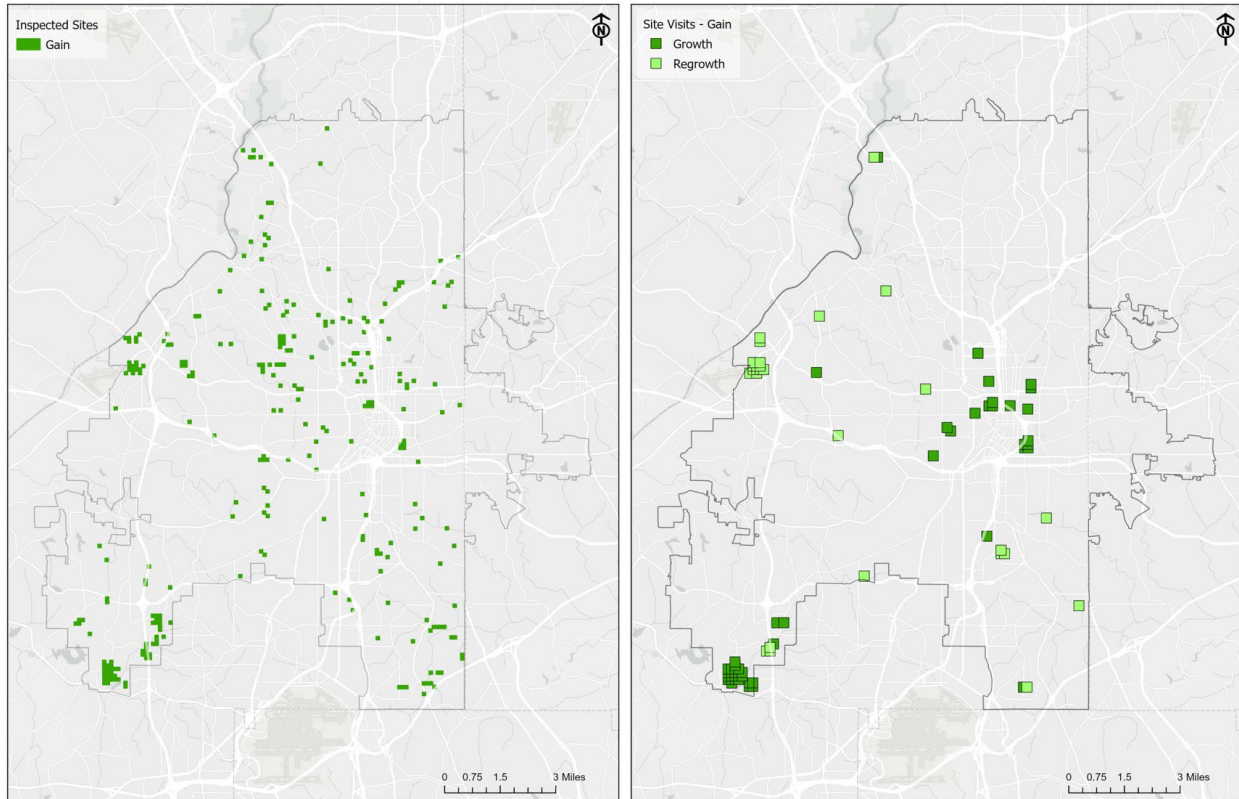


Figure 40. 2018-2023 Canopy Gain Sites

Of the 95 grid cells showing growth, 50 were natural growth areas and 28 were areas of regrowth (Figure

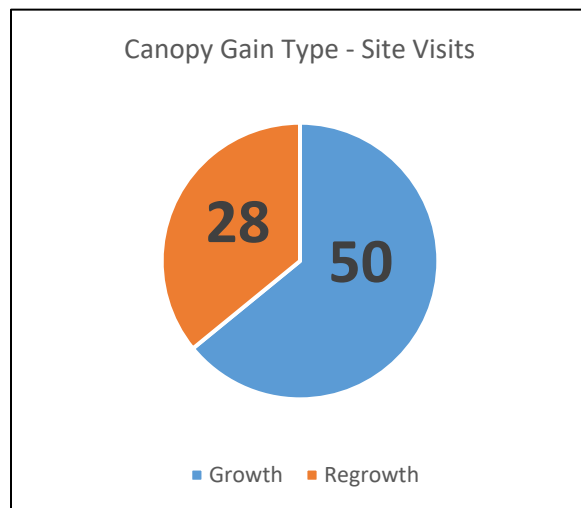


Figure 41. Canopy Gain Type Percentages

40). Growth was usually typified by areas that experienced rapid growth of young trees likely planted in 2008 or earlier, usually in apartment complexes or small single-family developments or street trees. Areas experiencing regrowth were almost always sites where lands were cleared for development before 2008, development ceased or was not completed, and subsequently fast-growing pines and invasives filled the cleared lands. Other areas experiencing regrowth were former Atlanta Housing Authority properties that were demolished prior to 2008 and have yet to be redeveloped. Many if not all of these areas are likely to be recleared and developed. This “reclearing” phenomenon or cycle of loss, growth, loss was observed at multiple sites during site visits, all of which

were cleared before 2008, then experienced significant regrowth, and are now either completely developed or development is coming soon. One of these sites was cleared in the early 2000s, roads constructed, and then it sat undeveloped until 2022 (Figure 42). A total of six similar sites were documented during site visits.



Figure 42. Canopy Loss – Gain – Loss Site in SE Atlanta



Figure 43. Canopy Loss – Gain – Loss Site in SE Atlanta

4.5 City Council Districts - Tree Canopy 2023

The City of Atlanta contains 12 City Council Districts, ranging in size from 4.3 square miles (District 2) to 18.9 square miles (District 8), with an average council district size of 11.3 square miles.

Figure 44 is a map of the 2023 canopy distribution for the 12 city council districts. The 2023 average percent canopy cover by council district is 42.1%, with a low of 28% in District 2 and a high of 59% in District 10. Three council districts have percent canopy coverage above the City average of 45.7%, with these neighborhoods located in the southwest and northwest, and comprised primarily of single-family residential land. The 9 council districts below the City average are located in the northeast, southeast, west, east, and downtown, in central business districts, and along the major transportation corridors. Figure 45 shows the percent land cover distribution of the 12 council districts, with acres noted in the bars.

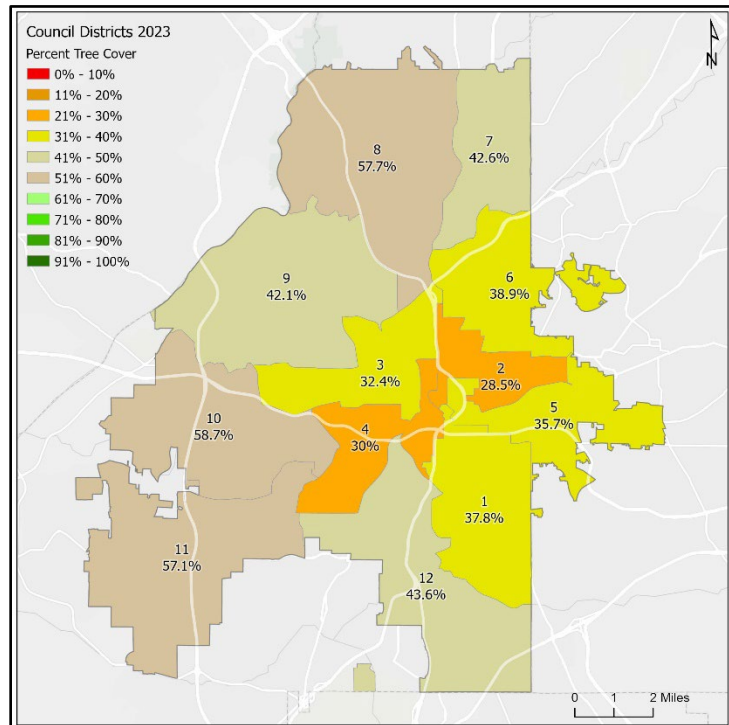


Figure 44. 2023 Canopy Percentage by City Council District

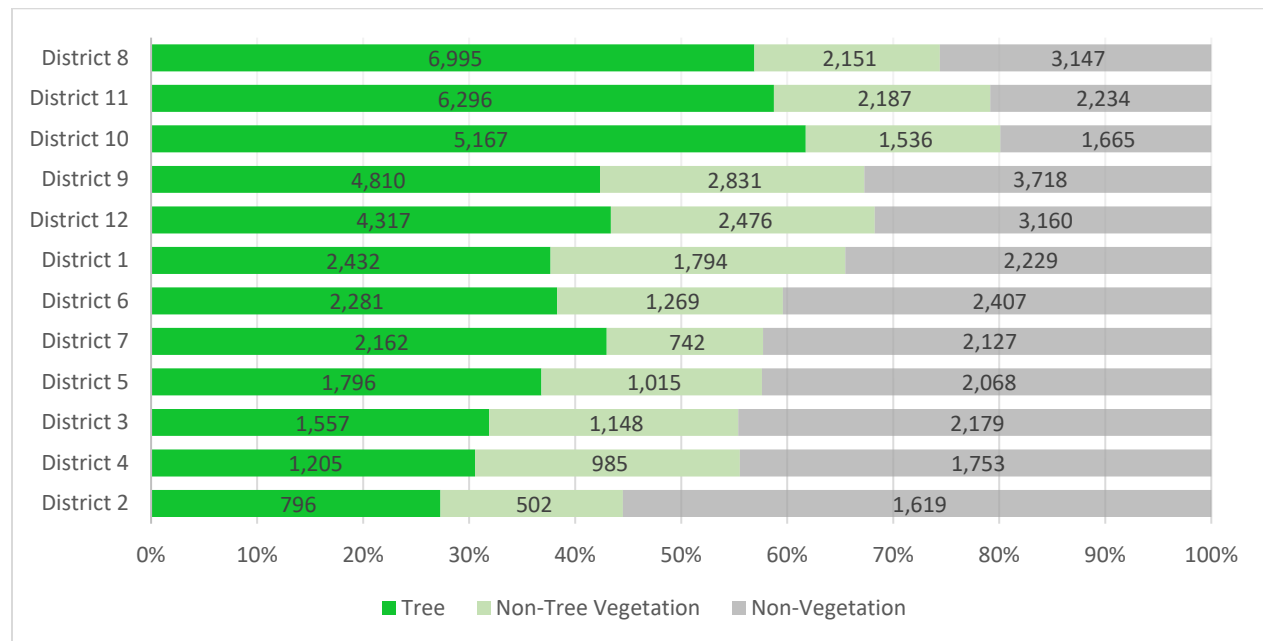


Figure 45. 2023 Land Cover Distribution by City Council District

Figure 46 shows the 2023 acreage and percent tree cover by city council district. As expected, the centrally located council districts have significantly lower tree cover percentages than council districts outside of downtown. The council districts with above city-average tree cover percentages are dominated by low density, single-family residential development while the council districts with below city-average percentage tree cover are overwhelmingly high density, urbanized areas.

The council districts vary significantly in size and composition. Council District 8 is the largest (12,118 acres) in size and has the most tree cover by acres (6,995) and the 2nd highest percentage of tree cover (58%) in the city. By contrast, Council District 2 is the smallest (2,797 acres), has the lowest total tree canopy area (796 acres), and has the lowest percentage of tree canopy (28%).

District	ACRES	Acre UTC	% UTC
District 8	12,118	6,995	58%
District 9	11,421	4,810	42%
District 11	11,020	6,296	57%
District 12	9,907	4,317	44%
District 10	8,810	5,167	59%
District 1	6,442	2,432	38%
District 6	5,862	2,281	39%
District 7	5,074	2,162	43%
District 5	5,031	1,796	36%
District 3	4,808	1,557	32%
District 4	4,020	1,205	30%
District 2	2,797	796	28%

Figure 46. Tree Canopy by Council District

4.6 City Council District Change 2018 – 2023

Between 2018 – 2023, the change in tree canopy across the City's Council Districts varied greatly. Figure

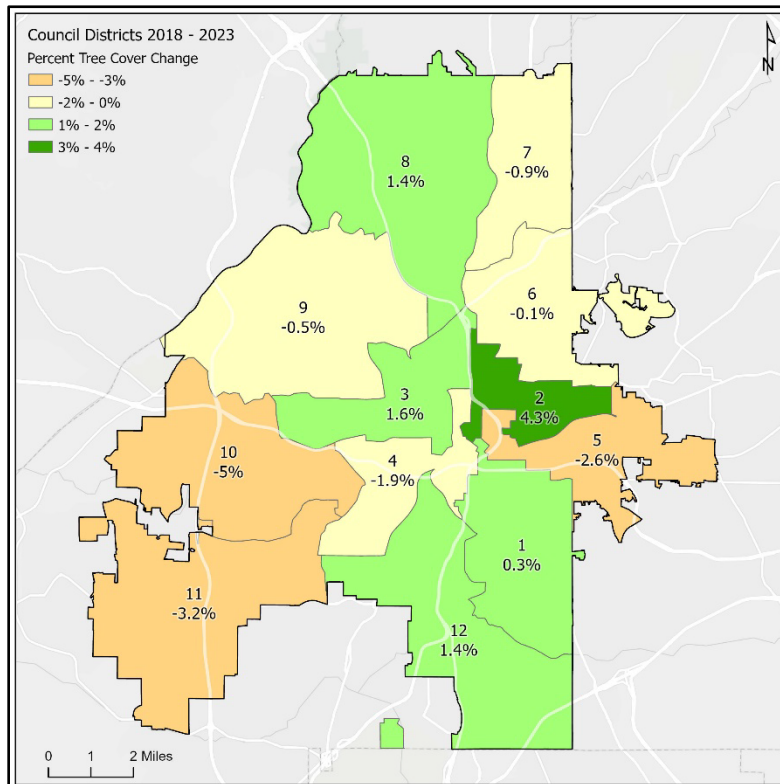


Figure 47. 2018-2023 Canopy Change by Council District

canopy loss and gain pictures taken during site visits.

47 is a map of the percent tree canopy change by Council District. Figure 48 shows the percent canopy in each Council District, with acres changed noted in the bar. Figure 49 shows land cover change statistics for each Council District. The average percent canopy change by Council District was -0.3% with the most percent canopy loss (-5%) occurring in District 10 and the most percent canopy gain (4%) found in District 2. District 10 also lost the most acres (437) of canopy while District 8 gained the most acres (171). The only district with significant decreases ($\geq 5\%$) in canopy coverage is located in SW Atlanta where a large portion of new development and redevelopment (multi-family) occurred between 2018 – 2023. Figures 50 and 51 show

NAME	ACRES	% UTC Change 08-23	% UTC Change 18-23
District 2	2,797	6.8%	4.3%
District 3	4,808	5.2%	1.6%
District 12	9,646	1.6%	1.5%
District 8	12,048	-9.5%	1.4%
District 1	6,411	3.3%	0.4%
District 6	5,020	-5.7%	0.0%
District 9	11,348	-2.6%	-0.3%
District 7	5,041	-10.5%	-0.8%
District 4	4,020	0.3%	-1.9%
District 5	4,616	-1.0%	-2.3%
District 11	9,857	-2.9%	-2.4%
District 10	8,623	-0.6%	-5.1%

Figure 48. 2008-2023 and 2018-2023 Canopy by Council District

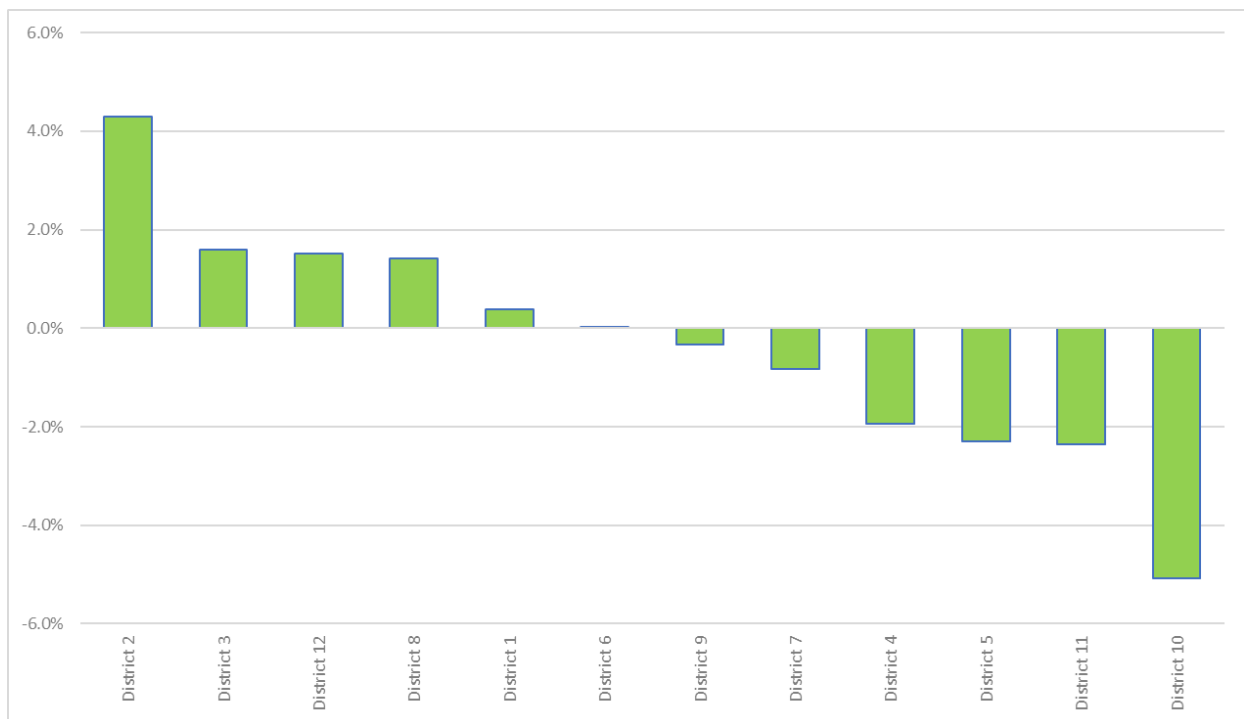


Figure 49. 2018-2023 Percent Canopy Change by Council District



Figure 50. Canopy Loss on Mobile Home Site in Council District 1



Figure 51. Canopy Gain at Multi-Family Development in Council District 5

4.7 Neighborhood Canopy 2023

The City of Atlanta contains approximately 248 neighborhoods, ranging in size from sixteen acres (Harvel Homes) to over 1,900 acres (Paces), with an average neighborhood size of 333 acres. Many areas in the City of Atlanta are undesignated as neighborhoods and are subsequently left out of neighborhood-level canopy calculations or analysis (Figure 52).

Figure 52 shows the 2023 canopy distribution for all neighborhoods in the City. The average 2023 percent canopy cover by neighborhood was 45.4%, with a low of 2.8% in the Oakland neighborhood and a high of 83.6% in Boulder park, both of which were the high and low neighborhoods in 2018. One hundred and thirty-six neighborhoods were above the City average of 45.7% tree canopy, with these neighborhoods located primarily in the north, west, southwest and southeast. The 112 neighborhoods below the City average are located primarily downtown, in central business districts, and along the major transportation corridors.

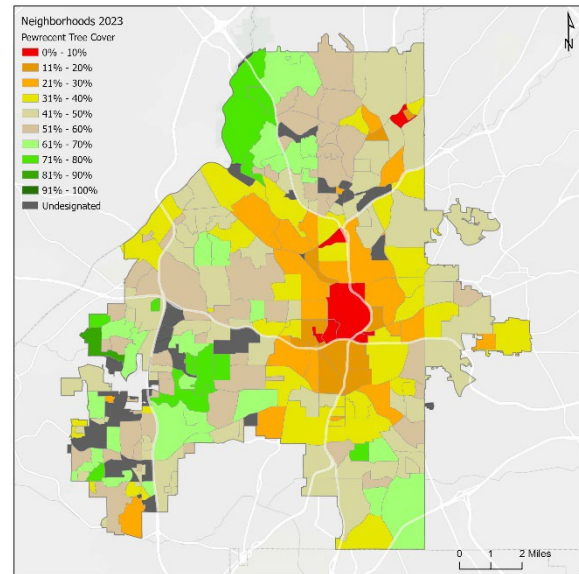


Figure 52. 2023 Percent Canopy Cover by Neighborhood

4.8 Top 15 Neighborhoods (2023 Canopy Percentage)

Figure 53 shows the land cover distribution of these fifteen neighborhoods, with acres noted in the bars.

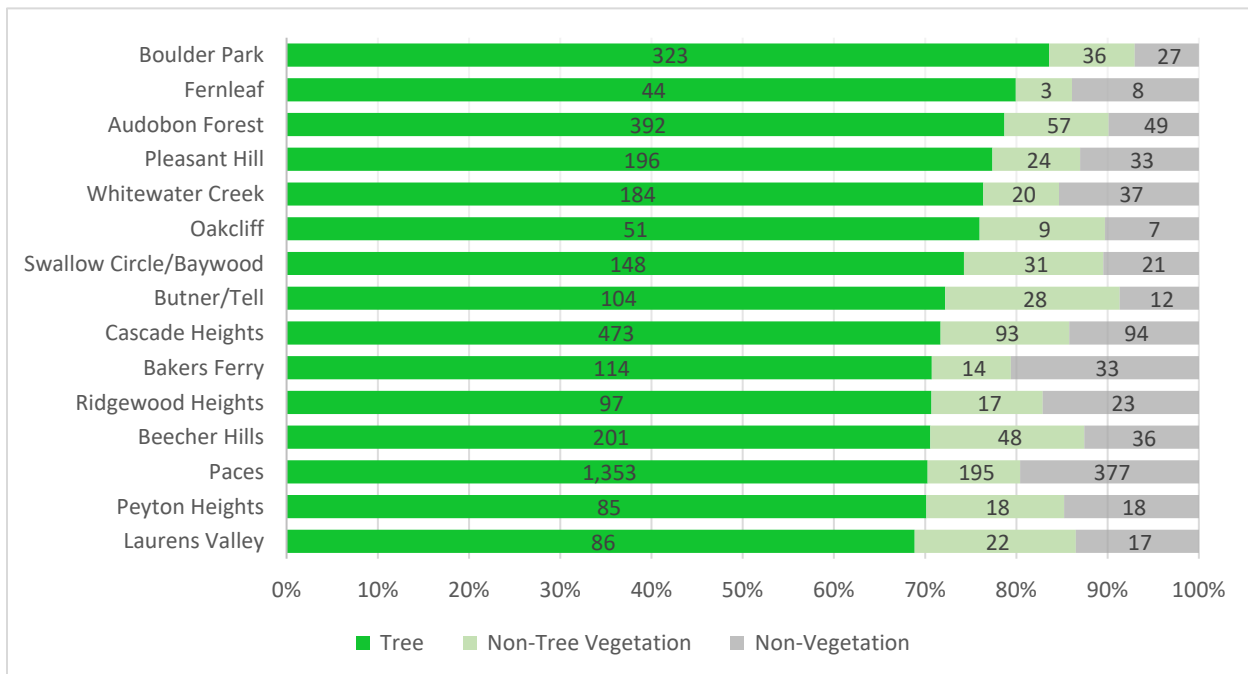


Figure 53. 2023 % Land Cover Distribution - Top 15 Neighborhoods Acres shown in bars

Figure 54 shows the top 15 neighborhoods having the highest percentage of tree canopy in 2023.

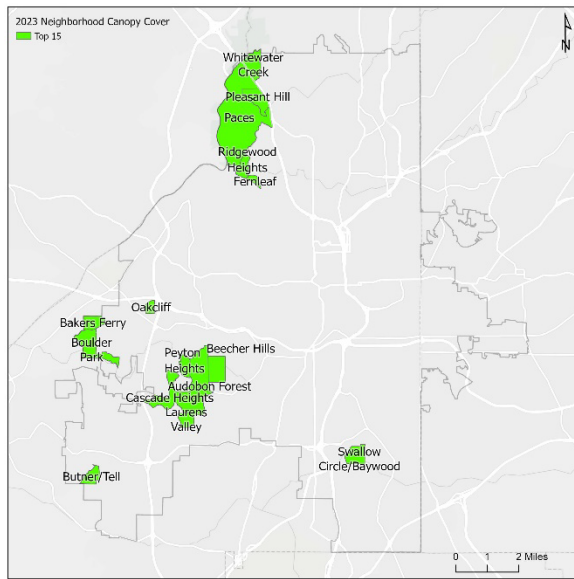


Figure 54. Top 15 Neighborhoods with Highest % Canopy

These fifteen neighborhoods are located in primarily in northwest and southwest Atlanta along the Chattahoochee river in the north and Utoy creek in the southwest, and have canopy coverage ranging from a low of 69% in Laurens Valley to a high of 84% in Boulder Park.

4.9 Top 15 Neighborhoods (2023 Canopy Acres)

Figure 55 shows the land cover distribution of these 15 neighborhoods, with acres noted in the bars. Figure 55 shows the top 15 neighborhoods having the greatest total area of tree canopy in 2023. These large, single-family residential neighborhoods are located across the City, primarily on its periphery, and account for 25% of the City's total tree canopy, ranging from a high of 1,353 acres (3.4% of the City) in Paces to 390 acres

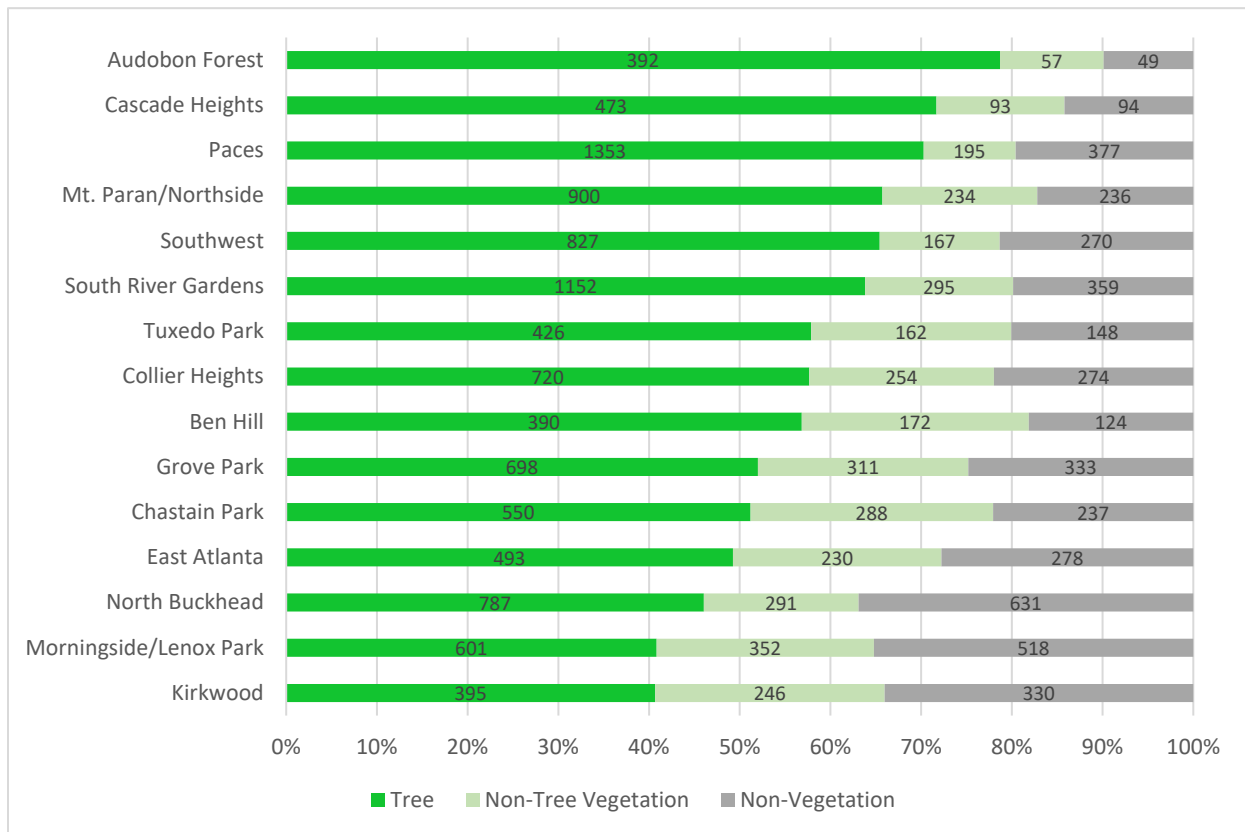


Figure 55. Top 15 Neighborhoods with Most Canopy Acres

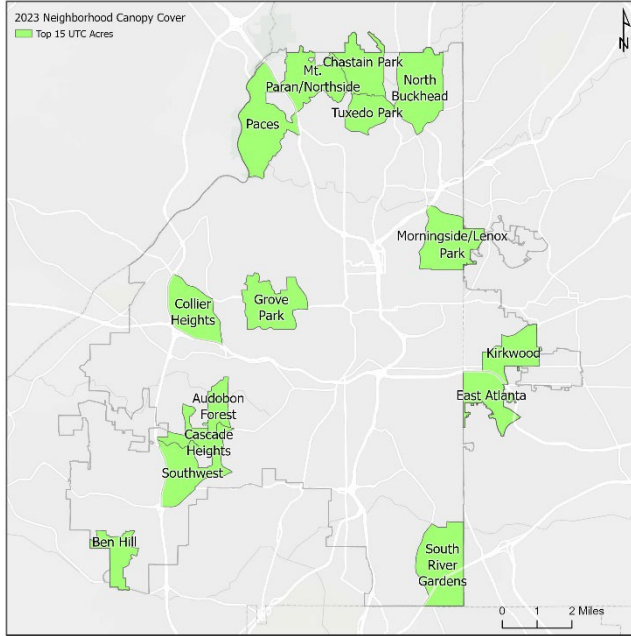


Figure 56. Top 15 Neighborhoods with Most Canopy Acres

(.97% of the City) in Ben Hill. The percent canopy coverage for these neighborhoods ranges from a high of 79.0% in Audubon (SW) to a low of 41% in Kirkwood.

Due to the large number of neighborhoods, only 2023 canopy statistics and maps for the top and bottom 15 neighborhoods are highlighted in this section. For complete 2023 neighborhood canopy statistics, see Appendices 2 and 3.

4.10 Bottom 15 Neighborhoods (% Canopy)

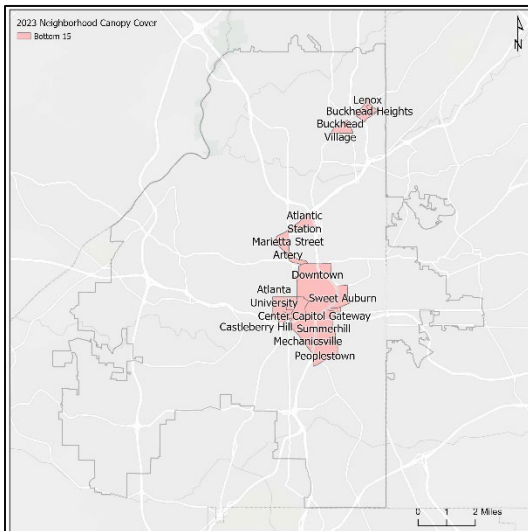


Figure 57. Bottom 15 Neighborhoods % UTC 2023

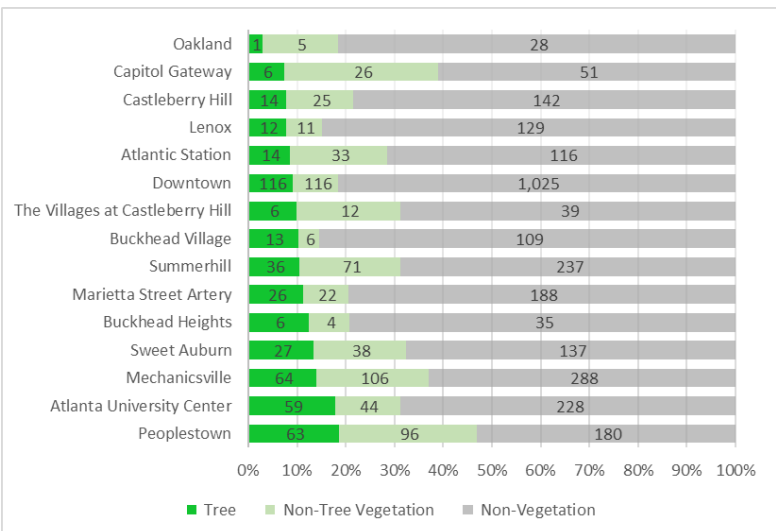


Figure 58. 2023 % Landcover Distribution Bottom 15 Neighborhoods Acres shown in bars

Figure 57 is a map of the bottom 15 tree-covered neighborhoods. Figure 58 shows the land cover distribution of bottom 15 tree-covered neighborhoods in 2023, with acres noted in the bars. The bottom 15 tree-covered neighborhoods are located in very high-density areas of the City, predominantly downtown and Buckhead, and have canopy coverage ranging from low of 3.2% in Oakland to 18.6% in Peoplestown.

4.11 Bottom 15 Neighborhoods (Total Acres)

Figure 59 shows the land cover distribution of these 15 neighborhoods, with acres noted in the bars.

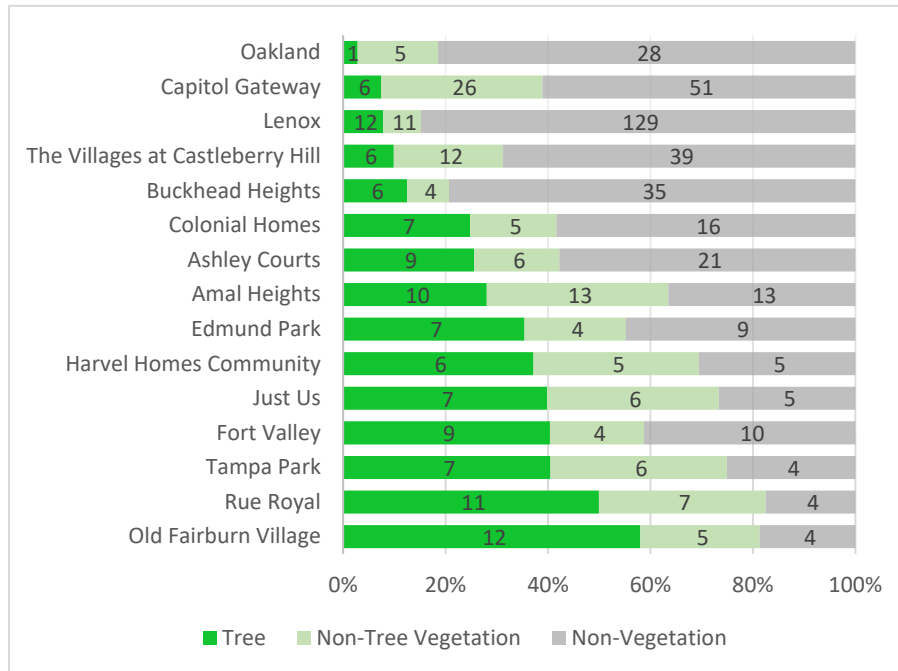


Figure 59. 2018 % Landcover distribution Bottom 12 Neighborhoods Acres shown in bars

Figure 60 is a map of the 15 neighborhoods having the least amount of tree canopy in 2023. These neighborhoods, all well under the average neighborhood size of 333 acres, have very little canopy, ranging from a low of 1 acre in Oakland to 12 in Old Fairburn Village. All of these neighborhoods are residential (7 single-family and 8 multi-family/mixed use). Two of these neighborhoods (Old Fairburn Village and Rue Royal) have above the City average percent tree cover of 45.7% but the majority

fall well below the average, with five of these neighborhoods at 20% or less canopy cover.

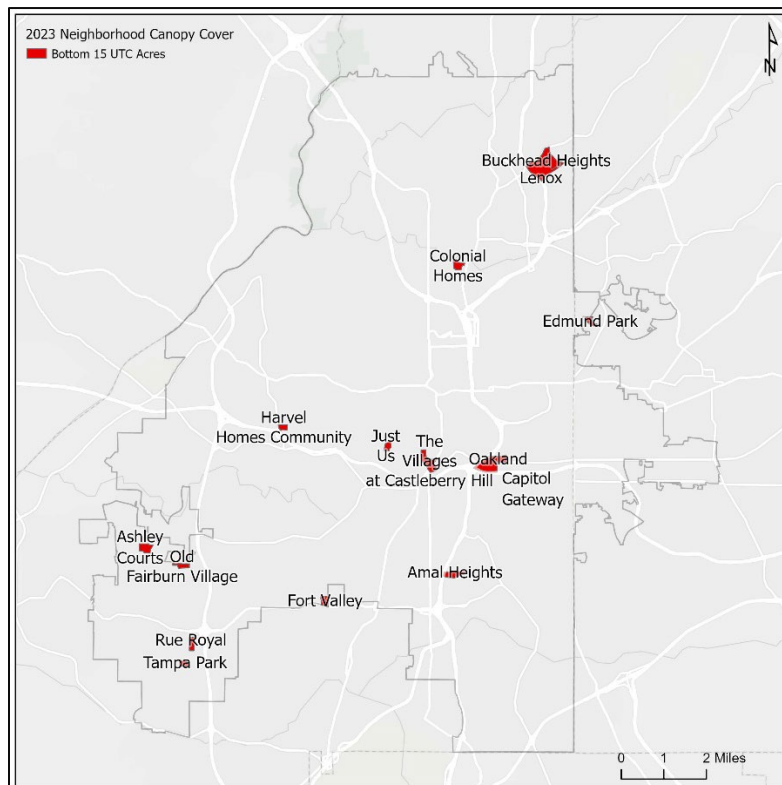


Figure 60. Bottom 12 Neighborhoods UTC Acres 2023

4.12 Neighborhood Canopy Change

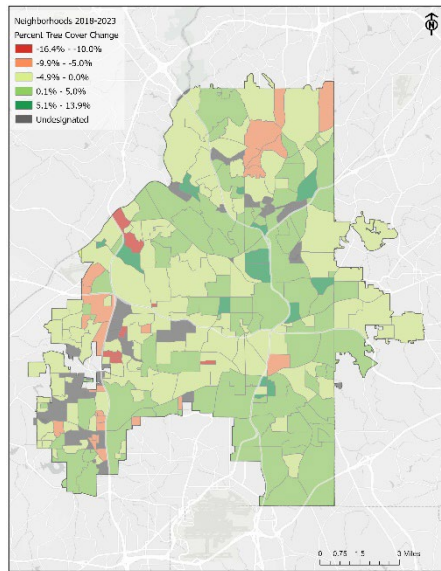


Figure 61. % Canopy Change 2018 -2023

Between 2018 – 2023, the change in tree canopy across the City’s neighborhood varied greatly. Figure 61 is a map showing the percent tree canopy change by neighborhood. The average percent canopy change by neighborhood was -1.1% with the most loss (-16%) occurring in Monroe Heights (west) and the most gain (14%) found in Bankhead Courts. The majority of neighborhoods with decreasing canopy are located in the southwest, west, north and east of the city. The neighborhoods gaining canopy are located primarily across the middle of the city.

Due to the large number of neighborhoods, only 2018-2023 canopy change statistics and maps for the top and bottom 12 neighborhoods over 100 acres in size will be highlighted in this section. For complete 2018-2023 neighborhood canopy change statistics, see Appendices 5 and 6.

4.13 Canopy Increase by Percentage for Top 12 Neighborhoods

Figure 62 shows the percent increase in these neighborhoods, with acres gained in the bars. Figure 63 shows the top 12 neighborhoods increasing in percent canopy between 2018-2023. These twelve

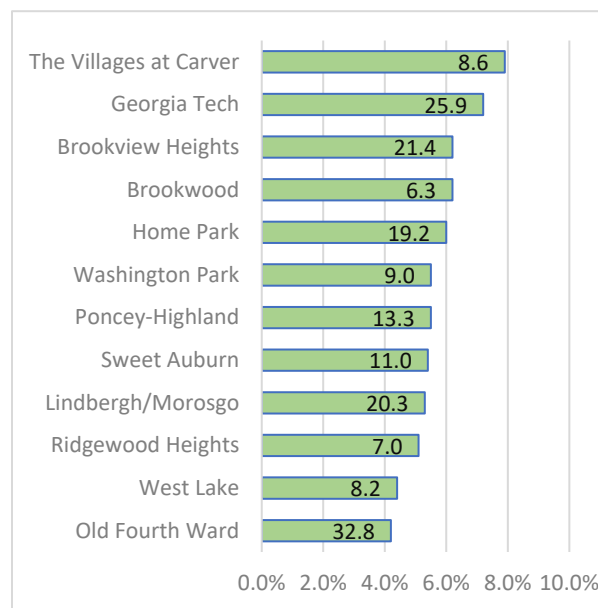


Figure 62. Top 12 Neighborhoods % UTC Change 2018-2023

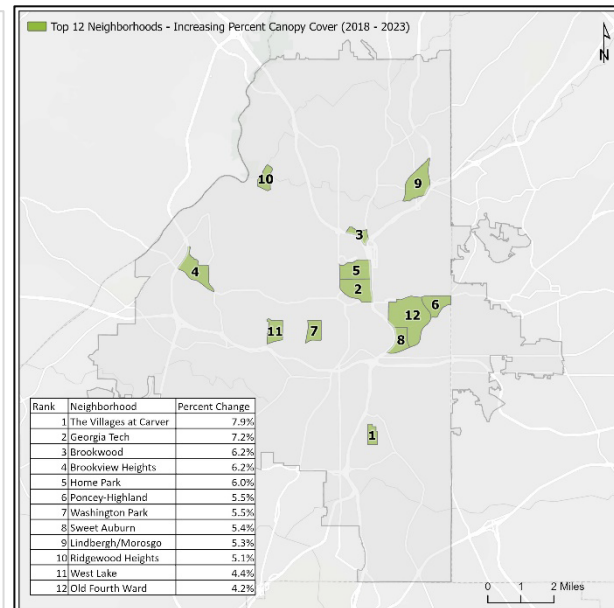


Figure 63. Top 12 Neighborhoods % UTC Change 2018-2023

neighborhoods, ranging in size from a high of 784 acres (Old Fourth Ward) to a low of 102 acres (Brookwood), experienced increases in canopy percentage ranging from an 4.2% increase in Old Fourth Ward to 7.9% increase at the Villages of Carver.

Since most of these canopy percentage increases were significant, the changes in each of these neighborhoods were *qualified* through visual inspections of these neighborhoods using the satellite images from 2018 and 2023. Figure 64 shows the categorization of canopy growth in these neighborhoods.

Neighborhood	Change Categorization
The Villages at Carver	Street trees
Georgia Tech	Street trees
Brookwood	Street trees
Brookview Heights	Regrowth on former AHA property, street trees
Home Park	Mature tree growth, street trees
Poncey-Highland	Mature tree growth, street trees
Washington Park	Mature tree growth, street trees
Sweet Auburn	Street trees
Lindbergh/Morosgo	Street trees
Ridgewood Heights	Mature tree growth, street trees
West Lake	Mature tree growth, street trees
Old Fourth Ward	Street trees in park, growth of neighborhood trees

Figure 64. Canopy Growth Categorization for Top 12 Neighborhoods

4.14 Canopy Increase by Acres for Top 12 Neighborhoods

Figure 65 shows the top 12 neighborhoods gaining canopy area between 2018 – 2023. Figure 66 shows the acres of canopy gained for these neighborhoods, with percent canopy increase in the bars.

These 12 neighborhoods, ranging in size from 319 acres in Home Park to 1,806 acres in South River Gardens, experienced increases in canopy area ranging from 19 acres in Home Park to 45 acres in the Downtown neighborhood.

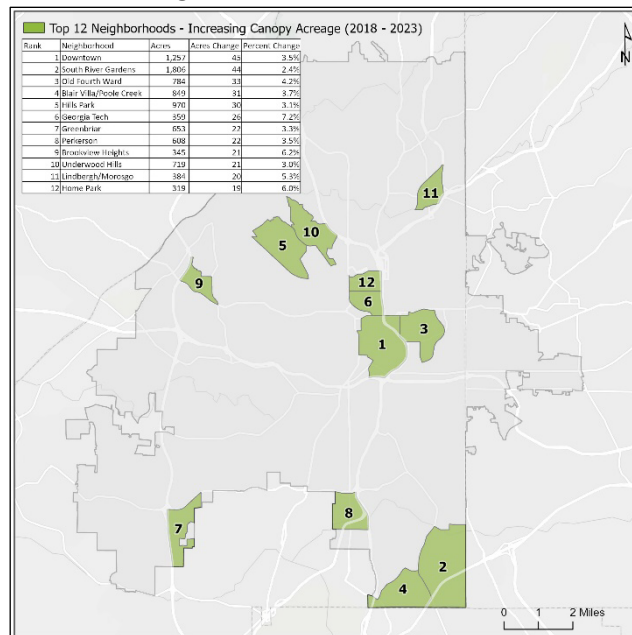


Figure 65. Acres Gained – Top 12 Neighborhoods

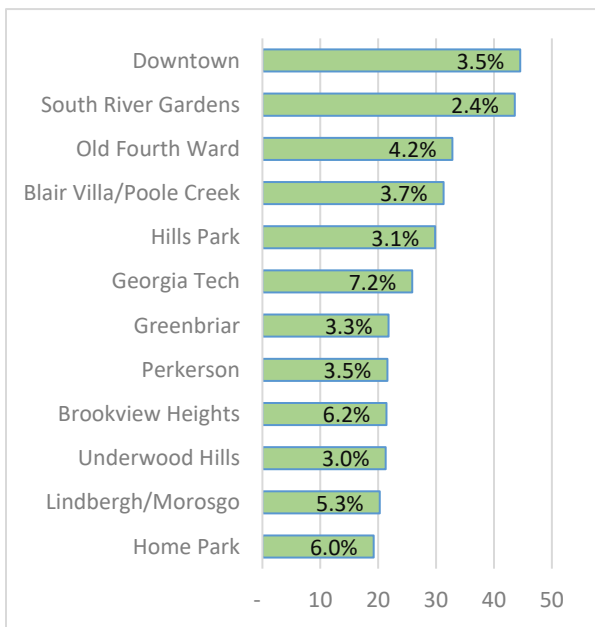


Figure 66. Acres Gained – Top 12 Neighborhoods - % Gain in

As with the top 12 neighborhoods increasing in percent canopy cover between 2018-2023, the changes in these neighborhoods were verified and qualified through visual inspection of the satellite imagery. Figure 67 shows the categorization of canopy growth in these neighborhoods.

Neighborhood	Change Categorization
Downtown	Street trees, underestimate 2018
South River Gardens	Regrowth
Old Fourth Ward	Street trees
Blair Villa/Poole Creek	Regrowth on industrial land
Hills Park	Regrowth
Georgia Tech	Street trees
Greenbriar	Street trees, some regrowth
Perkerson	Regrowth on cleared land, street trees
Brookview Heights	Regrowth on old AHA land, planted tree growth
Underwood Hills	Regrowth on cleared land, street trees
Lindbergh/Morosgo	Street trees
Home Park	Mature tree growth, street trees

Figure 67. Observations for Neighborhoods Showing Increased Acres of UTC 2018 - 2023

Similar to the top 12 neighborhoods with increasing percent canopy, growth in these twelve neighborhoods ranges from regrowth due to land cleared on former AHA developments to rapid growth from street and other trees planted in new developments occurring in the last twenty years.

4.15 Canopy Decrease by Percentage for Bottom 12 Neighborhoods

Figure 68 shows the percent canopy loss for these neighborhoods, with acres in the bars. Figure 69 shows the locations of the bottom 12 neighborhoods with decreasing percent canopy cover between 2018-2023. These 12 neighborhoods, ranging in size from 101 acres in Green Forest Acres to 637 in Brookhaven,

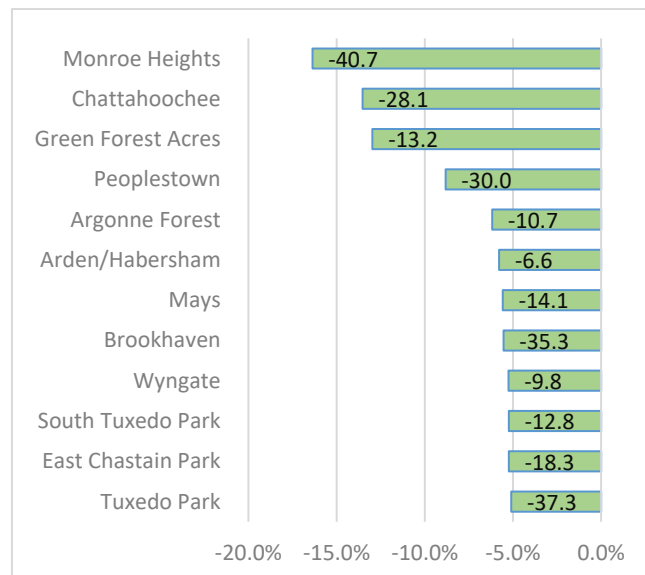


Figure 68. Bottom 12 Neighborhoods Decreasing % UTC 2018-2023

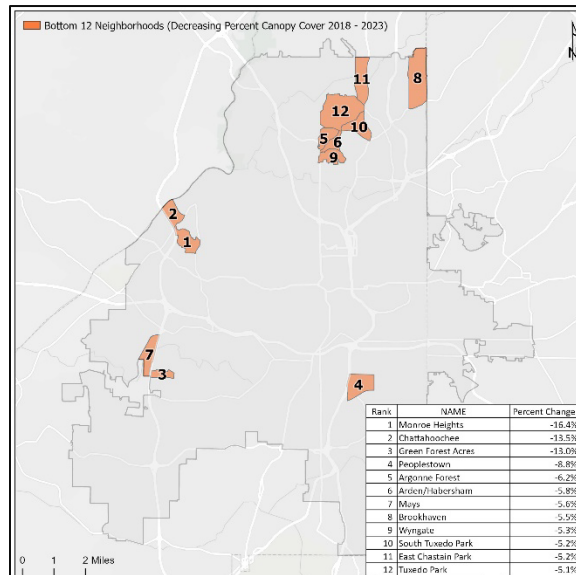


Figure 69. Bottom 12 Neighborhoods Decreasing % UTC 2018-2023

experienced decreases in canopy cover percentages ranging from a low of -5.1% in Tuxedo Park to a high of -16.4% in Monroe Heights.

The highest loss of canopy (-16.4% or 40.7 acres) occurred in Monroe Heights, a forested neighborhood off Hightower rd. that experienced canopy loss due to new multi-family residential developments. The Chattahoochee neighborhood experienced loss due to land clearing for a new park. All of the forest cleared was scrubby pines or regrowth.



Figure 70. Canopy Loss to Large, Multi-Family Development

The percent canopy loss occurring in the other neighborhoods, especially those in the north, was due primarily to redevelopment of single-family homes and multi-family developments.

Since these canopy percentage increases were significant, the changes in each of these neighborhoods were *qualified* through visual inspections of these neighborhoods using the satellite images from 2018 and 2023

combined and in-person site visits. Figure 71 shows the categorization of loss observed in these 12 neighborhoods.

Neighborhood	Change Observations
Monroe Heights	New development
Chattahoochee	Land clearing
Green Forest Acres	Residential redevelopment, tree loss
Peoplestown	Redevelopment, land clearing
Argonne Forest	Redevelopment, land clearing
Arden/Habersham	Redevelopment
Mays	Clearing of regrowth
Brookhaven	Single-family redevelopment
Wyngate	Single-family redevelopment
South Tuxedo Park	Single-family redevelopment, Piedmont hospital
East Chastain Park	Single-family redevelopment
Tuxedo Park	Single-family redevelopment

Figure 71. Loss Categorization in Bottom 12 Neighborhoods (Percent Canopy Change)

4.16 Canopy Decrease by Acres for Bottom 12 Neighborhoods

Figure 72 shows the area of canopy loss in acres (% canopy loss in bar) for the bottom 12 neighborhoods losing canopy area between 2008-2018. Figure 73 shows the location of these 12 neighborhoods.

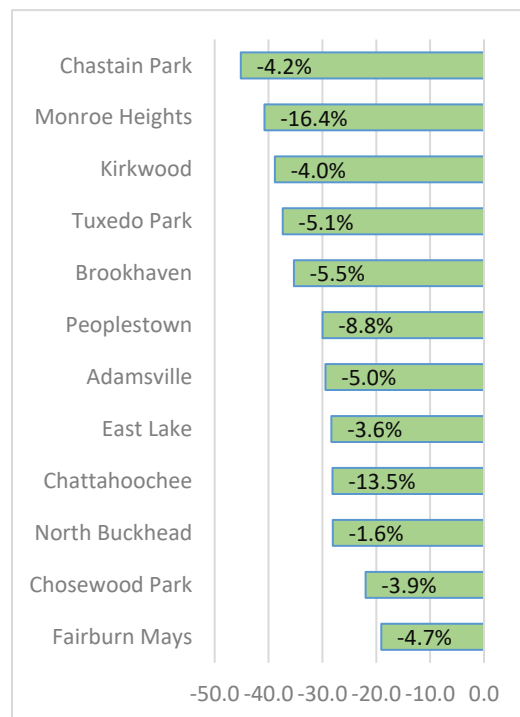


Figure 72. Bottom 12 Neighborhoods (Acres UTC Lost 2018-2023 -Percent Change in Bar)

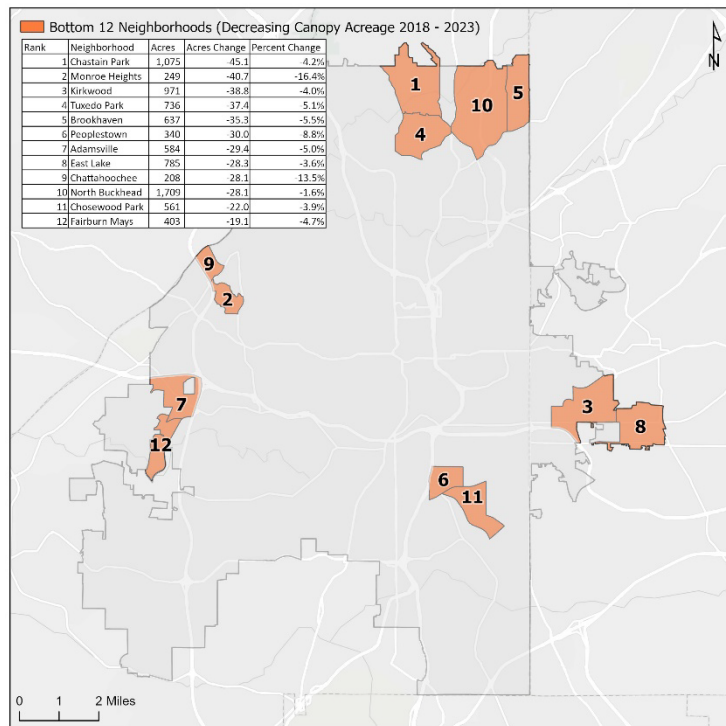


Figure 73. Bottom 12 Neighborhoods- Most Acres UTC Lost 2018-2023

These 12 neighborhoods, all larger than 200 acres and ranging in size from 208 acres in Chattahoochee to 1,709 acres in North Buckhead, experienced canopy loss from a low of 19 acres in Fairburn Mays to a high of 45 acres in Paces. The geographic distribution of these neighborhoods varies greatly as does the cause of canopy loss. New mixed-use, commercial and multi-family developments contributed significantly to canopy loss, specifically in Adamsville, Monroe Heights, Chosewood Park and Fairburn Mays. Three of the top five neighborhoods losing the most canopy acreage are located in north Atlanta and are primarily high-income, single-family residential. These neighborhoods experienced canopy loss due primarily redevelopment of single-family homes, where an older home occupying a small percentage of a lot is demolished and/or rebuilt with a much larger home often built out to the maximum allowable lot coverage, with trees removed in the process. This type of single-family redevelopment was the primary cause of canopy loss observed during the 2nd and 3rd City of Atlanta canopy assessments. The eastern neighborhoods, East Lake and Kirkwood, experienced canopy loss due to new commercial developments, single-family redevelopment, and renovations on the East Lake golf course. Figure 74 shows the categorization of canopy loss in these neighborhoods.

Neighborhood	Change Observations
Chastain Park	Single-family redevelopment
Monroe Heights	New multi-family development
Kirkwood	Commercial and single-family redevelopment
Tuxedo Park	Single-family redevelopment
Brookhaven	Single-family redevelopment
Peoplestown	Residential redevelopment
Adamsville	New multi-family development
East Lake	Golf course renovations and single-family redevelopment
Chattahoochee	Land clearing
North Buckhead	Single-family redevelopment
Chosewood Park	New development
Fairburn Mays	New development

Figure 74. Observations in 12 Neighborhoods Showing the Most Acres Canopy Loss 2018-2023

4.17 Neighborhood Change Summary

Urban tree canopy change in the City of Atlanta's neighborhoods between 2018-2023 varies significantly across the City. Large, contiguous canopy gains in neighborhoods usually occurred on lands that were cleared sometime around 2008 and after, a few of which were former AHA properties (Figure 75). Smaller,



Figure 75. Regrowth on Former AHA Property

concentrated areas of canopy growth in neighborhoods were often observed in multi-family or mixed-use developments constructed sometime in the last 20 years (Figure 76), as well as several city parks, like Freedom and Old Fourth Ward parks shown in Figure 77.



Figure 76. Canopy Growth in Multi-Family Development

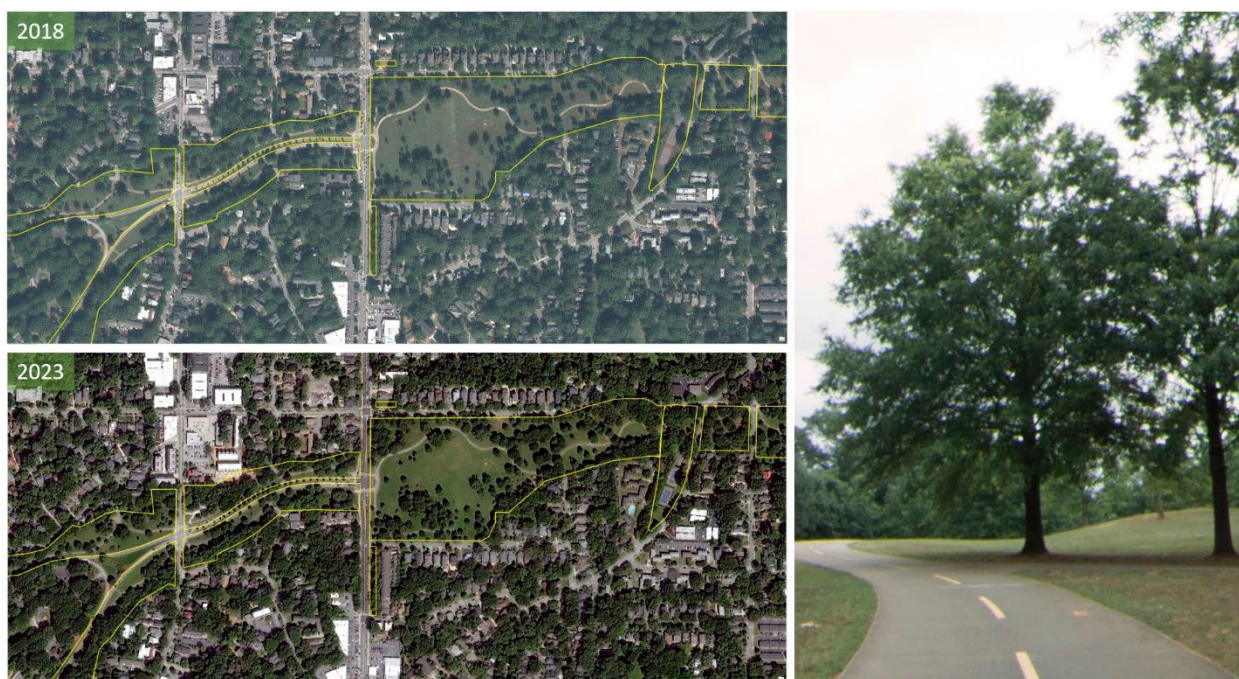


Figure 77. Canopy Growth in Freedom Park

Many neighborhoods showing canopy gain had an abundance of young street trees (Figure x). Normal canopy growth also occurred across the City in mature, older trees, yet it is difficult to visualize on a neighborhood scale.



Figure 78. Street Tree Growth and Regrowth

Canopy loss across Atlanta's neighborhoods was pronounced in areas, especially the western, southwestern, northern and southeastern parts of the City. The largest, semi-contiguous loss of canopy (~40 acres) was in the Monroe Heights neighborhood and due to two adjacent, large multi-family developments (Figure 79).



Figure 79. Largest Loss of Canopy 2018-2023

Many other smaller industrial developments also caused large losses of contiguous forest, primarily in the southern parts of the City (Figure 80).

New multi-family, single-family homes and subdivisions, commercial, mixed-use and institutional developments also

added to the canopy loss across the City. These sites usually ranged in size from an acre to 25 acres and were located in neighborhoods scattered across the City. Many of these sites had newly planted trees,

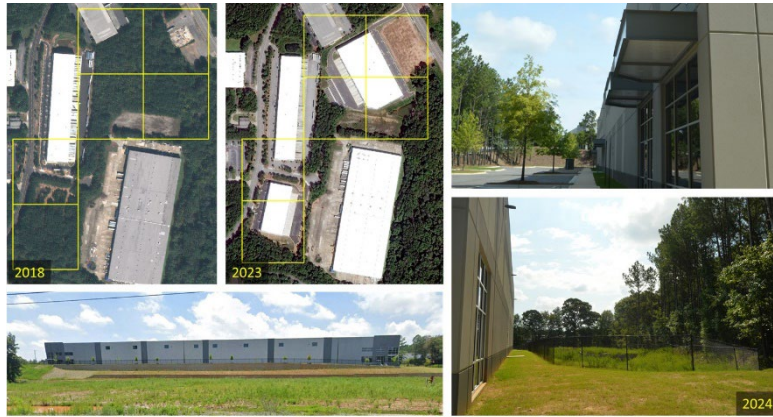


Figure 80. Canopy Loss Due to Industrial Development

between 2018-2023, a trend observed in the 2nd canopy assessment in 2014. While many of these redeveloped sites were not completely tree-covered in 2018, they usually contained significant canopy coverage that was lost in the redevelopment process. While all of these redeveloped sites had replanted trees, many of these replantings were similar to those described above for new developments; poorly maintained and with inadequate space requirements.



Figure 81. Dying Tree Plantings in Multi-Family Development



Figure 82. Healthy Tree Plantings in Multi-Family Development

trees and redeveloped, or at least in the process of redevelopment. This phenomenon of canopy loss, gain, loss on a singular site is noteworthy in that an abundance of these sites will skew the overall canopy

where some were healthy and robust (Figure 82) while others were neglected and dying, usually due to inadequate growing space or lack of maintenance (Figure 81).

A canopy threat greater than loss due to new development is redevelopment of existing properties, primarily single-family and multi-family. Several large, multi-family redevelopments and single-family subdivisions occurred across the city

A unique finding in this canopy assessment was the occurrence of several canopy loss, gain, loss sites (Figures 83 and 84). These sites were cleared for development pre-2008, with one site cleared in the early 2000s, and then left undeveloped or partially developed. The project team documented canopy regrowth (scrubby, secondary pine) on these sites in 2014 and even 2018. In 2023 the majority of these sites had been recleared of

numbers. Furthermore, without site visits to qualify these changes in canopy, the city would not fully understand how development and canopy change are so deeply intertwined in Atlanta.



Figure 83: Canopy Loss – Gain – Loss Site



Figure 84: Canopy Loss – Gain – Loss Site

The most significant loss of canopy in Atlanta's neighborhoods between 2008-2018 was due to redevelopment of individual single-family homes, primarily in northern parts of the City. This trend has continued between 2018 and 2023 but at a slower pace. It should be reiterated that this type of canopy loss does not usually result in loss of large, contiguous tracts of forest. It is, however, prolific and is causing the City to lose its forest on a lot by lot basis, slowly changing Atlanta's diverse urban forest to a patchy amalgam of mixed, non-native trees. The acreage lost for each individual single-family redevelopment generally ranges from .25 acres to 2 acres. This type of redevelopment gradually accelerated, starting in the early 2000s, breaking in 2008 with the recession, resuming in 2012, peaking just before 2019 and the Covid-19 pandemic, yet continuing at an intense pace today (Figure 85).

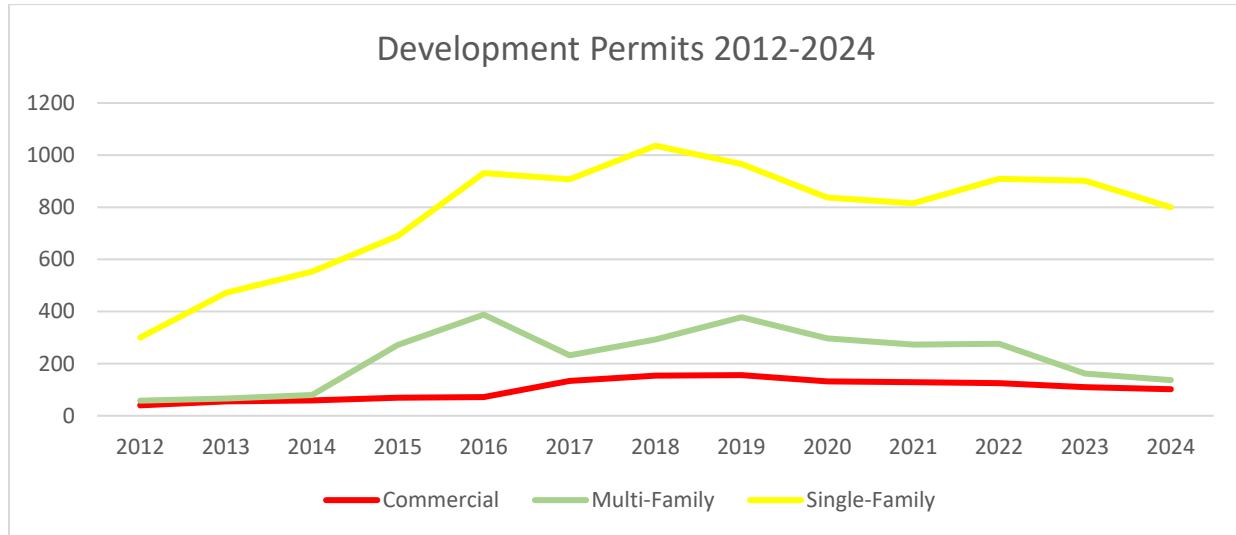


Figure 85. Development Permits 2012 - 2024

The size and scale of single-family redevelopment ranges greatly, from redevelopment of homes that are replaced with homes of similar size (Figure 86), to homes that are replaced with much larger homes built out to the maximum allowable lot size, with the latter being the most common type of single-family



Figure 86. Single-Family Redevelopment

redevelopment. For example, Figure 86 shows multiple single-family redevelopments (all greater than

5,000 sq. ft. of living space) for the same neighborhood, all in varying stages of completion. This scale of



Figure 87. Single-Family Redevelopments in North Atlanta

single-family redevelopment in the northern parts of Atlanta was not uncommon. If anything, this scale of single-family redevelopment was the norm in many neighborhoods. And, it is likely to continue, with the quantity and composition of Atlanta's urban tree canopy destined to change because of it.

4.18 Neighborhood Planning Unit (NPU) Canopy 2023

The City of Atlanta contains approximately 25 Neighborhood Planning Units (NPU), ranging in size from 1.3 square miles (NPU L) to 11.4 square miles (NPU A), with an average NPU size of 5.5 square miles.

Figure 88 is a map of the 2023 canopy distribution for all NPUs in the City. The average 2023 percent canopy cover by NPU is 41.6%, with a low of 14.1% in NPU M and a high of 62.8% in NPU Q. Eleven NPUs are above the City average of 45.7% tree canopy, with these neighborhoods located primarily in the southwest, northwest and southeast. The 14 NPUs below the City average are located primarily downtown, in central business districts, and along the major transportation corridors. Figure 89 shows the percent land cover distribution of all 25 NPUs, with acres noted in the bars.

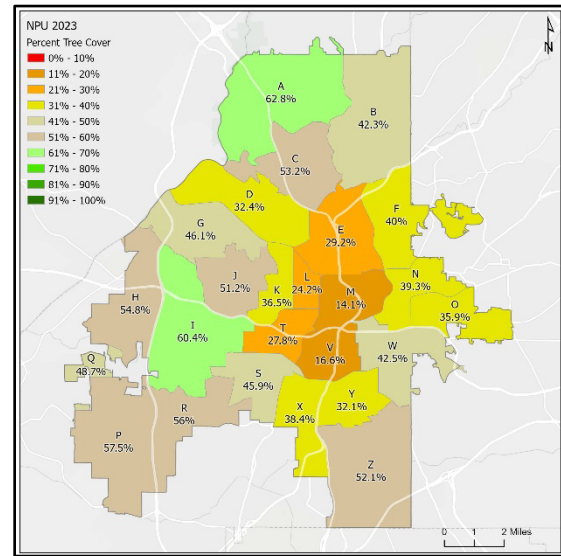


Figure 88. 2023 Canopy Percentage by NPU

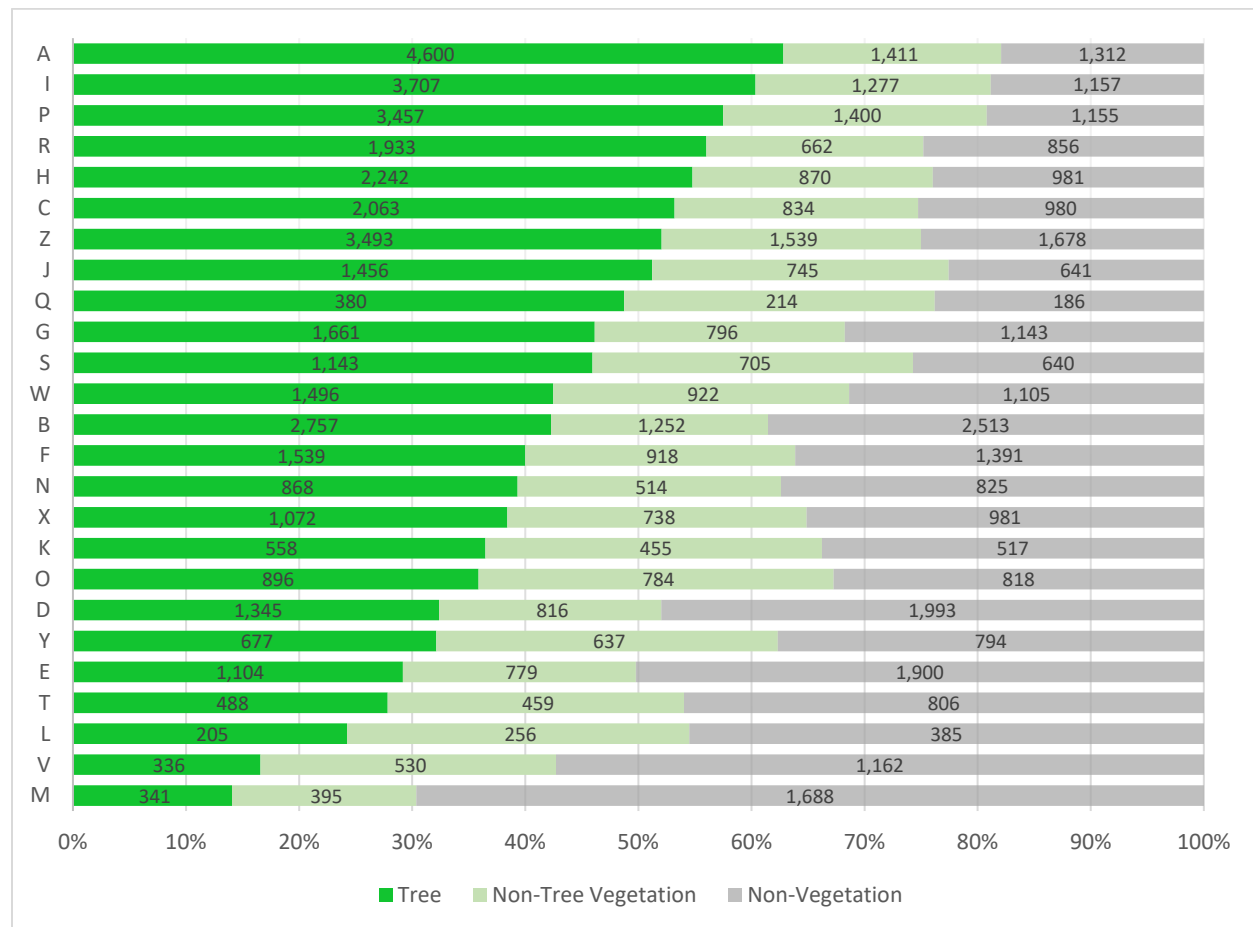


Figure 89. 2023 Landcover Distribution by NPU

Figure 90 shows the 2023 acreage and percent tree cover by NPU. As expected, the centrally located NPUs have significantly lower tree cover percentages than NPUs outside of downtown. The majority of NPUs with above city average tree cover percentages contain large stream corridors that run through residential neighborhoods and drain into the Chattahoochee River.

The NPUs vary significantly in size and composition. NPU A is largest (7,323 acres) in size and has the most tree cover by acres (4,600) and the highest percentage of tree cover (62.8%) in the city. By contrast, NPU L is the smallest NPU (847 acres) and has the lowest total tree canopy area (205 acres), but only the third lowest percentage of tree canopy (24.2%)

4.19 NPU Canopy Change 2018 – 2023

Between 2018 – 2023, the change in tree canopy across the City's NPUs varied greatly. Figure 91 is a map of the

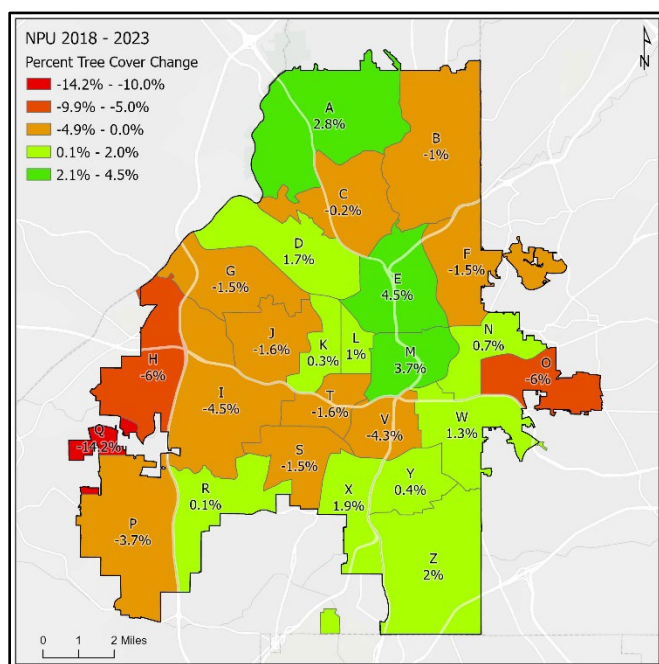


Figure 91. Percent Canopy Change by NPU 2018-2023

NPU	Total Acres	Tree Cover Acres	Tree Cover Percent
A	7,323	4,600	62.8%
I	6,142	3,707	60.4%
P	6,012	3,457	57.5%
R	3,451	1,933	56.0%
H	4,092	2,242	54.8%
C	3,877	2,063	53.2%
Z	6,710	3,493	52.1%
J	2,842	1,456	51.2%
Q	780	380	48.7%
G	3,600	1,661	46.1%
S	2,488	1,143	45.9%
W	3,523	1,496	42.5%
B	6,522	2,757	42.3%
F	3,848	1,539	40.0%
N	2,206	868	39.3%
X	2,791	1,072	38.4%
K	1,529	558	36.5%
O	2,498	896	35.9%
D	4,154	1,345	32.4%
Y	2,108	677	32.1%
E	3,783	1,104	29.2%
T	1,752	488	27.8%
L	847	205	24.2%
V	2,029	336	16.6%
M	2,424	341	14.1%

Figure 90. 2023 Canopy Distribution by NPU

percent tree canopy change by NPU. Figure 92 shows the percent canopy in each NPU, with acres changed noted in the bar. The change in percent canopy cover ranged from a high of 5.6% canopy loss in NPU H to a 4.5% canopy gain in NPU E. The average percent canopy change by NPU was -.4%. NPU I lost the most acres (262) of canopy while NPU A gained the most acres (202). Interestingly enough, this was flipped in 2008-2018, where NPU A had lost the most canopy and NPU had gained the most canopy. This is likely due to the shift in development patterns over the last 5 years. The NPUs gaining canopy are located primarily across the center of the city (Figure 90). Many of the NPUs showing significant growth contain

either regrowth on lands cleared around 2008 (former AHA properties), where quick growing pines and non-native trees quickly replaced cleared lands (Figure 93), or have many multi-family developments showing extensive street tree growth. Figures 94 and 95 show canopy loss in NPU Z due to new single-family development and canopy gain in a multi-family development in NPU L.

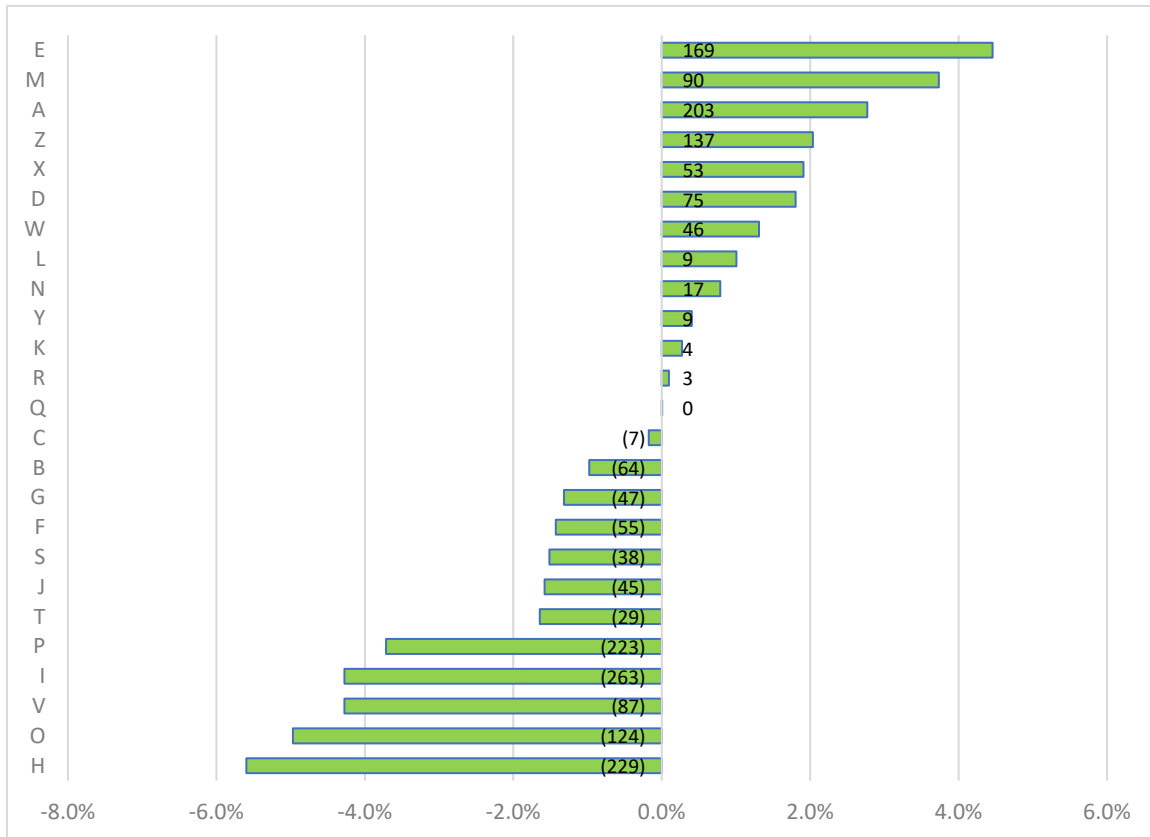


Figure 92. Canopy Change by NPU 2018-2023



Figure 93. Canopy Regrowth in NPU Y



Figure 94. Street Tree Growth in NPU L



Figure 95. Canopy Loss Due to New Single-Family Development in NPU Z

4.20 Watersheds- Tree Canopy 2023

Watersheds or drainage basins are generally described as the area of land where surface water converges at a single point, usually the lowest elevation and the exit of the basin, where the water joins another

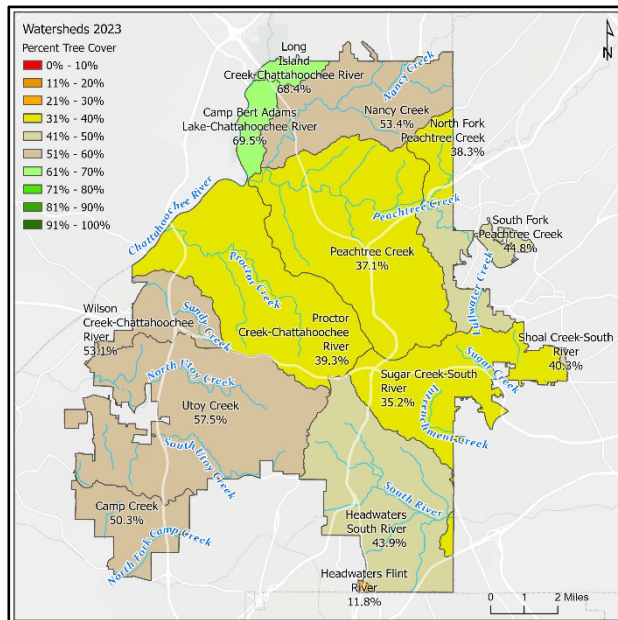


Figure 96. 2023 Percent Canopy by Watershed

larger water body. Subsequently, these naturally imposed boundaries do not align with human defined limits such as city boundaries. As a result, the City of Atlanta contains *portions of fourteen* United States Geologic Survey's (USGS) Hydrologic Unit Code (HUC 12) watersheds (Figure 96). HUC 12's range in size from 10,000–40,000 acres, and are normally too large for small scale planning purposes. However, for this report, USGS HUC 12 basins will be referred to as Watersheds while city-derived data will be referred to as Sub-Watersheds.

Figure 96 is a map showing the 2023 percent tree cover by watershed for the City of Atlanta.

Figure 97 shows the percentage land cover distribution of Atlanta's HUC 12 watersheds ordered from greatest to least percent canopy, with land cover acres represented inside the

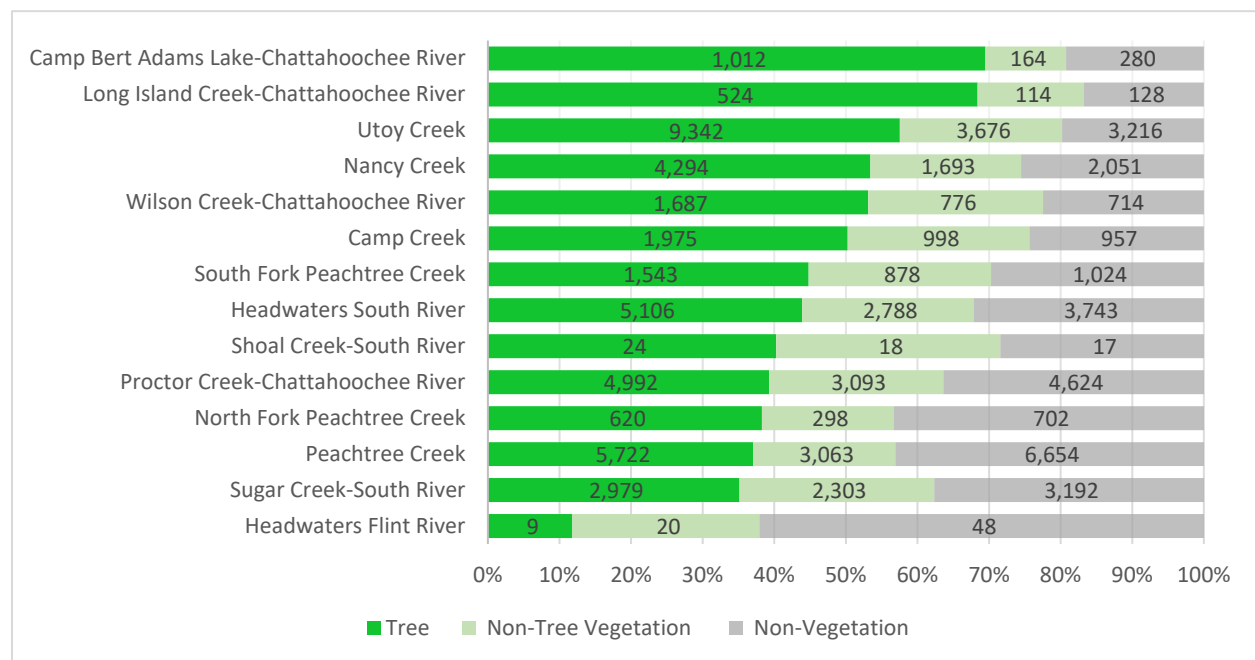


Figure 97. Percent Landcover Distribution by Watershed (acres in bars)

associated bars. Figure 98 shows the 2023 percent canopy values and canopy area in acres for each watershed.

The City of Atlanta has portions of 14 large watersheds ranging in size from 59 acres for Shoal Creek to 16,234 acres for Peachtree Creek. The average size watershed is 6,218 acres. Percent tree canopy coverage ranges greatly across the city, from a low of 12% in Headwaters Flint River to a high of 69% in Camp Bert Adams, with an average percent canopy coverage of 45.9%, only slightly higher than the city average of 45.7%. Three out of the top four largest watersheds have below city-average percent tree canopy cover, with the largest (Utoy Creek) having 58% tree canopy. The 2nd largest watershed, Peachtree Creek, has the 2nd most acres of tree canopy (5,722) and the 3rd lowest percent tree canopy at 37%. Generally, the highest percent tree canopy is found in highly residential watersheds (Utoy, Long Island and Nancy) while the lowest percent tree canopy is found in more urbanized watersheds (Peachtree, Proctor and Intramural).

Watershed Change 2018 – 2023

Between 2018 – 2023, the change in tree canopy across the City's watersheds varied from -6.1% canopy loss in Wilson Creek to an 2.3% canopy gain in Peachtree Creek. Figure 99 is a map of the percent tree canopy change by watershed. Figure 100 shows the percent canopy change for each watershed, with acres changed noted next to the bar. Figure 100 shows tree canopy change statistics for each watershed. The average percent canopy change by watershed was -.9% with the most significant percent canopy loss occurring in highly residential watersheds in the southwest like Wilson Creek (-6.1%) and Utoy Creek (-4%), and likely due to new multi-family residential redevelopment (Figure 956). No watersheds had significant canopy gains (>5 %) though Peachtree creek gained over 350 acres of trees, much of which could be due to street tree growth in newer large developments. Figures 102 and 103 show canopy gain in the Peachtree Creek watershed and loss in the South River watershed.

Watershed	Acres	Acres UTC	% UTC
Headwaters Flint River	78	9	12%
Sugar Creek-South River	8,474	2,979	35%
Peachtree Creek	15,440	5,722	37%
North Fork Peachtree Creek	1,620	620	38%
Proctor Creek-Chattahoochee River	12,709	4,992	39%
Shoal Creek-South River	59	24	40%
Headwaters South River	11,637	5,106	44%
South Fork Peachtree Creek	3,444	1,543	45%
Camp Creek	3,929	1,975	50%
Wilson Creek-Chattahoochee River	3,176	1,687	53%
Nancy Creek	8,038	4,294	53%
Utoy Creek	16,234	9,342	58%
Long Island Creek-Chattahoochee River	767	524	68%
Camp Bert Adams Lake-Chattahoochee River	1,456	1,012	69%

Figure 98. 2023 Canopy Values by Watershed

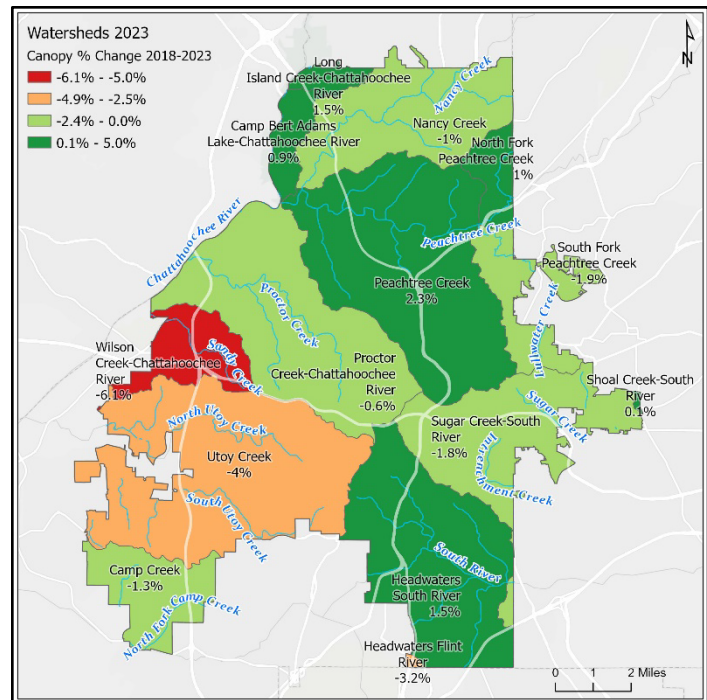


Figure 99. Percent Canopy Change by Watershed 2018-2023

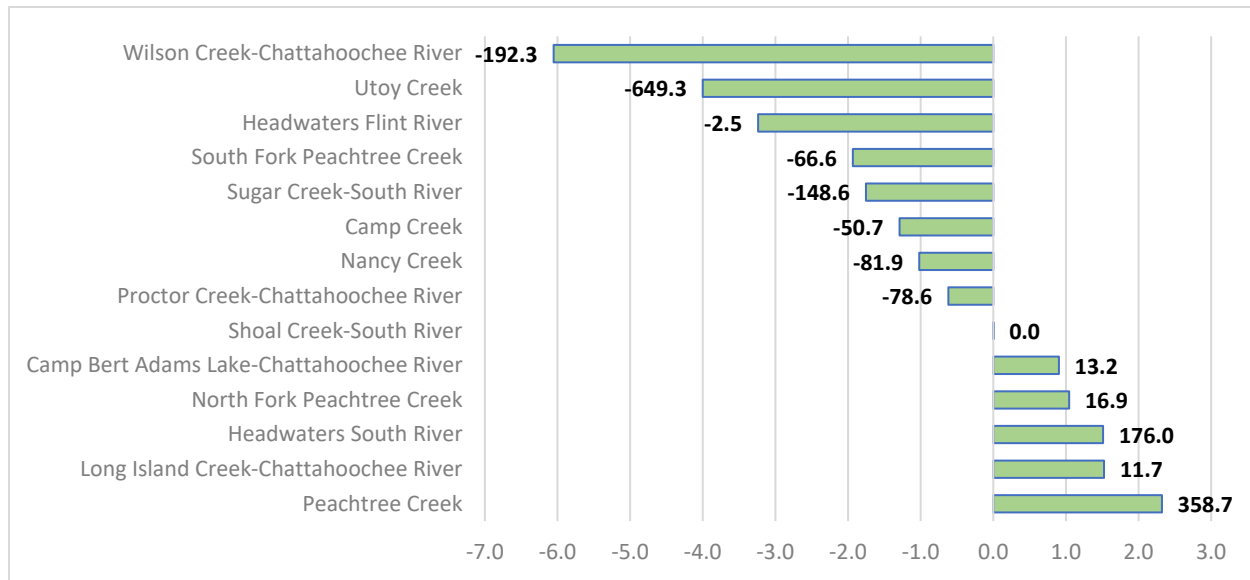


Figure 100. Percent Canopy Change by Watershed 2018-2023 (Acres in black)

Watershed	Acres	Acres UTC Change	% UTC Change
Utoy Creek	16,234	-649	-4%
Peachtree Creek	15,440	359	2%
Proctor Creek-Chattahoochee River	12,709	-79	-1%
Headwaters South River	11,637	176	2%
Sugar Creek-South River	8,474	-149	-2%
Nancy Creek	8,038	-82	-1%
Camp Creek	3,929	-51	-1%
South Fork Peachtree Creek	3,444	-67	-2%
Wilson Creek-Chattahoochee River	3,176	-192	-6%
North Fork Peachtree Creek	1,620	17	1%
Long Island Creek-Chattahoochee River	767	12	2%
Headwaters Flint River	78	-3	-3%
Shoal Creek-South River	59	0	0%

Figure 101. Watershed Canopy Change Values 2018-2023



Figure 102. Canopy Gain – Street Tree Growth in Multi-Family Development in Peachtree Creek Watershed

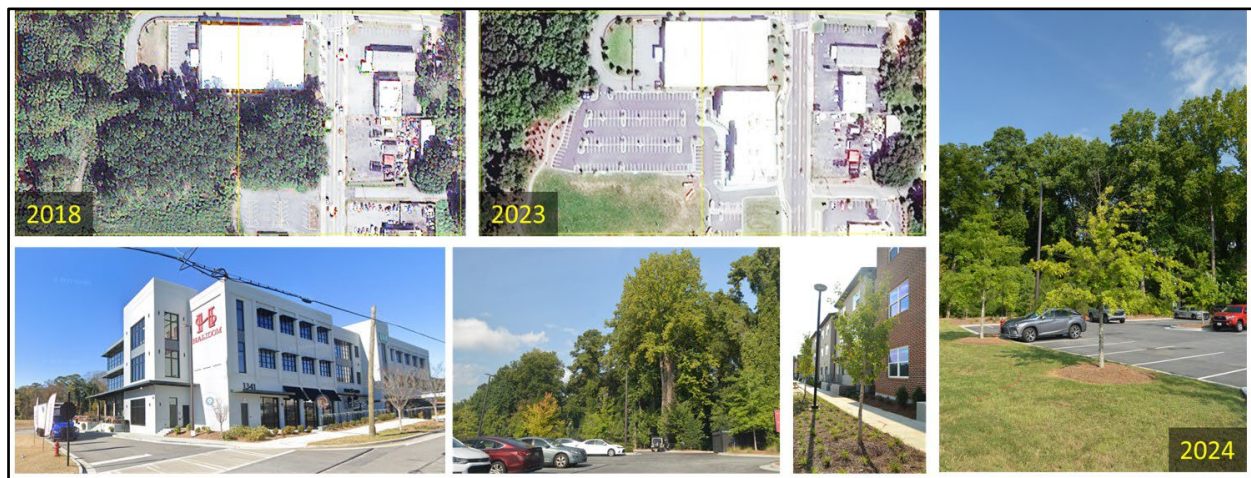


Figure 103. Canopy Loss Due to Mixed-Use Development in Sugar Creek – South River Watershed

4.22 Sub-Watersheds: Tree Canopy 2023

Watersheds or drainage basins are generally described as the area of land where surface water converges at a single point, usually the lowest elevation and the exit of the basin, where the water joins another

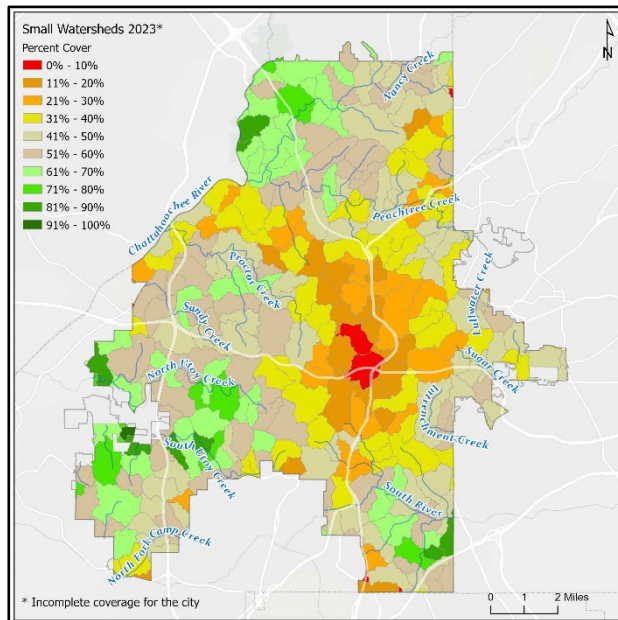


Figure 104. 2023 Percent Canopy by Sub-Watershed

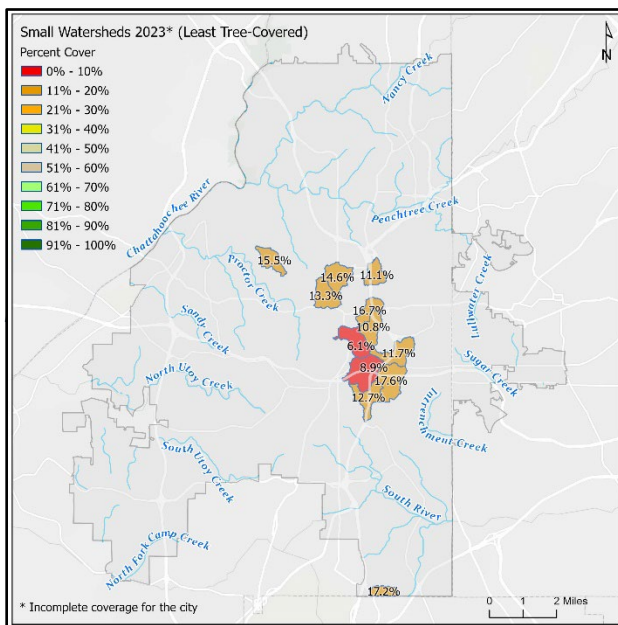


Figure 105. 2023 Percent Canopy for the 12 Least Tree-Covered Sub-Watersheds

larger water body. Subsequently, these naturally imposed boundaries do not align with human defined limits such as city boundaries. As a result, the City of Atlanta contains *portions* of 244 *sub watershed* basins. The 244 sub watersheds in the City of Atlanta range in size from less than 10 acres to over 1,000 acres. This dataset was produced for the Watershed department in 2014 by a consultant using high-resolution elevation data and customized hydrologic models yet has not been updated to date. Therefore, 2023 canopy data statistics by sub-watershed are reported at the 2014 sub-watershed scale.

Figure 103 is a map showing the 2023 percent tree cover by sub-watershed for the City of Atlanta. There are approximately 302 sub-watersheds or portions of sub-watershed in the City, ranging in size from less than one acre to 1,104 acres, with an average of 280 acres. Due to the large number of sub-watersheds in the City of Atlanta and their large variation in size, only the top and bottom 12 sub-watersheds greater than 100 acres will be highlighted. For complete sub-watershed canopy statistics, please see Appendices 2 and 3.

Figure 104 is a map showing the 2023 percent tree cover for the 12 least tree-covered sub-watersheds in the City. Figure 105 shows the percentage tree cover for Atlanta's 12 least tree-covered sub-watersheds, with land cover acres represented inside the associated bars. The percent tree canopy of these 12 sub-watersheds ranges from a low of 6% in Proctor_161 to a 17% in Proctor Creek_246, all of which are well below the city average of 45.7%. The acres of tree canopy in these watersheds range from 21 in Proctor Creek_161 to 49 in Peachtree Creek_130. All but two of these 12 sub-watersheds are located close

to downtown and follow the downtown connector, Interstate 75/85. These are very urban, predominantly paved sub-watersheds where the lack of trees likely contributes to poor water quality and increased stormwater runoff.

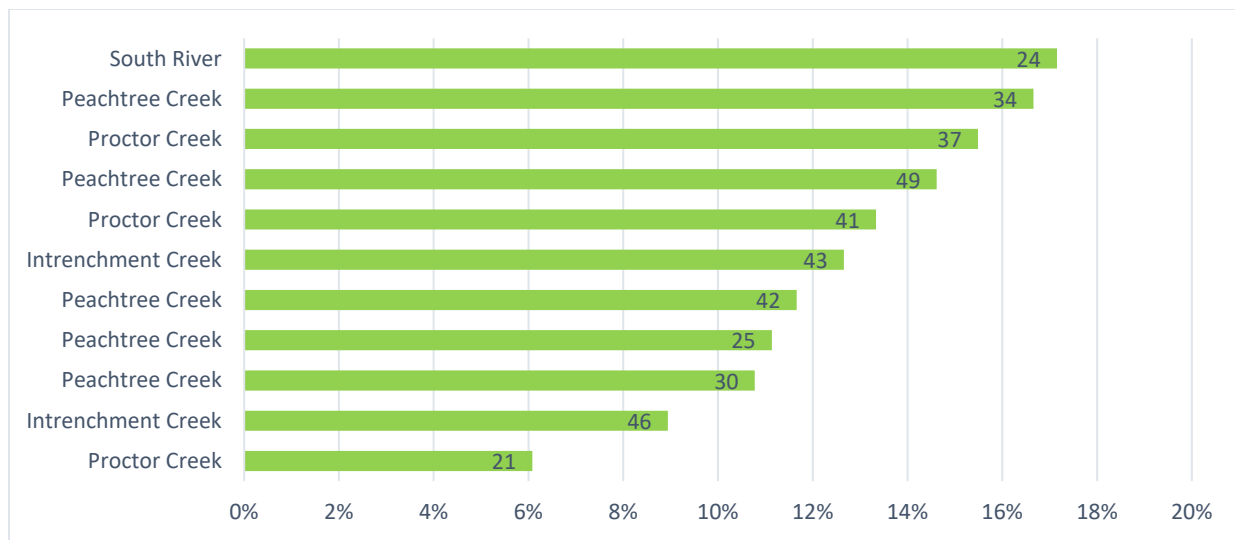


Figure 106. 2023 Tree Cover Distribution for 12 Least Tree-Covered Sub-Watersheds

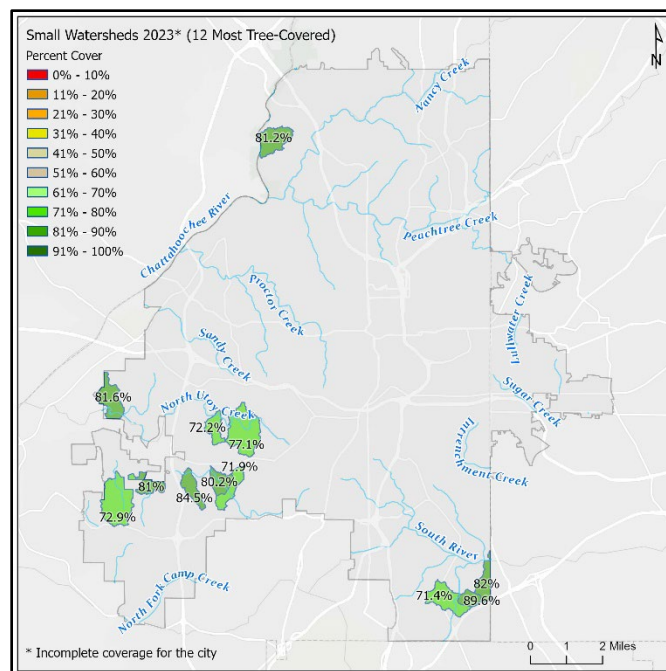


Figure 107. 2023 12 Most Tree-Covered Sub-Watersheds

All but two of these sub-watersheds are located in the Utoy Creek watershed, which is the most tree-covered area in the City and most likely, the most environmentally healthy.

Figure 106 is a map showing the 2023 percent tree cover for the 12 most tree-covered sub-watersheds in the City. Figure 107 shows the percentage tree cover of Atlanta's 12 most tree-covered sub-watersheds, with tree cover acres represented inside the associated bars. The percent tree canopy in these 12 sub-watersheds ranges from 72.5% in Utoy Creek_292 to 84.2% in Utoy Creek_302, all of which are well above the city average of 46.5%.

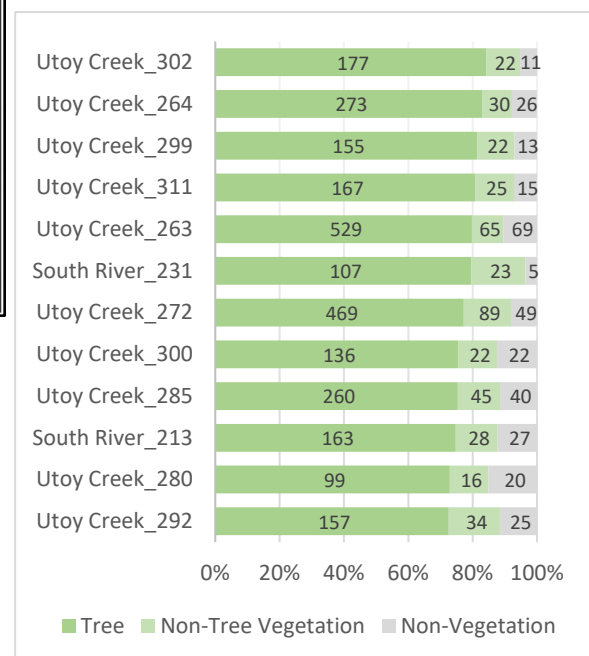


Figure 108. 2023 Land Cover Distribution for 12 Most Tree-Covered Sub-Watersheds

4.23 Sub-Watershed Change 2018 – 2023

Between 2018 – 2023, the change in tree canopy across the City's sub-watersheds varied greatly from 14.5% canopy loss in Utoy Creek_304 to 10 % canopy gain in South River_201, with an average change of

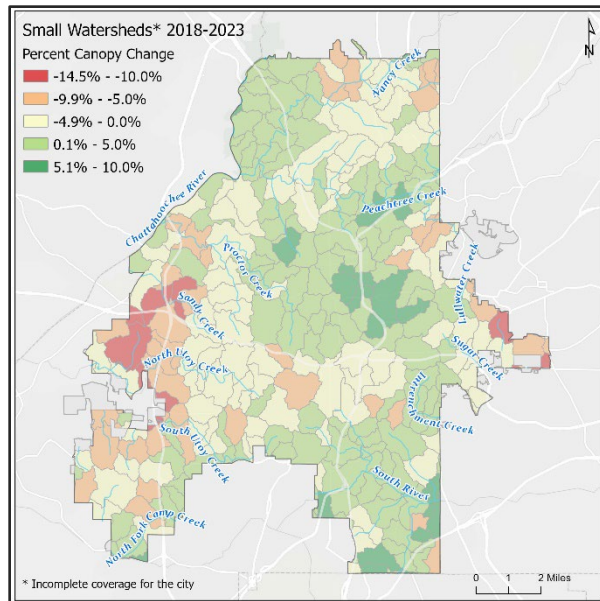


Figure 109. Percent Canopy Change by Sub-Watershed

-.52%. Figure 109 is a map of the percent tree canopy change by sub-watershed. The majority of sub-watersheds with significant tree canopy loss are located in the Utoy, Sandy and Sugar Creek sub-watersheds Atlanta while those showing significant tree canopy gain are located primarily in Peachtree Creek and South River sub-watersheds.

Due to the large number of sub-watersheds in the City of Atlanta and their large variation in size, tree canopy change will be shown for only the top and bottom 12 sub-watersheds greater than 100 acres. For complete sub-watershed canopy change statistics, please see Appendices 4,5, and 6.

Figure 110 is a map of the 12 sub-watersheds that experienced the most loss in percent tree canopy

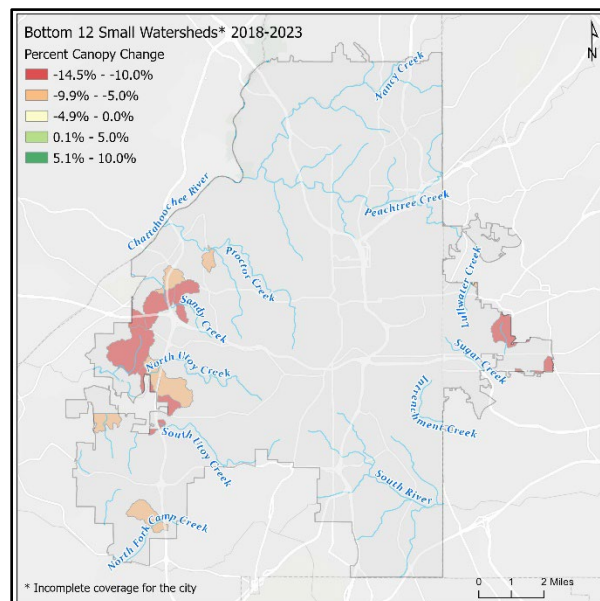


Figure 110. 12 Sub-Watersheds Showing Most Canopy Loss 2018-2023

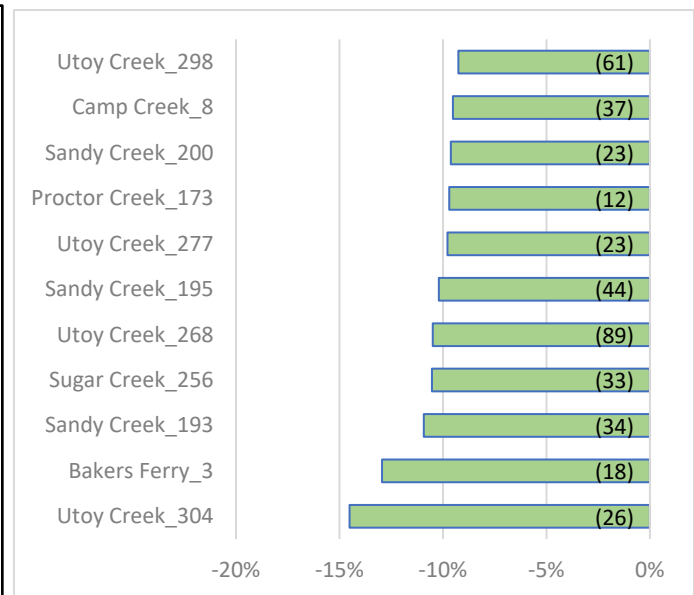


Figure 111. Sub-Watersheds Showing Most Canopy Loss

between 2018-2023. Figure 111 shows the percent canopy change for each watershed, with acres changed noted inside the bar. The highest percentage of canopy loss occurred in the Utoy Creek_304 sub-watershed and was due to the single-family redevelopment and tree removal. Sub-watersheds along North Utoy and the Sandy Creeks experienced the most canopy loss between 2018-2023, likely due to a

combination of new multi-family residential developments and single-family redevelopments (Figures 112 and 113).

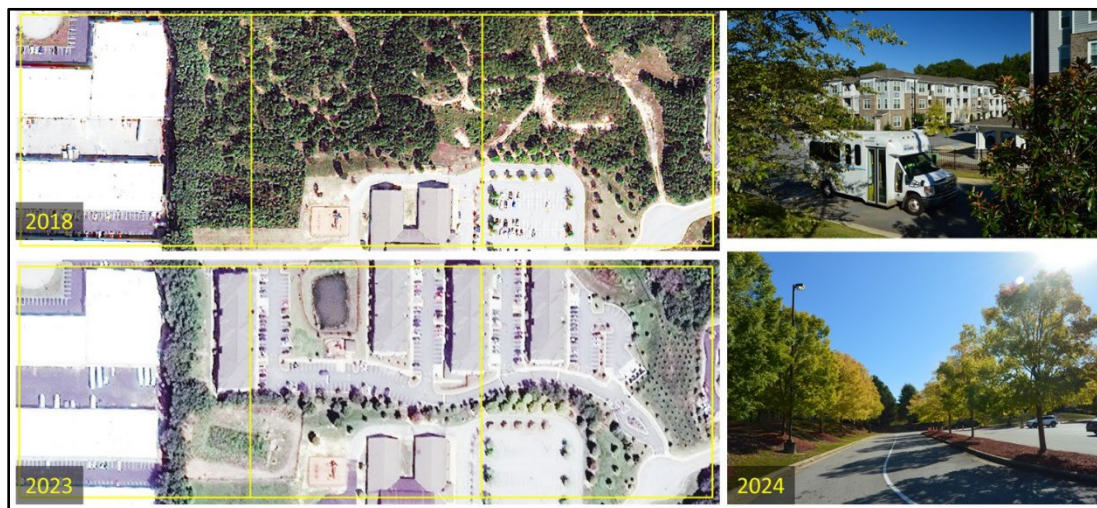


Figure 112. Significant Canopy Loss Observed at New Multi-Family Site in Bakers Ferry Sub-Watershed



Figure 113. Canopy Loss Observed on New Industrial and New Multi-Family Sites in the Sandy Creek Sub-Watershed

Figure 114 is a map of the 12 sub-watersheds gaining percent tree canopy between 2018-2023. Figure 115 shows the percent canopy change for each of these sub-watersheds, with acres changed noted inside the bar.

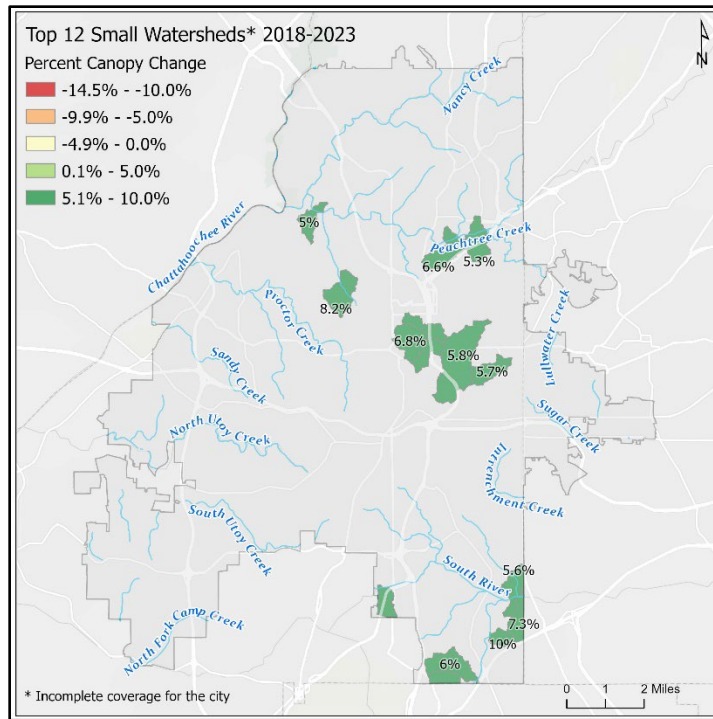


Figure 114. Top 12 Sub-Watersheds with Canopy Gains 2018-2023

the bar. The most significant change in percent tree canopy gain occurred in several sub-watersheds along the South River and Peachtree Creek, ranging from a high of 10% in South River_231 to 5% in Peachtree Creek_154. The average change in sub-watersheds gaining tree canopy is 2.7% for all of the sub-watersheds (over 100 acres) gaining tree canopy. The growth observed in these 12 sub-watersheds is primarily due to growth of trees planted in multi-family developments in or after 2008 and regrowth observed on cleared sites. (Figures 116 and 117).

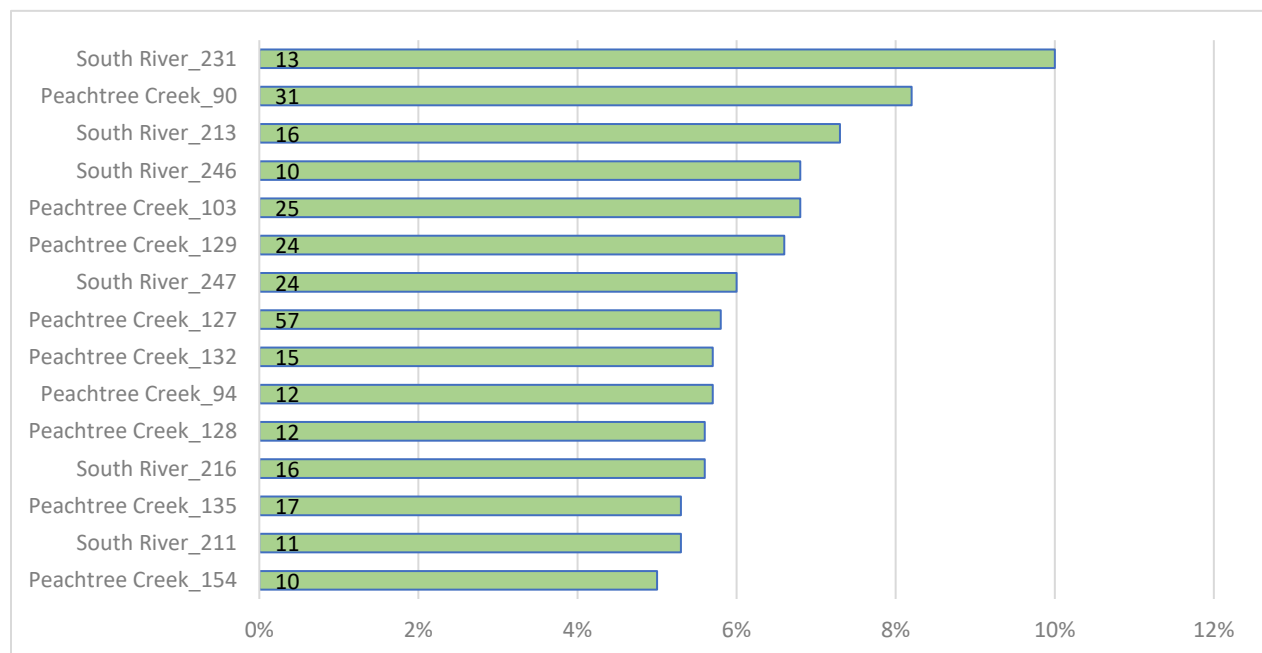


Figure 115. Landcover Distribution for Top 12 Sub-Watersheds Showing Canopy Gains 2018-2023



Figure 116. Canopy Growth and Regrowth on a Cleared Site in the South River Sub-Watershed.



Figure 117. Canopy Growth in Multi-Family Development in the Peachtree Creek Sub-Watersheds

4.24 City Parks: Tree Canopy 2023

According to data obtained from the City of Atlanta in 2023, the City has 380 parks ranging in size from less than 1 acre to 250 acres, totaling approximately 4,434 acres (5.1% of the city's land area). These parks

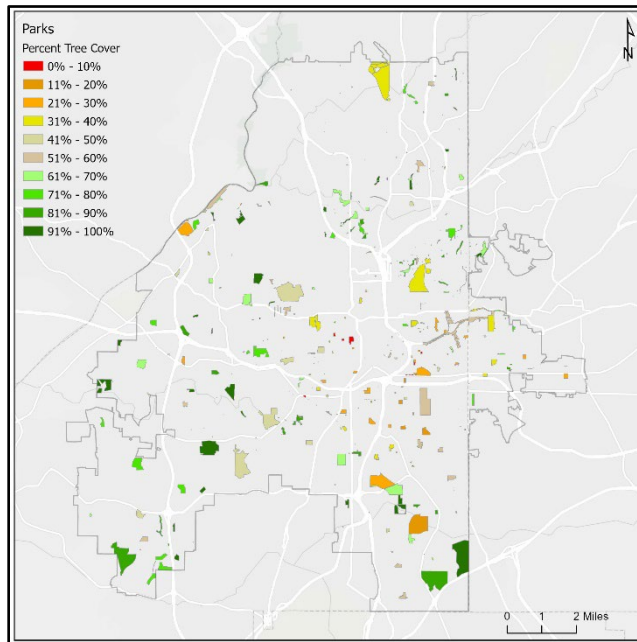


Figure 118. 2023 Percent Tree Canopy by Parks

range in function from simple beauty spots or traffic circles to large, multi-use parks containing gyms, golf courses, playgrounds, and other amenities. These parks contain approximately 2,625 acres of tree-covered land or 6.6 % of the city's tree canopy, up 1% from 2018. Tree cover ranges significantly in the City's parks, from zero canopy in many traffic circles and other very small parks, to complete or 100% coverage in other parks. Figure 118 is a map showing the 2023 percent tree canopy for all parks. The average percent tree canopy for the City's 380 parks is 51%, almost 6% higher than the 2023 city average of 45.7%. However, after removing the 182 parks less than one acre in size from the calculation (mostly beauty spots or traffic circles), the average percent tree canopy in the remaining 198 parks is 60%.

Because the city has so many parks, only tree canopy statistics for parks over 20 acres in size will be summarized in this section. For complete tree canopy statistics, see Appendices 2 and 3.

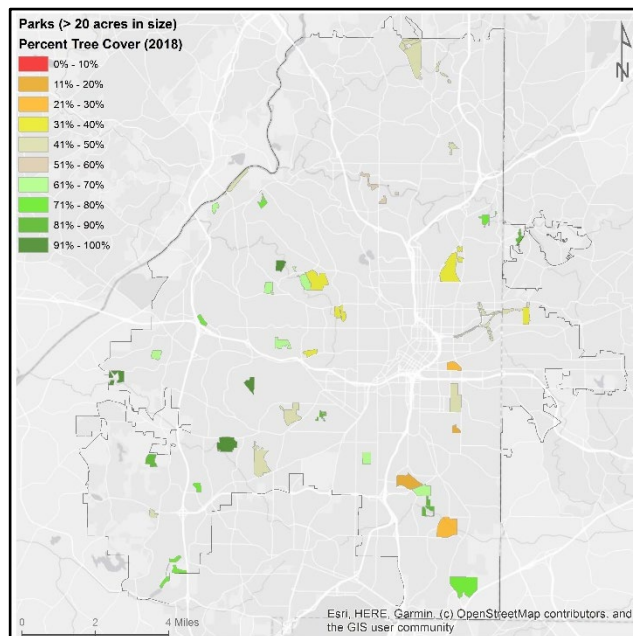


Figure 119. 2023 Percent Tree Canopy by Parks > 20 Acres in Size

Figure 119 is a map of the 40 city parks greater than 20 acres in size. For these parks, the amount of tree canopy varies from a high of 213 acres in Lake Charlotte Nature Preserve (96% canopy) to a low of 4 acres in Boulevard Crossing (19% canopy), with an average of 62% canopy coverage, which is significantly higher than the city average of 45.7%. The percentage tree canopy ranges from a high of 99% in Gun Club Park (41 acres of canopy) to a low of 19% in Boulevard Crossing. The parks with the most percent canopy cover tend to be nature preserves while the parks with the least cover tend to be parks with golf courses or athletic fields that can't be forested. For a complete look at the 2023 land cover distribution for parks over 20 acres, see Figure 120, where acres of land cover are shown in the bars.

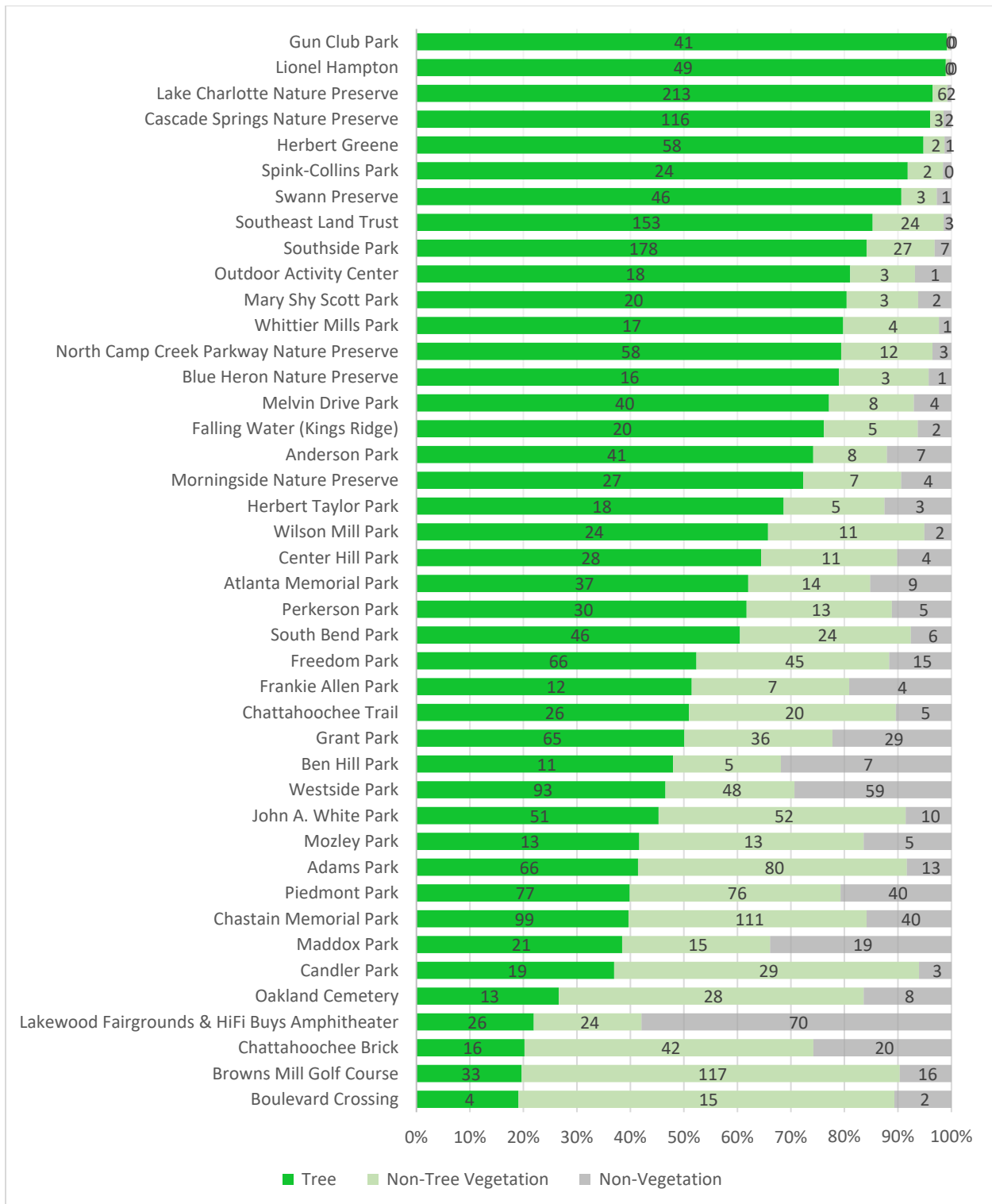


Figure 120. 2023 Land Cover Distribution for Parks > 20 Acres in Size

4.25 City Parks: Tree Canopy Change 2018 – 2023

Due to the large size variation in parks, acres of canopy change, not percent change in canopy, will be shown and discussed below. Furthermore, since there are 373 parks, only the 166 parks greater than 2

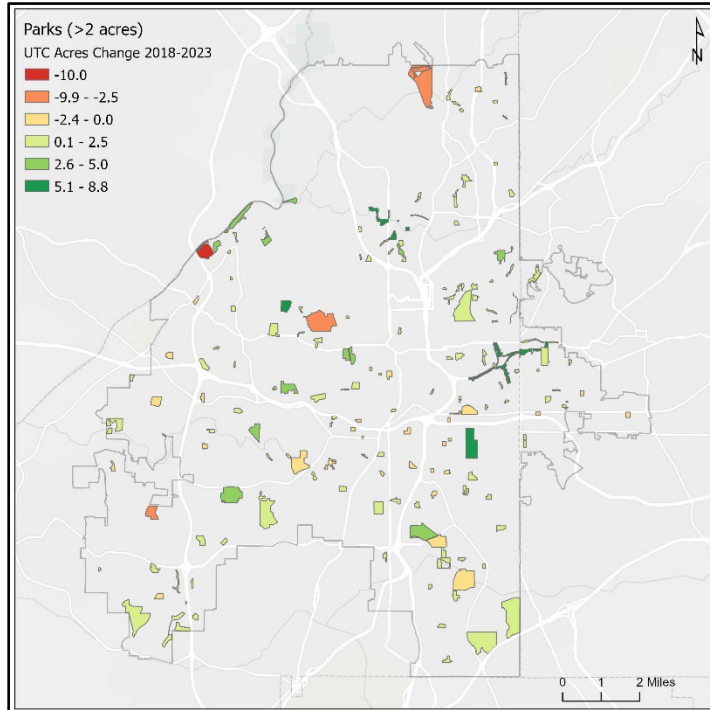


Figure 121. Acres Canopy Change by Parks > 1 Acre in Size 2018-2023

acres in size and those parks showing the most change will be highlighted here. For complete park change statistics, see Appendices 4, 5, and 6.

Figure 121 is a map showing the change in acres of tree canopy for parks greater than 2 acre in size. As shown in the map, the majority of parks (160) did not show significant change in canopy coverage. Two parks showed increases of 5 acres or more, with the most gain occurring in Freedom and Grant parks (Figure 122). The growth in Freedom park (Figure 123) was observed in young trees and streets trees while the growth in Grant park was new plantings after renovations done in 2018. Fifteen parks showed growth greater than 2.5 acres. Growth in many of these parks was due to expected growth in older trees (Atlanta Memorial, Cascade Springs, Lionel

Hampton).

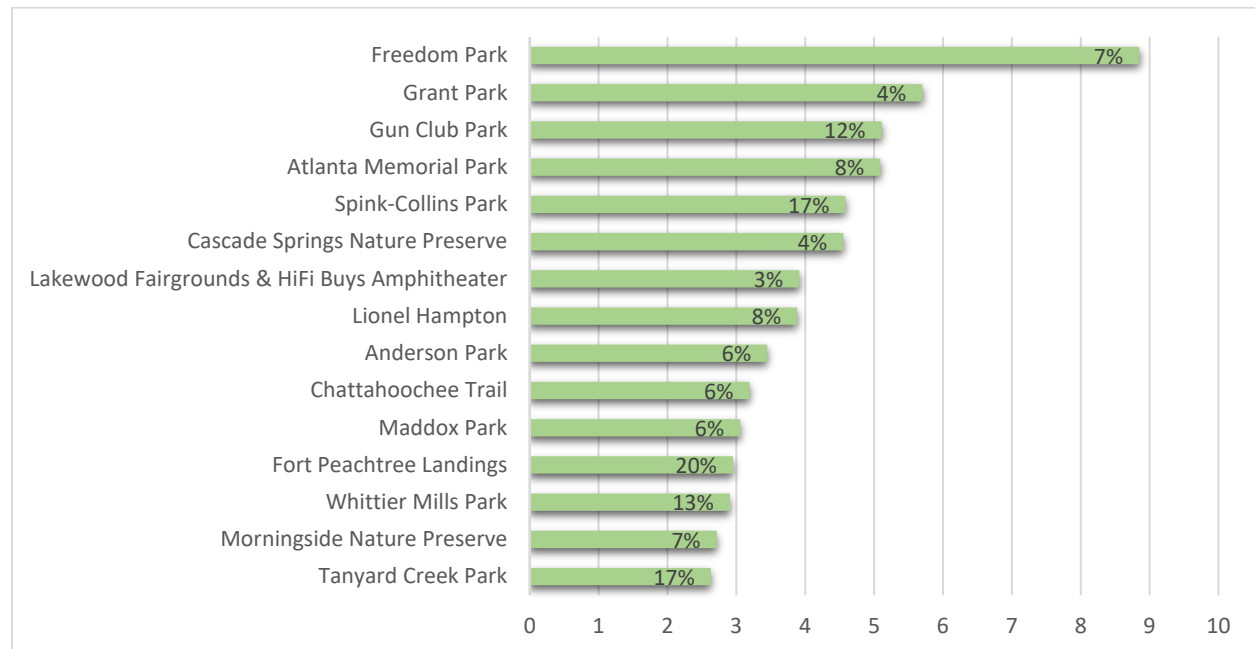


Figure 122. Parks Showing Increases of 2.5 or More Acres of Canopy 2018-2023



Figure 123. Canopy Gain in Freedom Park

Four parks lost more than two acres of canopy between 2018-2023 (Figure 124), with the most canopy lost at the new Chattahoochee Brick park, likely due to clearing of regrowth (Figure 125). Other causes of tree loss are and range from loss due to expansion, new trails, and park redevelopment.

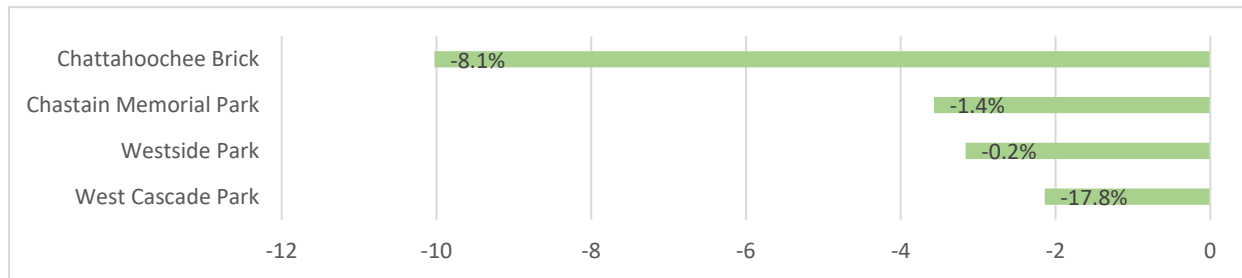


Figure 124. Parks Showing Canopy Loss > Two Acres between 2018-2023



Figure 125. Canopy Loss in the Chattahoochee Brick Park

4.26 Zoning

The research team calculated tree canopy and other land cover for each of the city's zoning categories. Because the city has over 200 unique zoning classes, the project team aggregated zoning classes into 6 general zoning categories (e.g. C-1, C-2, and C-3 are grouped together into commercial). Figure 125 illustrates the distribution of these 6 zoning categories across the city. This consolidation of these zoning

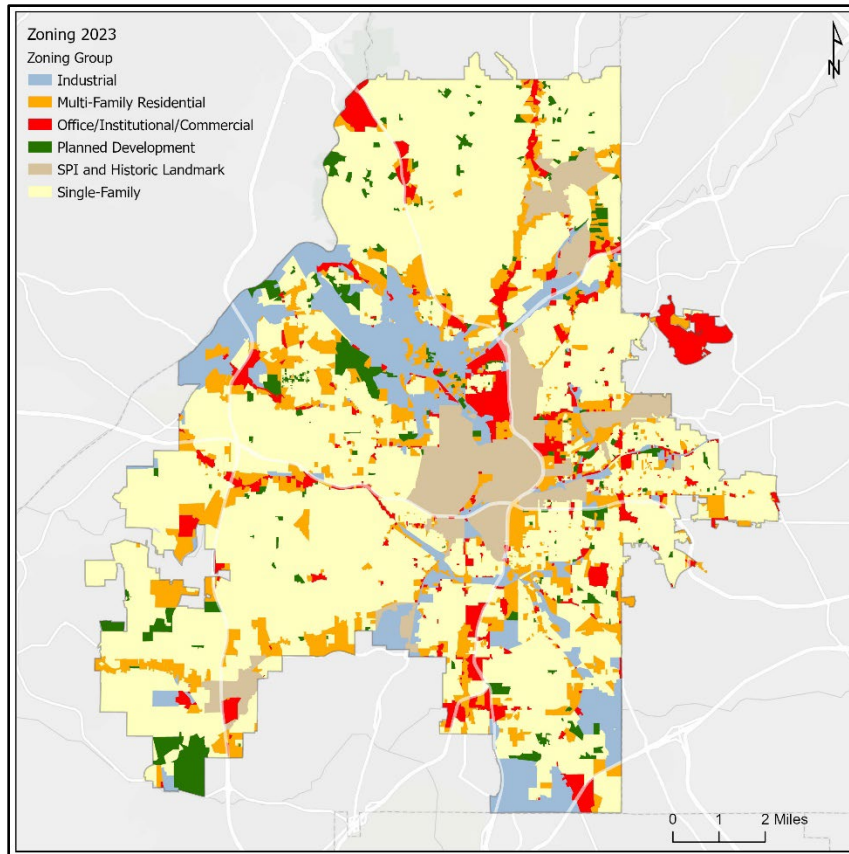


Figure 125. 2023 Zoning Distribution in the City of Atlanta

classes allows for easy visualization of the overall land area in acres (Figure 127) and landcover distribution (Figure 126) for the major zoning classes across the city

As each figure shows, the majority of the city is zoned residential, with single-family residential as the largest zoning category (51,437 acres; 59% of the city's land area), located primarily on the periphery of the city outside of downtown. The second largest zoning category is multi-family, which constitutes a much smaller land area (10,620 acres; 12% of the city's land area) but much more concentrated and generally located near major transportation corridors or transit centers.

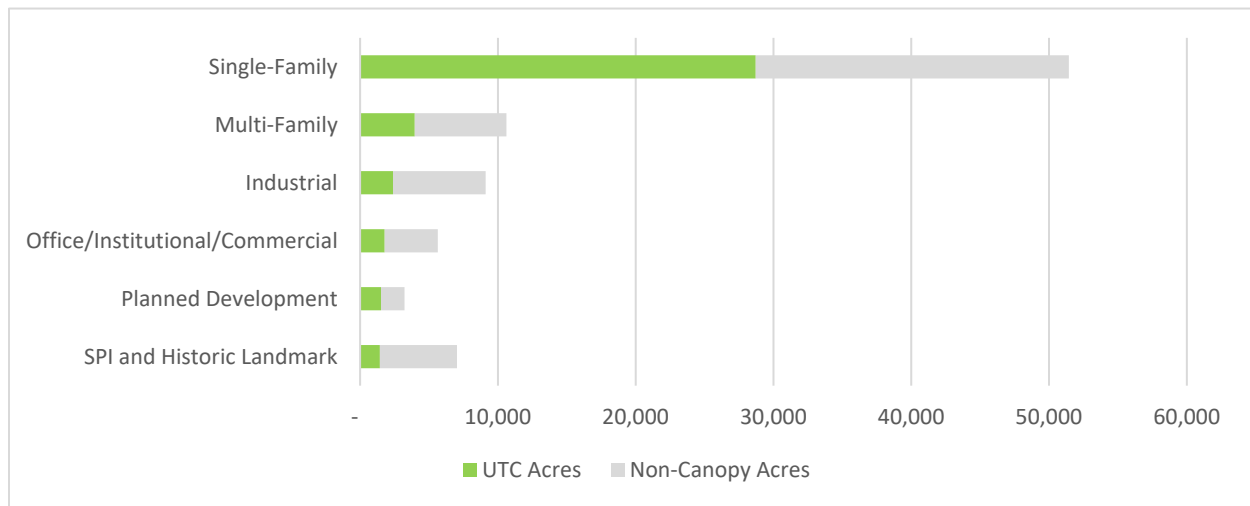


Figure 126. 2023 Land Cover Distribution in Acres by Zoning Group

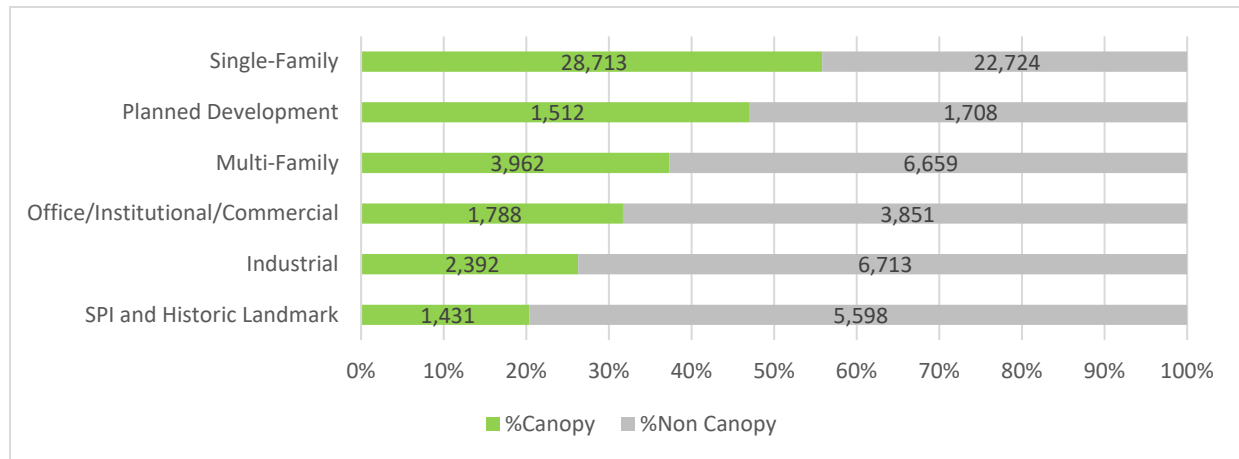


Figure 127. Land Cover Distribution Percentages and Acreage by Zoning Group

The third largest category, Industrial (9,106 acres; 10% of the city’s land area, is scattered across the city.

In addition to being the largest zoning category by far, residential property has more tree cover than any other zoning categories. [e.g., 56% of single-family residential land is tree-covered and 47% of areas zoned for planned housing development are tree-covered, compared with commercial/institutional/office zoned land, which is 32% tree-covered] (Figure 128). Both single-family residential (56%) zoning and planned development (47%) zoning have tree cover percentages above the 2023 city average of 45.7%. The lowest concentration of tree cover is in the areas zoned industrial (26%), and special public interest/historic landmark (20%). Special public interest (SPI) zoning is difficult to characterize because it includes various land uses ranging from commercial to residential. SPI zoning in the city applies to commercial areas such as the Central Core, Buckhead Commercial Core, Buckhead/Lenox Station, Lindbergh Transit Station, Midtown, Piedmont Avenue, Buckhead Peachtree Corridor, Greenbriar, Memorial Drive/Oakland Cemetery, and Lindbergh Transit Station; as well as residential areas such as Candler Park, Poncey-Highland, Home Park, Mechanicsville, and Historic West End/Adair Park.

Zoning	Tree Cover			Non-Tree Cover		
	% City	% Zoning	% UTC	% City	% Zoning	% Non-Canopy
SPI and Historic Landmark	2%	20%	4%	6%	80%	12%
Planned Development	2%	47%	4%	2%	53%	4%
Office/Institutional/Commercial	2%	32%	4%	4%	68%	8%
Industrial	3%	26%	6%	8%	74%	14%
Multi-Family	5%	37%	10%	8%	63%	14%
Single-Family	33%	56%	72%	26%	44%	48%

Figure 128. 2023 Land Cover Summary Statistics by Zoning

While tree cover makes up only 26% of the 9,106 acres with industrial zoning, this represents 2,392 acres of tree cover (and 6% of the city’s total tree cover). Under the zoning code, there are no limits on the amount of impervious lot coverage on many properties with industrial zoning. These data may suggest a significant amount of underdeveloped or vacant acreage that is zoned for industrial use, and therefore may represent areas with potentially significant loss of tree canopy if the acreage is developed in compliance with current regulations.

Section 5: Discussion

The 4th City of Atlanta canopy study found that in late 2023, 45.7% (39,830 acres) of land within the city limits was shaded by urban tree canopy. The study also showed that 21.8% (18,959 acres) was covered by non-tree vegetation such as grass, shrubs, and other plants while 32.5% (28,273 acres) was covered by non-vegetation such as buildings and paved surfaces. At 45.7%, the overall percentage of tree canopy is the highest among 20 major cities that have evaluated urban tree canopy in recent years¹, reflecting Atlanta's setting in a Piedmont forest (with almost 100% canopy in its natural state), its large land area, its predominantly residential development patterns, and its favorable climate, as well as its longstanding tree preservation and planting policies. These findings are significant and will enable the City of Atlanta to continue to effectively plan for and manage their urban forest. A few of the more noteworthy findings are further discussed below.

5.1 The majority of the city's canopy is found on land zoned single-family residential

As expected, the strong impact of zoning and land use on the distribution of tree canopy in 2023 is very similar to the 2008, 2014 and 2023 study findings. Most of the city's tree canopy grows on single-family residential property (72%) on the city's periphery and is heaviest in the northwest, southwest, and southeast. The second highest concentration of canopy is on land zoned for multi-family residential use (10.0%) followed by industrial use (6%). Commercial/Office/Institutional (4%), Planned Development (4%), and Special Public Interest/Historic Landmark (4%) are the lowest contributors to the city's tree canopy. Tree cover is lowest downtown, in the areas surrounding downtown, and along commercial and transportation corridors, though canopy increase downtown between 2018-2023 were significant. The distribution of the canopy varies significantly across Atlanta's 248 neighborhoods, with an average tree canopy of **75%** in the dozen most-canopied neighborhoods, and an average tree canopy of only **9%** in the dozen least-canopied neighborhoods.

Despite the fact that most parks are zoned single-family residential, ultimately, this means that tree canopy protection in the City of Atlanta is in the hands of its citizens. While the tree ordinance and zoning regulations provide protection to the canopy, unfortunately, these protective measures still allow for substantial removal of trees at the individual property level. Furthermore, if the ongoing trend of developing and redeveloping single-family homes to the maximum allowable lot coverage persists, the city will continue to lose significant canopy on a lot by lot basis. It may not happen all at once, and may not be as noticeable as a lot completely cleared for a new development, but a transformation of the city's canopy is underway and unless it is slowed down, the city's canopy will be considerably altered, diminished, and potentially changed forever.

Additional measures should be implemented to protect canopy on multi-family and mixed-use

¹ D.J. Nowak, E.J. Greenfield / Urban Forestry & Urban Greening 11 (2012) 21–30

developments as these types of developments have increased significantly between 2018-2023 and current canopy protection measures allow for substantial tree removal. As the city continues to gain residential density through increased multi-family developments, canopy loss will likely be on a greater scale than loss previously observed through single-family development and redevelopment, simply because the lots are much larger.

5.2 Despite the Numbers, the Canopy is Changing

While it may seem that the canopy cover between 2008 (47.9%), 2014 (47.1%), 2018 (46.5%) and 2023 (45.7) has not decreased significantly, this is very misleading. Observations on the ground during site visits in 2014, 2018 and 2023 revealed some very concerning trends that indicate more loss than what the numbers showed, and more loss to come if the pattern continues. Approximately 250 acres (1% of total canopy cover) of the observed “gain” was identified as “regrowth or temporary growth”, indicating that the city’s canopy may have declined to as little as 45% between 2018 - 2023.

5.3 Canopy Loss

The majority of large area canopy loss occurred in the east, west, and southwest part of Atlanta and was due primarily to redevelopment or new development of multi-family homes or mixed-use developments as shown in Figure 129.



Figure 129. Canopy Loss Due to Multi-Family Development between 2018-2023

Unlike single-family redevelopment, these losses can occur at 20 to 50-acre increments. If these trends continue, there will likely be greater canopy loss observed in the next 5 years than in any previous time period (2008-2023). Furthermore, trees replanted on these sites rarely represent the same species or diversity of trees that had been removed. The most commonly replanted trees were red maples, and many

were non-native, ornamental species. Both the quantity and quality of the city's urban forest will continue to change based on this pattern.

While multi-family redevelopment was the main, overall contributor to canopy loss between 2018 and 2023, industrial development (Figure 130) continues to be a significant source of loss of large, contiguous tracts of forest because land zoned as industrial has few limits on tree clearing. For example, the largest contiguous areas of canopy loss between 2008 and 2018 and 2018 and 2023 were all industrial sites, with several sites losing between 20 and 30 acres.



Figure 130. Canopy Loss Due to industrial Development

Single-family redevelopment continued to be a contributor to canopy loss in the city, primarily in the north and east, though not as significantly as between 2008-2018. While these losses can occur at one or two-acre increments, over time, this adds up, and, based on observations during site visits and the patterns of recent building permit activity, this type of development is continuing (Figure 131).

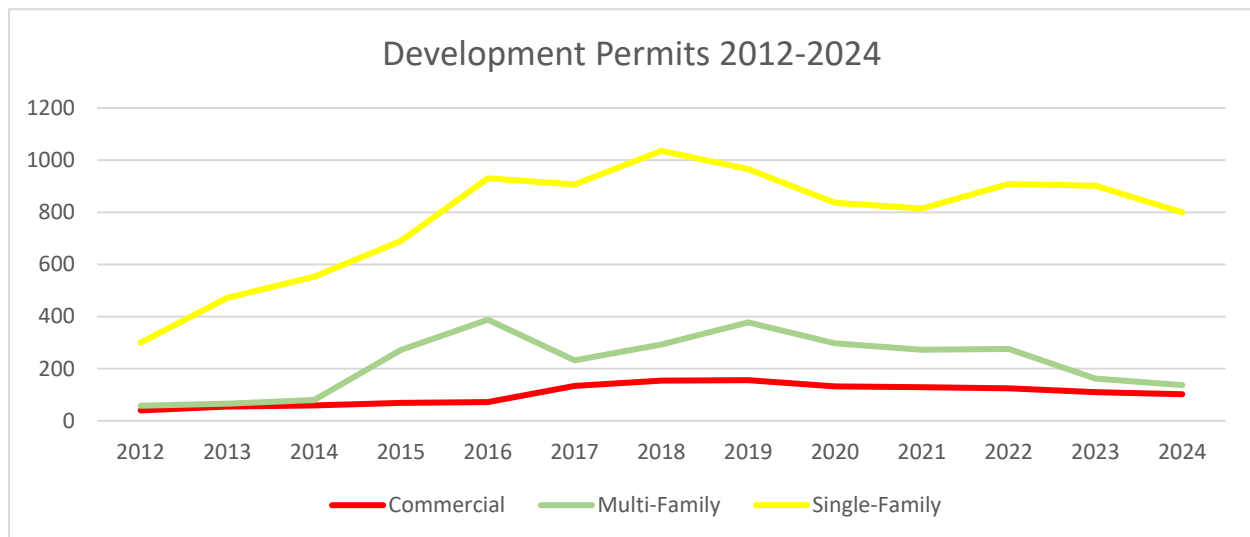


Figure 131. Development Permits 2012 - 2024

Despite the increase in multi-family developments between 2018 -2023, redevelopment of single-family homes (Figure 132), where the new home is built to the maximum allowable lot coverage, and new single-family development, continue to be the city's most serious threat to its tree canopy.



Figure 132. Canopy Loss due to Single-Family Redevelopment

% Single-Family Lots Built Out to Max Lot Coverage	100%	50%	25%	10%
Estimated Acres Lost	14,356	7,178	3,589	1,436
Estimate % Canopy Lost	36%	18%	9%	4%

Figure 133. Canopy Loss Estimates Due to Max Lot Coverage Build-Out

Figure 133 shows estimates of canopy loss caused by single-family redevelopments that are built-out to the maximum allowable lot coverage. This assumes a 50% canopy loss per lot during redevelopment. As seen in Figure 133, if the trend of building-out to the maximum allowable lot coverage continues, it will have extremely negative consequences for the city's canopy.

5.4 Canopy Gain

Canopy gain trends observed between 2018 and 2023 were very similar to gains observed between 2008 and 2018, yet were more pronounced, especially the growth of street trees on developments occurring in



Figure 134. Canopy Gain on Former AHA Site

the last 15 years. Normal tree growth continued to occur and was substantial in some areas but the most significant contiguous areas of growth were again canopy regrowth or “temporary/false growth” on land cleared sometime in the last 15-20 years (Figure 134). These areas are covered with invasive vegetation or very dense small pines and have no resemblance to surrounding forests. These areas, where development either stopped after curb and gutters, piping, and other infrastructure was installed, or

where previous housing developments were cleared, will likely be cleared again when development resumes. In fact, during site visits, the project team observed several locations that had been cleared in

2008, showed canopy regrowth in 2018 and/or 2023, and then were recleared and developed by 2023 (Figure 135).



Figure 135. Canopy Loss – Gain – Loss Site in SE Atlanta

This phenomenon of Loss-Gain-Loss on multiple sites is noteworthy as it skews the overall canopy values over time. Even more significant, however, is the fact that the first clearing of trees was usually older, mature forests, where the canopy was eventually replaced by quick growing ornamental and/or non-

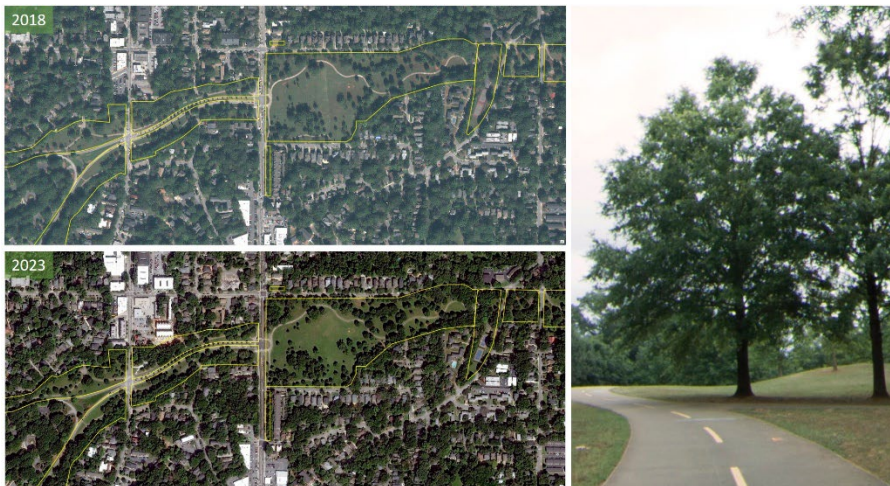


Figure 136. Canopy Growth in Freedom Park

notable gains in canopy, some due to plantings occurring in the last 15 years. As seen in Figure 136, Freedom experienced substantial gain due to plantings and excellent maintenance of the existing

native trees, and then ultimately recleared for development. The project team observed six of these Loss-Gain-Loss sites during the 2024 site visits, all of which were located south of I-20.

On a positive note, several sites showing substantial canopy gain were valid. A few of the city's parks experienced

canopy. There were also several subdivisions and individual properties built in the last 15 years that showed sizeable increase in canopy due to rapid street tree growth (Figure 137).



Figure 137. Canopy Growth in Multi-Family Development

There were many neighborhoods with mature trees and canopy that continued to increase, though not as quickly as areas with younger, faster growing trees. This type of growth is harder to visualize and capture through photography than quick growing trees.

5.5 What does this mean for Atlanta's canopy?

When simply looking at the numbers for “gain”, we see an estimated increase in canopy. This is expected as healthy trees grow with juvenile trees growing faster than mature trees. However, at most of the larger canopy gain areas observed during site visits, there is no gain in the quality of canopy. Typically, when forested land with healthy, mature canopy is clear cut, depending upon soil conditions and adjacent uses, it is quickly replaced by fast growing invasive trees or a monoculture of pines. Furthermore, many if not all of the sites with significant canopy gain are in developmental limbo and will likely be cleared again, as already observed at six large sites in 2024, making any gain, even low-quality gain, short-lived or temporary. These “temporary” gain sites are almost always degraded sites with graded soil where development has faltered and nature is trying to reclaim the land. Given decades, or centuries to fully recover, the sites DO have the potential to recover and offer some of the ecosystem services they provided prior to clearing. However, because of the roads, curb-and-gutter, and other infrastructure that was installed, or the infrastructure that remains on cleared properties, they are unlikely to return to their full natural value. The city needs to better understand how these sites came to be, how to prevent this type of development practice from happening in the future, and how to incentivize (re)development at these sites over development of land with mature forests. This is critical to the health and diversity of the city's forest. Otherwise, because of sites like these and the trend towards lot build-out on redeveloped single-family homes, the city's high-quality forests will diminish

into a lower quality version of themselves, providing fewer and fewer ecosystem services for Atlanta's residents.

5.6 The City's Canopy Goals

Following the first City of Atlanta Urban Tree Canopy Assessment, the city made a goal of obtaining and maintaining at least 50% tree cover across the city. In 2022, the city council passed a resolution to reemphasize this goal. While positive and praiseworthy, the mechanisms for achieving and maintaining this goal are not as straightforward as they might seem. Two things must happen in order to achieve the 50% canopy goal with no net-loss; plant trees and mitigate loss.

5.6.1 Plant Trees

If the city is currently covered by 45.7% tree canopy, 4.3% *new* canopy cover must be grown to reach 50%. This equates to roughly 3,700 acres of new tree cover, which could only be realized through a continued public and private tree planting efforts. It should be noted that this percentage increased by almost one percent (500 acres) since 2018, reaffirming the difficulty of getting to 50% canopy coverage.

Land Type	Acres of Non-Tree Vegetation (Land for Tree Planting)
Parks	1,110
Public Land	950
Private Land	18,291
Right-of-Way	2,725

Figure 138. 2023 Planting Area Estimates

Assessing the 2023 tree canopy data in conjunction with data obtained from the city's GIS department, and the Fulton County Tax Assessor, Atlanta contains roughly 2,040 acres of non-tree vegetation (potential tree planting area) on public land (Figure 138). A safe assumption might be that up to 15% (310 acres) of public land currently covered in non-tree vegetation could be planted with canopy trees, which leaves roughly 3,400 acres of new canopy that must be grown

and maintained either on private land or in the right-of-way. Fortunately, there is over 18,000 acres of privately owned, non-tree vegetated land in the City across 165,000 properties. There is also approximately 2,725 acres of non-tree vegetation acres in the right-of-way. Given adequate incentives and proper planning, 3,100 acres of tree cover could be achieved over time, through private plantings combined with some larger scale public planting. Alternatively, underutilized public properties covered by impervious surfaces could be converted to planting areas, though this strategy would likely be cost prohibitive.

5.6.2 Mitigate Loss

It is imperative that the City evaluate multiple options for mitigating tree loss because tree planting alone is not a quick or viable solution to replace lost canopy. The city is losing tree cover faster than it is gaining tree cover and, based on observations made during field visits for this project and the last two assessments, that trend is guaranteed to continue.

The following are a few possibilities for mitigating tree loss.

5.6.2.1 Permanently protect existing forests:

Using 2023 City of Atlanta tax assessor data in conjunction with the 2023 urban tree canopy data, the project team identified approximately 852 privately owned vacant properties in the city that contain $\geq 80\%$ acres of tree cover and 1 acre or more of canopy, totaling 3,704 acres of undisturbed forests, or roughly 9% of the existing canopy. Approximately 197 of these vacant properties are relatively large, with ≥ 5 acres of canopy cover, totaling roughly 2,276 acres of tree cover or 6% of the existing canopy (Figure 139). The two vacant properties with the most tree canopy are both over 40 acres in size and contain 46 acres and 45 acres of tree canopy respectively. More importantly, 124 of the 197 vacant properties with ≥ 5 acres of tree cover are located within 250 feet of a city river and undoubtedly play a role in filtering pollutants and helping with stormwater runoff. Unfortunately, based on current trends, there is a strong likelihood that many of these properties will be developed and much of this existing canopy will be permanently lost, potentially causing a negative effect to the city's delicate ecosystem.

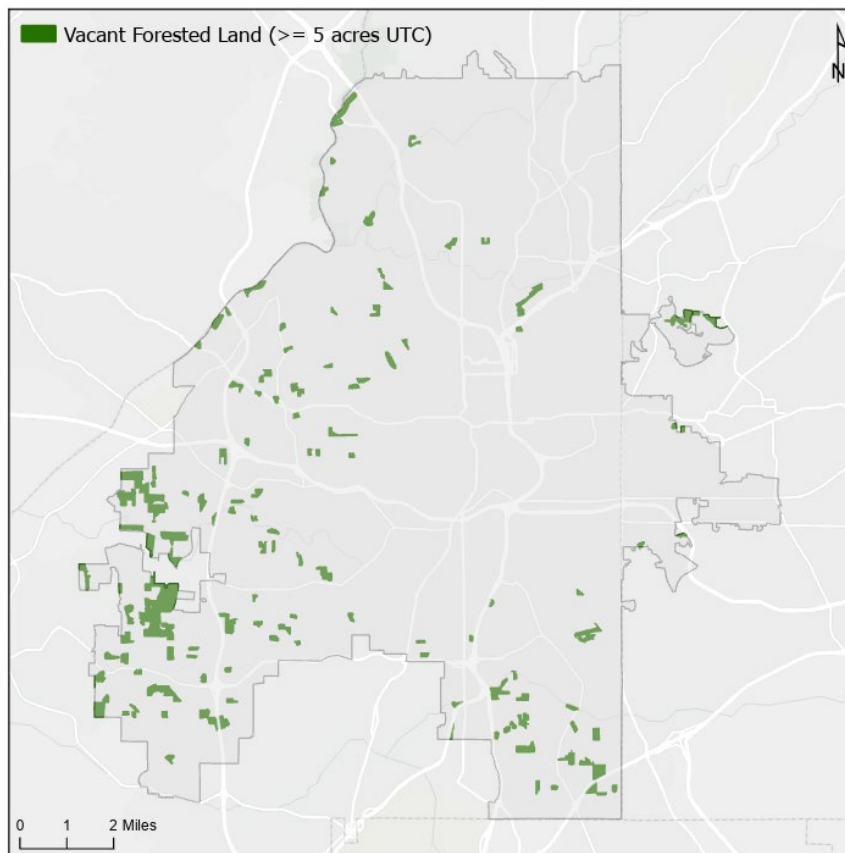


Figure 139. Forested Vacant Land with ≥ 5 Acres UTC and $\geq 80\%$ UTC

It is evident that by using the 2018 - 2023 tree canopy data in conjunction with tax assessor data and other relevant datasets (hydrography, parks, watersheds, etc.), the city is able to easily identify and prioritize large tracts of existing forests for permanent protection, whether that be through outright purchase, conservation easements, or other means of protection. Results from the previous canopy assessments have helped guide land purchases such as Lake Charlotte. Hopefully, results from the 2023 canopy assessment will be used in a similar fashion.

5.6.2.2. Modify Minimum Lot Coverage for Zoning Categories:

Maximum lot coverage is generally defined as the percentage of a lot that can be covered by impervious

Summary of Zoning Regulations in R Districts											
MINIMUM SETBACKS		R-1	R-2	R-2A	R-2B	R-3	R-3A	R-4	R-4A	R-4B	R-5
	FRONT	60 ft.	60 ft.	60 ft.	50 ft.	50 ft.	50 ft.	35 ft.	30 ft.	20 ft.	30 ft.
	SIDE ^a	25 ft.	15 ft.	15 ft.	10 ft.	10 ft.	10 ft.	7 ft.	7 ft.	5 ft.	7 ft. ^c
	REAR	35 ft.	30 ft.	30 ft.	20 ft.	20 ft.	15 ft.	15 ft.	15 ft.	5 ft.	7 ft. ^c
LOT REQUIREMENTS	MINIMUM LOT AREA	2 acres	1 acre	30,000 sq.ft.	28,000 sq.ft.	18,000 sq.ft.	13,500 sq.ft.	9,000 sq.ft.	7,500 sq.ft.	2,800 sq.ft.	7,500 sq.ft.
	MINIMUM STREET FRONTAGE ^b	200 ft.	150 ft.	100 ft.	100 ft.	100 ft.	85 ft.	70 ft.	50 ft.	40 ft.	50 ft. ^c
	MAXIMUM LOT COVERAGE	25%	35%	35%	40%	40%	45%	50%	55%	85%	55%
	MAXIMUM FLOOR AREA RATIO	0.25	0.30	0.35	0.40	0.40	0.45	0.50	0.50 ^d	0.75 ^e	see section 16-07.010
	MINIMUM REQUIRED CAR PARKING SPACES	2	2	2	2	2	2	1	1	1	see section 16-07.010

Figure 140. Zoning Regulations in Residential Districts

surface (structures). Currently, the city zoning code allows for a wide range of maximum lot coverage across zoning categories, ranging from a high of 100% for Industrial land to a low of 25% for single-family residential land zoned R-1 (2-acre lot minimum). Aside from residential categories, most zoning allows for almost 100% coverage. The allowable maximum lot coverages for residential land vary from 25% to 55% (Figure 140).

Zoning	Acres	% of City Land	Acres UTC	% UTC
R-1	1,470	1.7%	968	66%
R-2	3,251	3.7%	2,038	63%
R-2A	865	1.0%	582	67%
R-2B	512	0.6%	256	50%
R-3	13,057	14.9%	8,325	64%
R-3A	325	0.4%	197	61%
R-4	24,754	28.3%	13,965	56%
R-4A	4,703	5.4%	2,515	53%
R-4B	320	0.4%	112	35%
R-5	2,764	3.2%	1,080	39%

Figure 141. Land and Canopy Values by Residential Zoning District

Figure 141 shows the acres of land, the percentage of the city's total area, and the tree canopy cover area and percentage cover for each major single-family residential zoning category in the city.

Max Lot Coverage	Zoning	% Single-Family Lots Built Out to Max Lot Coverage (Estimated Acres UTC Lost)			
		100%	50%	25%	10%
25%	R-1	276	138	69	28
35%	R-2	718	359	179	72
35%	R-2A	199	100	50	20
40%	R-2B	92	46	23	9
40%	R-3	3,060	1,530	765	306
45%	R-3A	83	42	21	8
50%	R-4	6,552	3,276	1,638	655
55%	R-4A	1,194	597	298	119
85%	R-4B	85	43	21	9
55%	R-5	535	267	134	53
Total		12,796	6,398	3,199	1,280

Figure 141. Tree Canopy Loss Estimates

built out to maximum lot coverage, the city would lose 6% of its total canopy, or approximately 2,400 acres of tree canopy. Based on observations made during site visits for this and previous studies, maximum lot build-out of 25% of all single-family properties is not unlikely. And, if it occurred, it would be almost impossible to recover that lost canopy any time soon, if ever.

Ultimately, the data produced in this study and future studies can be used by city planners to evaluate

Modified Lot Coverage	Zoning	% Single-Family Lots Built Out to Max Lot Coverage (Estimated Acres UTC Lost)			
		100%	50%	25%	10%
15%	R-1	166	83	41	17
25%	R-2	513	256	128	51
25%	R-2A	142	71	36	14
30%	R-2B	69	35	17	7
30%	R-3	2,295	1,148	574	230
35%	R-3A	65	32	16	6
40%	R-4	5,242	2,621	1,310	524
45%	R-4A	977	488	244	98
75%	R-4B	75	38	19	8
45%	R-5	438	219	109	44
Total		9,982	4,991	2,495	998

Figure 143. Mitigating Canopy Loss Through Lot Cover Changes

Figure 141 shows the estimated acreage of tree cover loss at different levels of maximum lot coverage build-out for each single-family residential category. The vast majority of residential land is zoned either R-4 (9,000 sq. ft. lots) or R-3 (18,000 sq. ft. lots), and subsequently contain large amounts of tree canopy found at 61% and 54% respectively. If even 25% of R-4 or R-3 lots were

and modify planning policies. For example, as seen in Figure 143, by lowering the maximum lot coverage allowance by 10% for each residential zoning category, decision-makers can immediately quantify a policy change's potential effect on urban tree canopy. By using the tree canopy data to run scenarios like these allows the city to accurately estimate or quantify changes in tree cover due to planned or potential policy change.

5.7 Policy Recommendations

The 2018 – 2023 canopy change analysis and previous three canopy studies provide documented, science-based data that can be used to inform decision-making related to urban trees and urban forest management in the City of Atlanta. Looking at tree canopy change between 2008 and 2023, the City can evaluate and quantify how the interaction between policy, decision making, and the free market affect urban tree canopy in the City of Atlanta over time. Subsequent UTC studies will add to this wealth of information and meaningfully inform decision-making for urban tree and urban forest management in the City.

The City can immediately use the findings to:

- Refine policies and set canopy goals to ensure that each area of the city receives the benefits of a healthy canopy and that the overall tree canopy is maintained and increased over time;
- Inform sustainability efforts and policy decisions related to climate, water and air quality, tree preservation, and watershed protection; and
- Educate the public about the value, distribution, and trends that affect tree canopy in Atlanta.

Specific recommendations for consideration:

- Increase stream buffer widths to preserve canopy in close proximity to stream segments.
- Permanently protect some of the few remaining large tracts of undisturbed forests with priorities based on proximity to streams.
- Require that all city-funded tree planting locations are mapped, catalogued and provided to the city in database format so the canopy contribution of these trees can be tracked over time.
- Identify methods for reducing tree loss during redevelopment of single-family and multi-family properties.
- Inform policy decisions related to land development, specifically as it relates to “pipe farms” (partially developed sites).
- Evaluate maximum allowable lot coverages, especially residential land.
- Implement conservation measures for new subdivisions.
- Evaluate open space requirements for multi-family and other developments.
- Align replanting requirements with the species of trees that are removed or require replanting of native trees to ensure tree replacements are of similar quality to the removed trees.
- Develop measures to prevent clearing of large sites that will not be completed (such as development bonds).

5.8 Summation

The 2023 Urban Tree Canopy Assessment marks the fourth comprehensive detailed analysis of tree canopy within Atlanta's city limits. Using findings from this study, the city is well-equipped to build on their ongoing efforts to manage and protect the city's urban forest. The tree canopy analysis and resultant baseline data are valuable city assets that can be utilized in numerous ways by a variety of stakeholders to:

- Continue to measure tree canopy change over time;
- Inform goals and policies for maintaining and increasing tree canopy throughout the city;
- Provide data for establishing a refined Urban Forestry Management plan;
- Offer public information about tree canopy throughout Atlanta on an interactive map; and
- Continue to improve canopy identification techniques for future urban tree canopy studies.

The four City of Atlanta Urban Tree Canopy Assessments are vital for an accurate understanding of the distribution of the tree canopy throughout the city, how it has changed over time, and how it will continue to change in the future. These studies provide essential information for planning for how to maintain and increase the benefits of the canopy for all Atlantans.

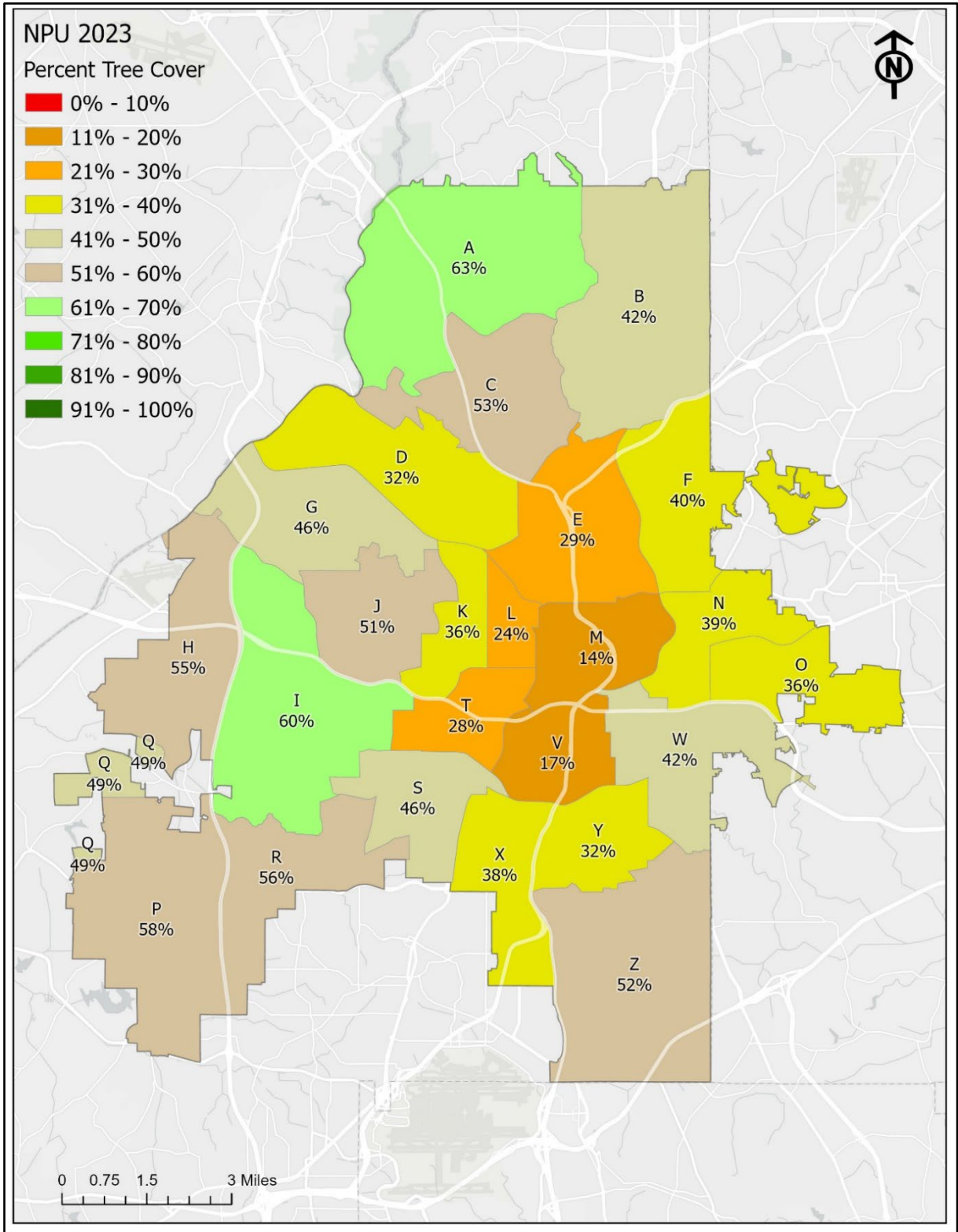
Project data, the final report and a suite of geospatial tools can be accessed online at

<https://geospatial.gatech.edu/AtlantaUTC>

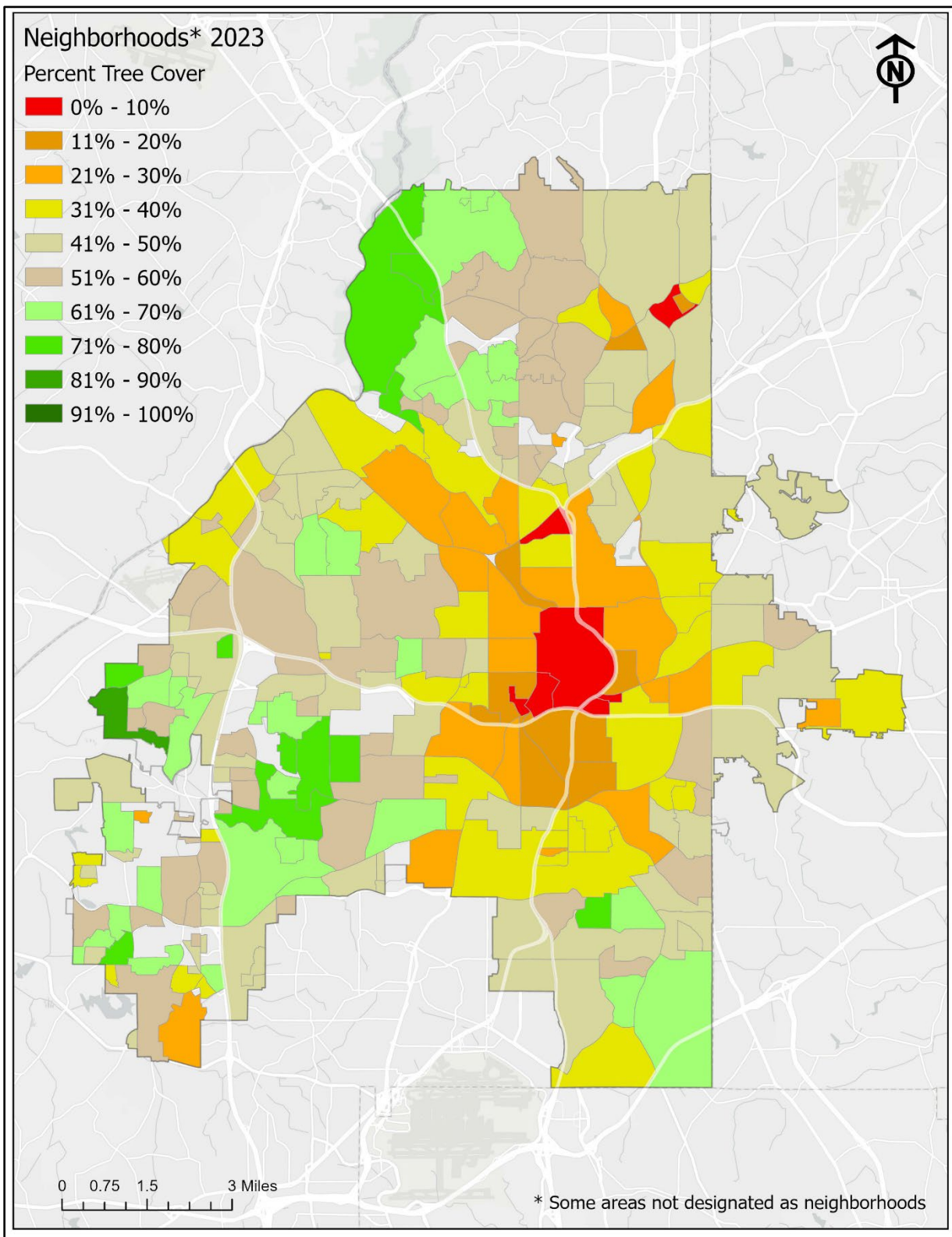
Appendix 1

Urban Tree Canopy Maps by Selected Geographies

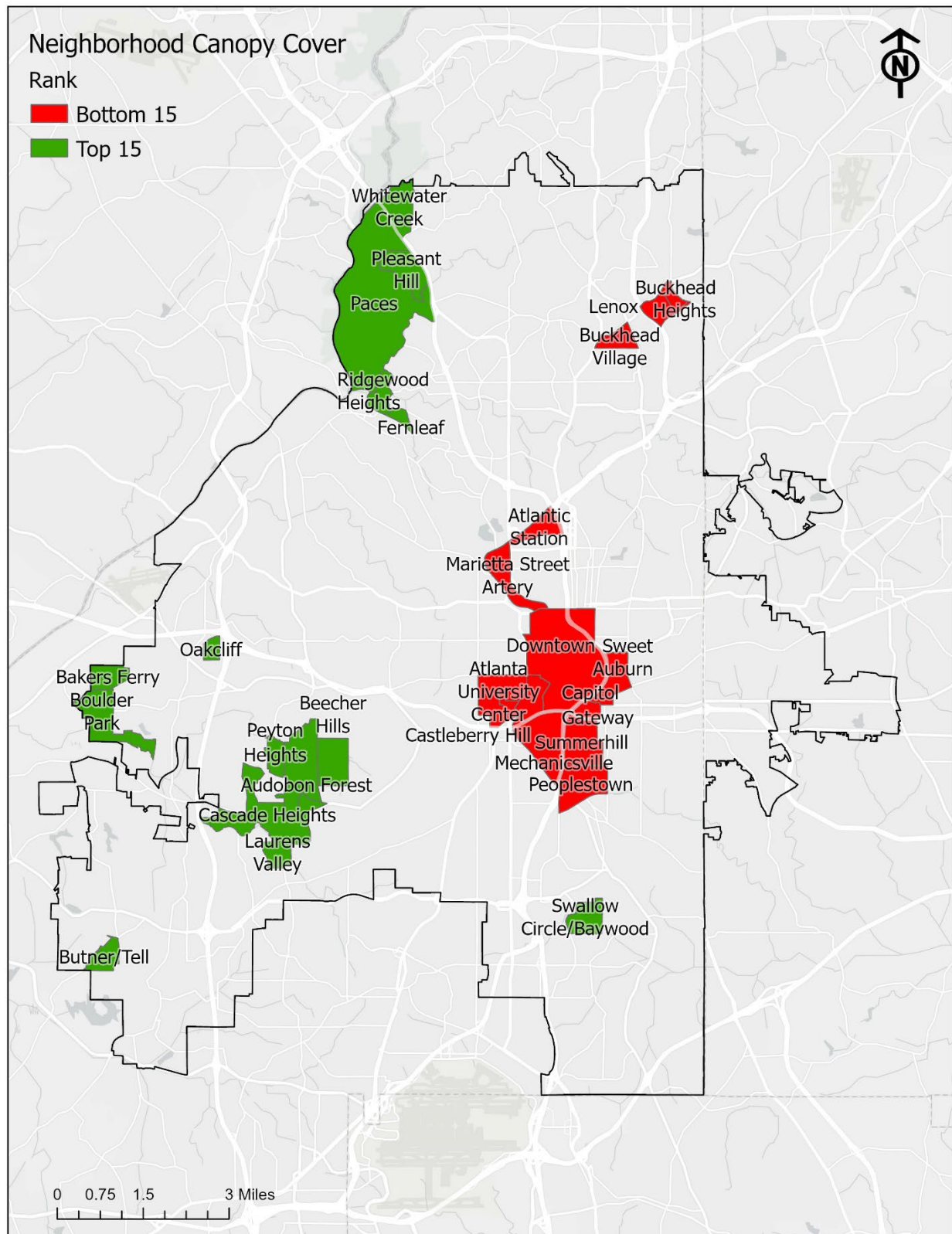
1. Neighborhood Planning Units



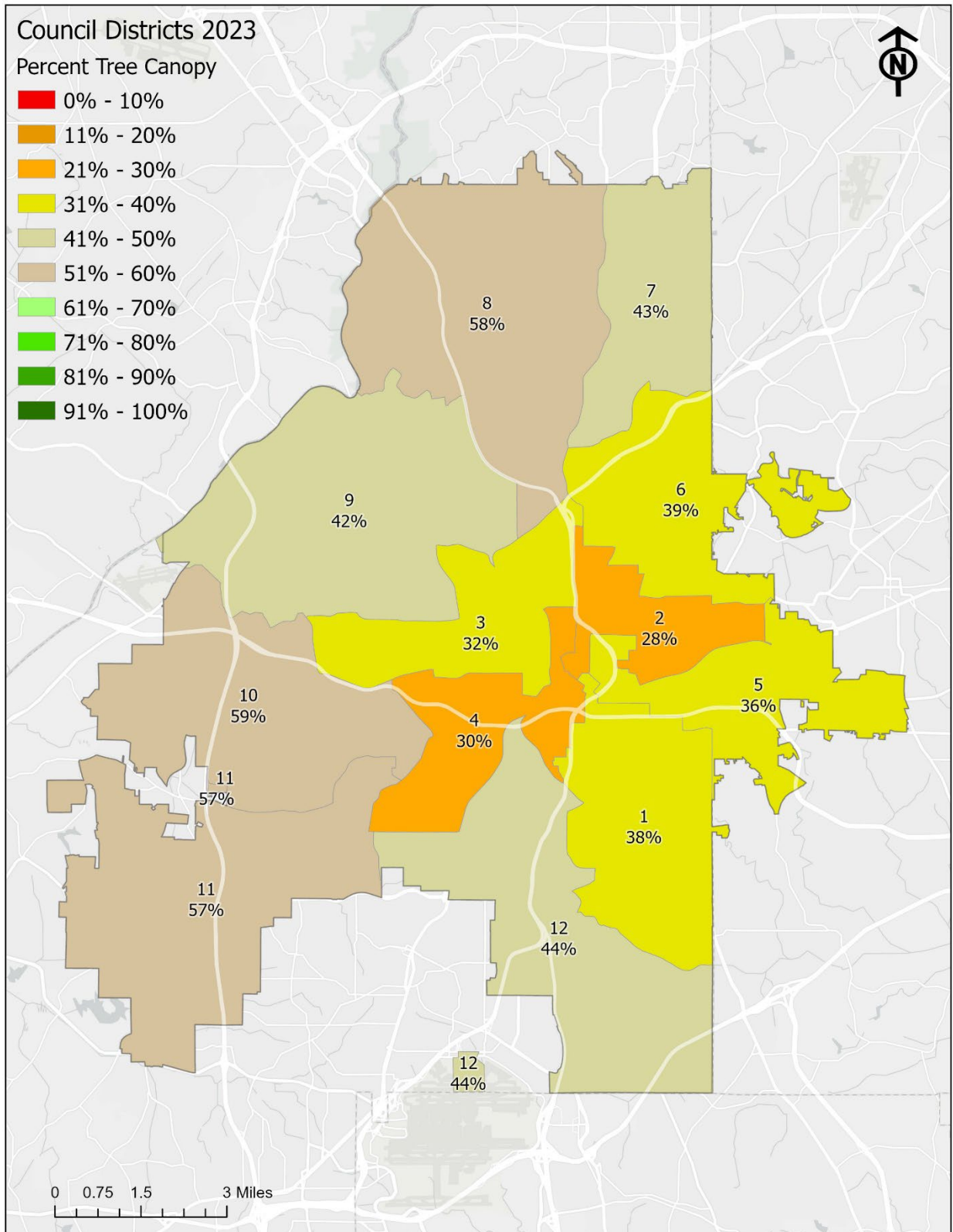
2. Neighborhoods



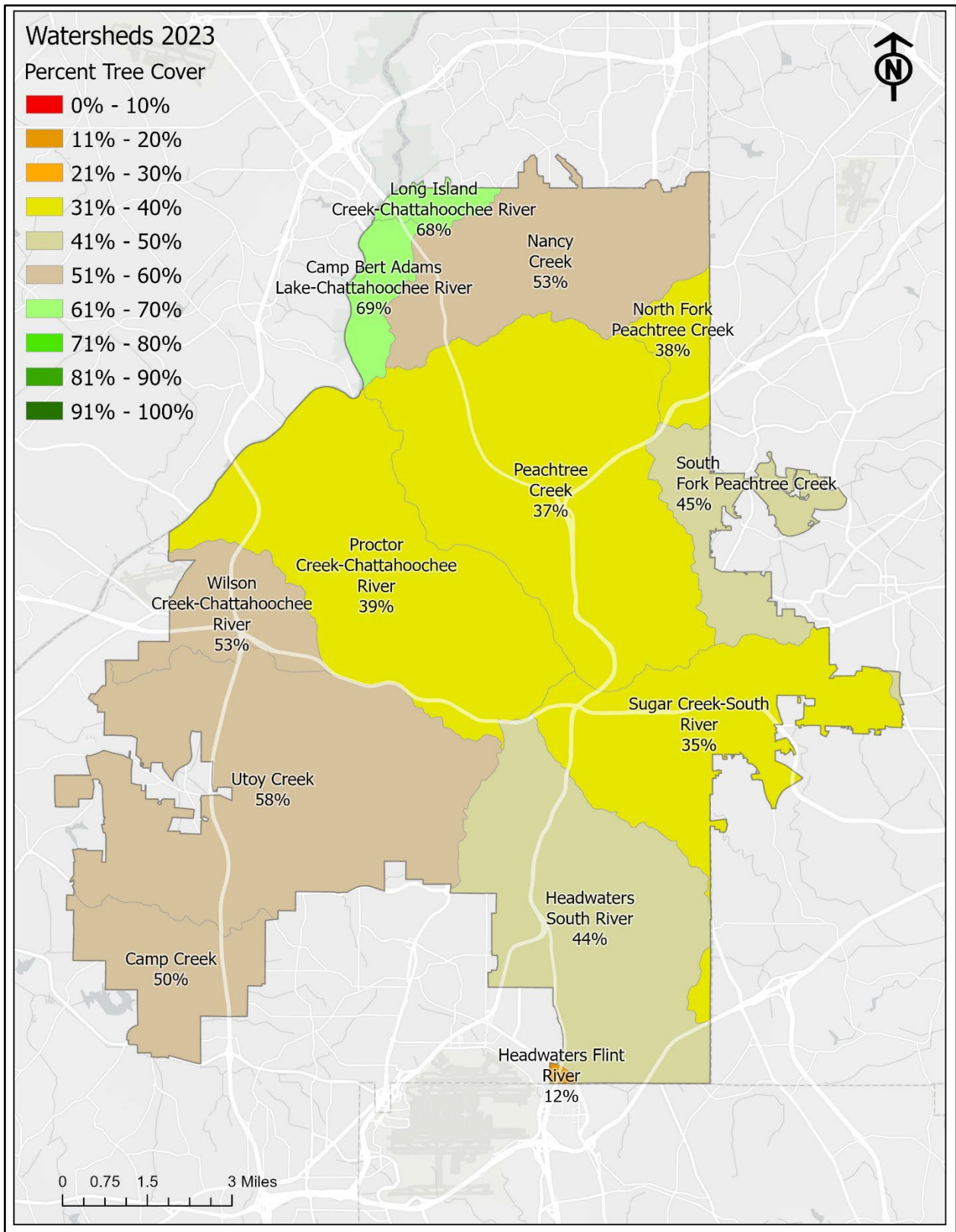
3. Top and Bottom 15 Tree Covered Neighborhoods



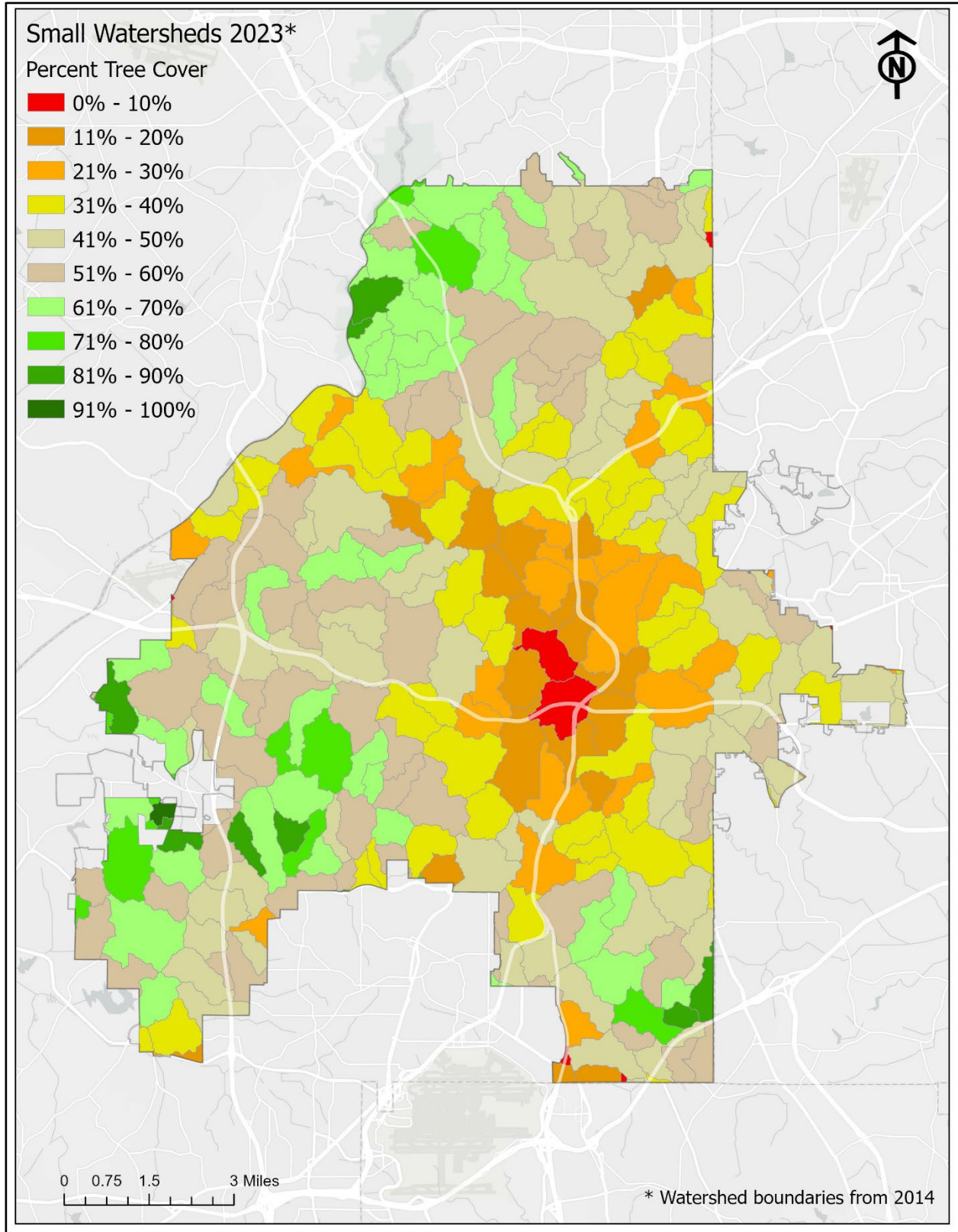
4. City Council Districts



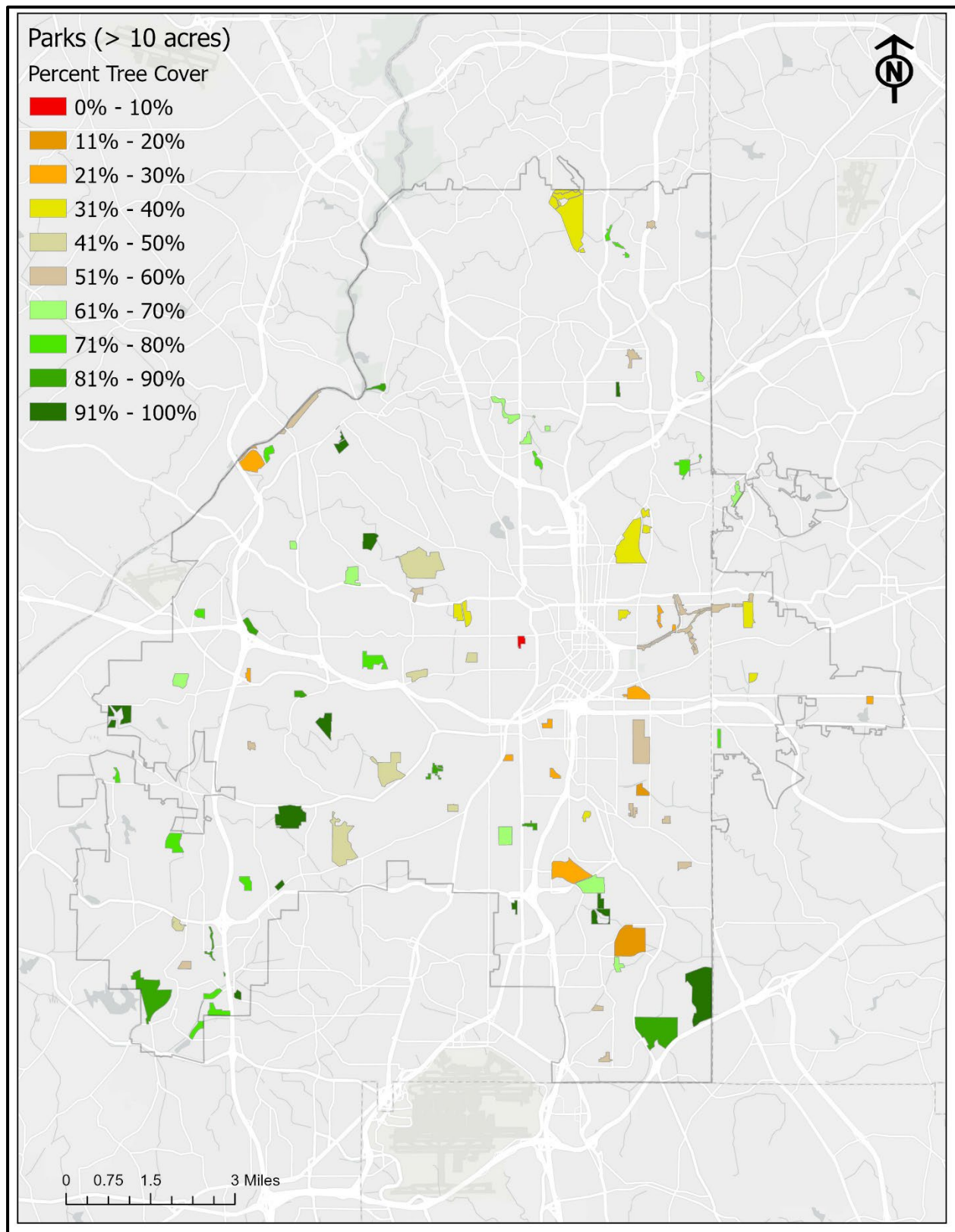
5. Watersheds



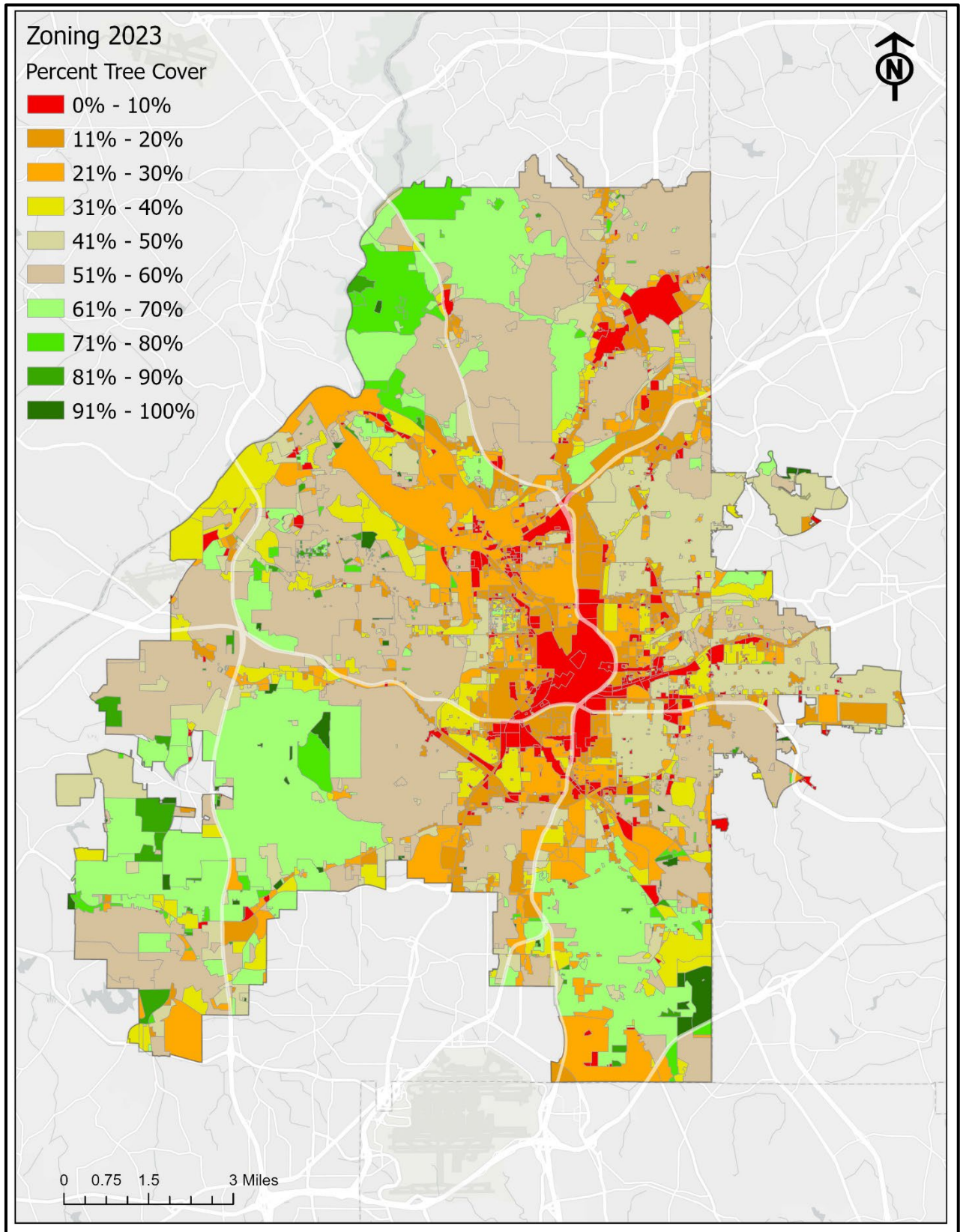
6. Small Watersheds



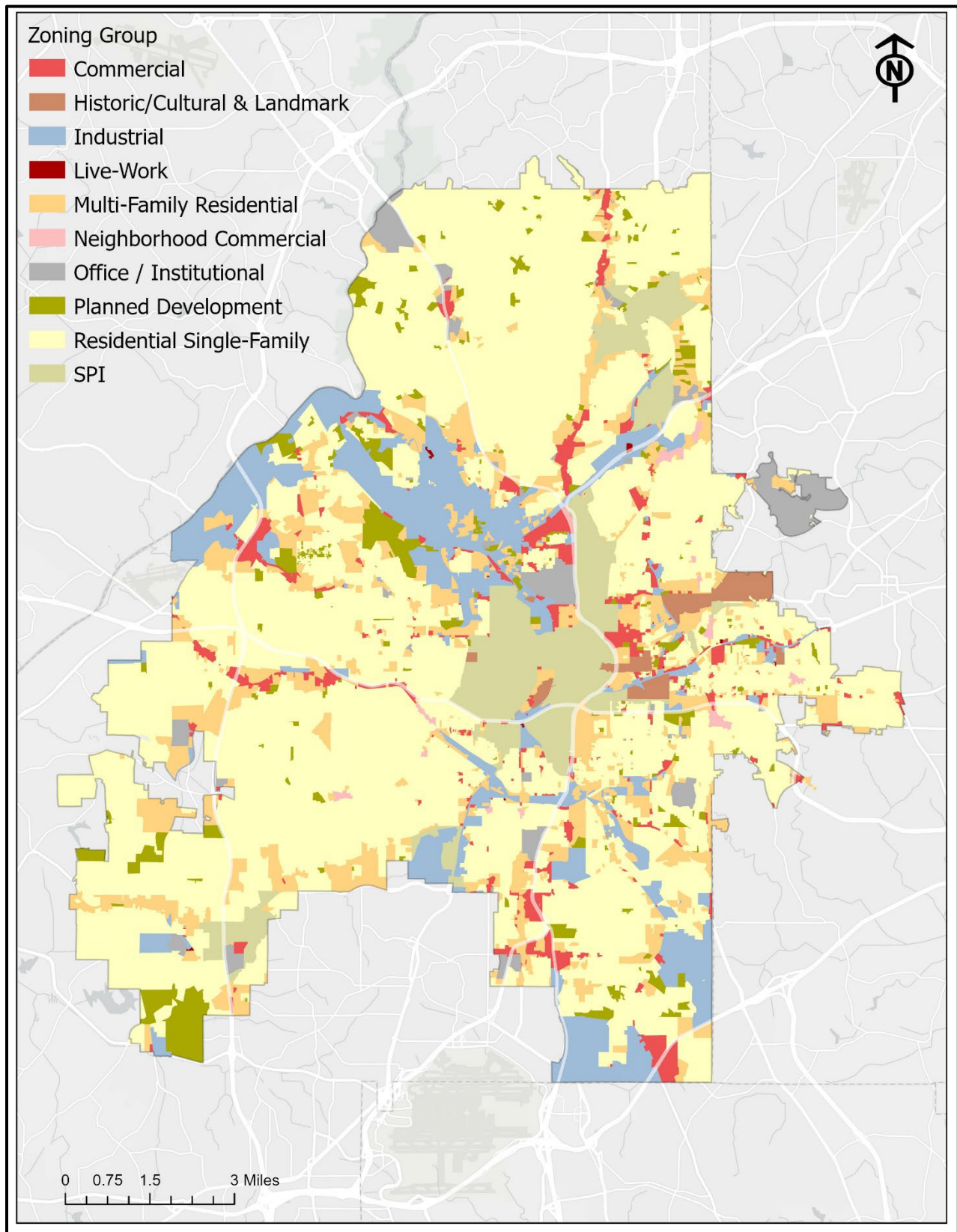
7. Parks



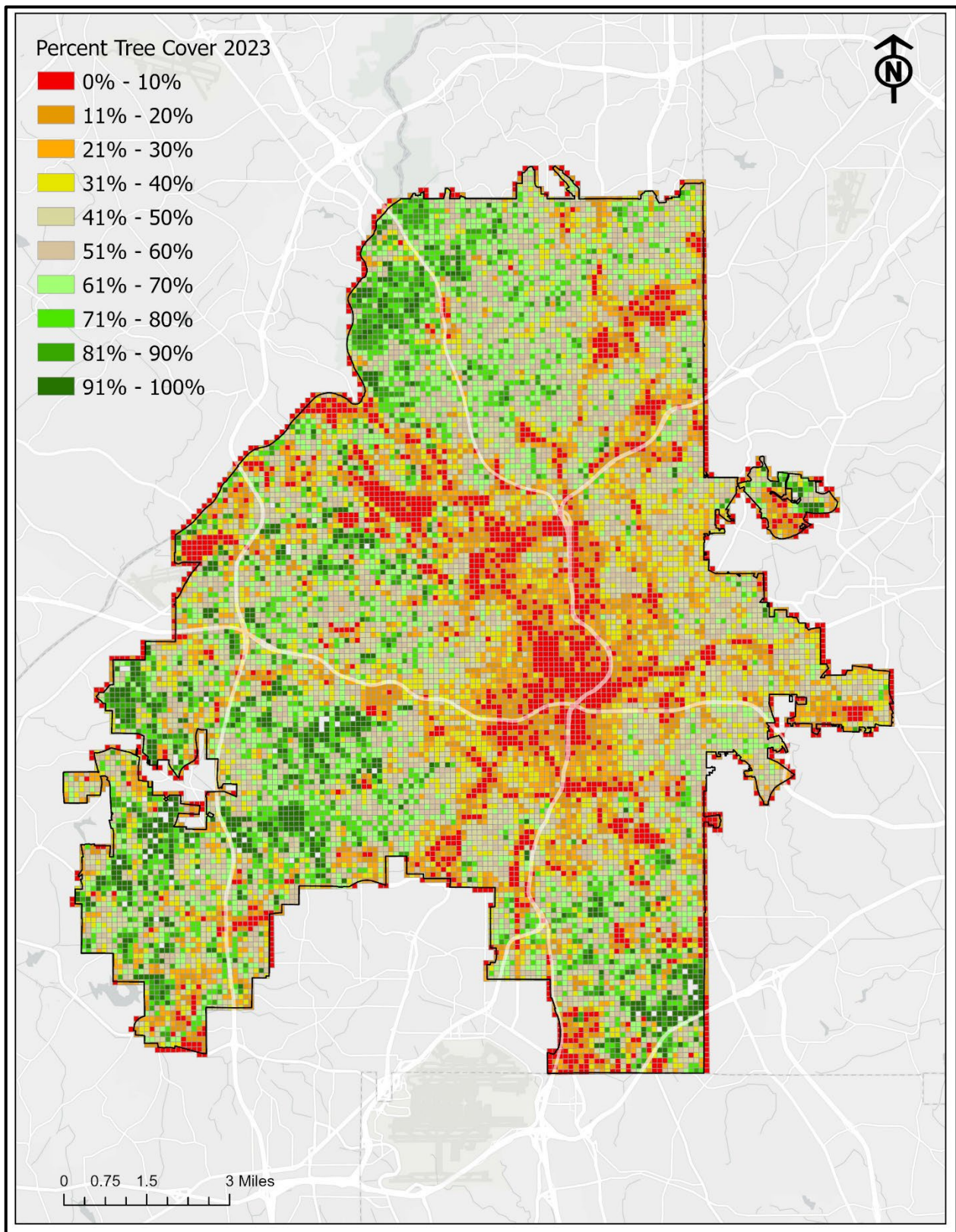
8. Zoning



9. Zoning Classes



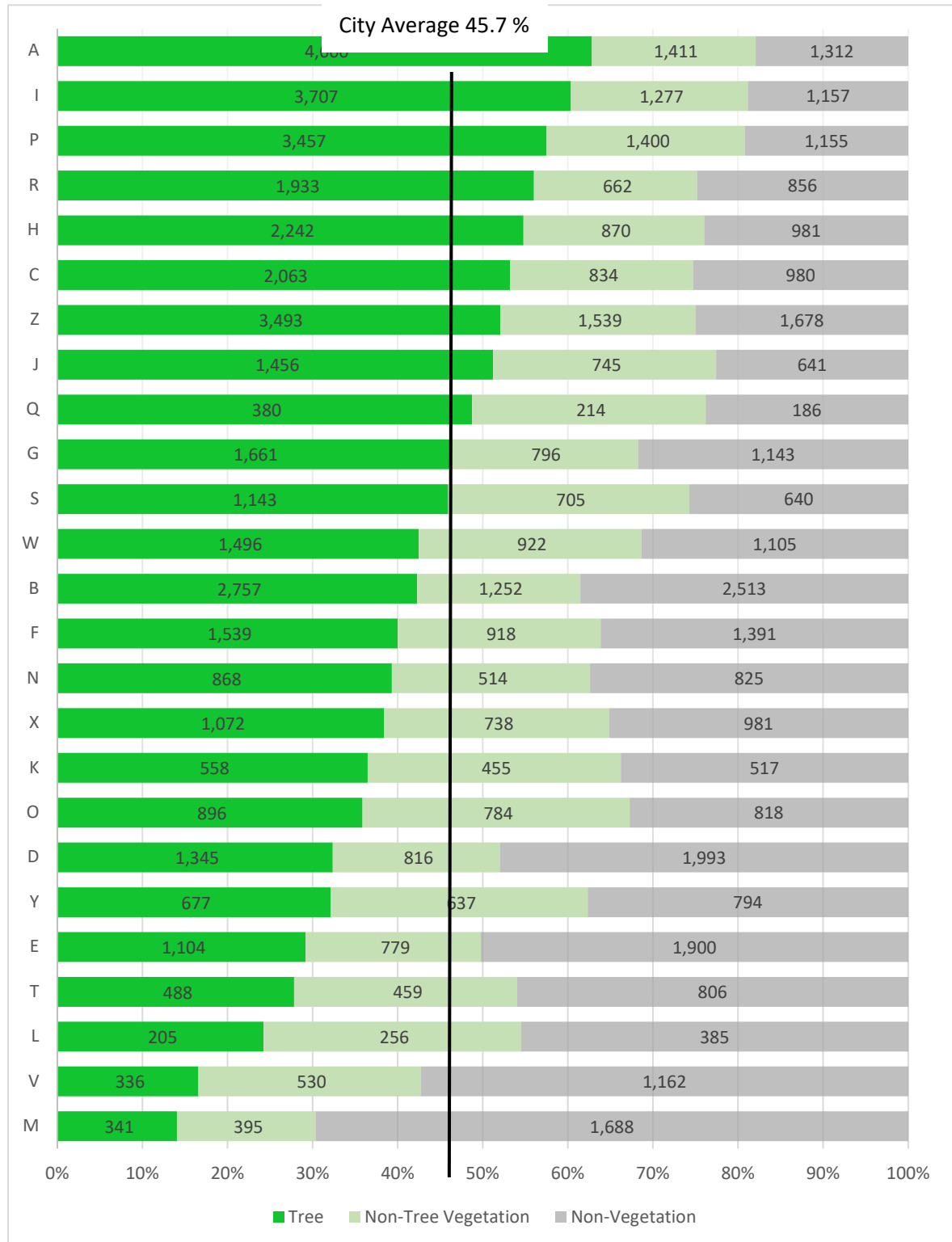
11. City Grid



Appendix 2

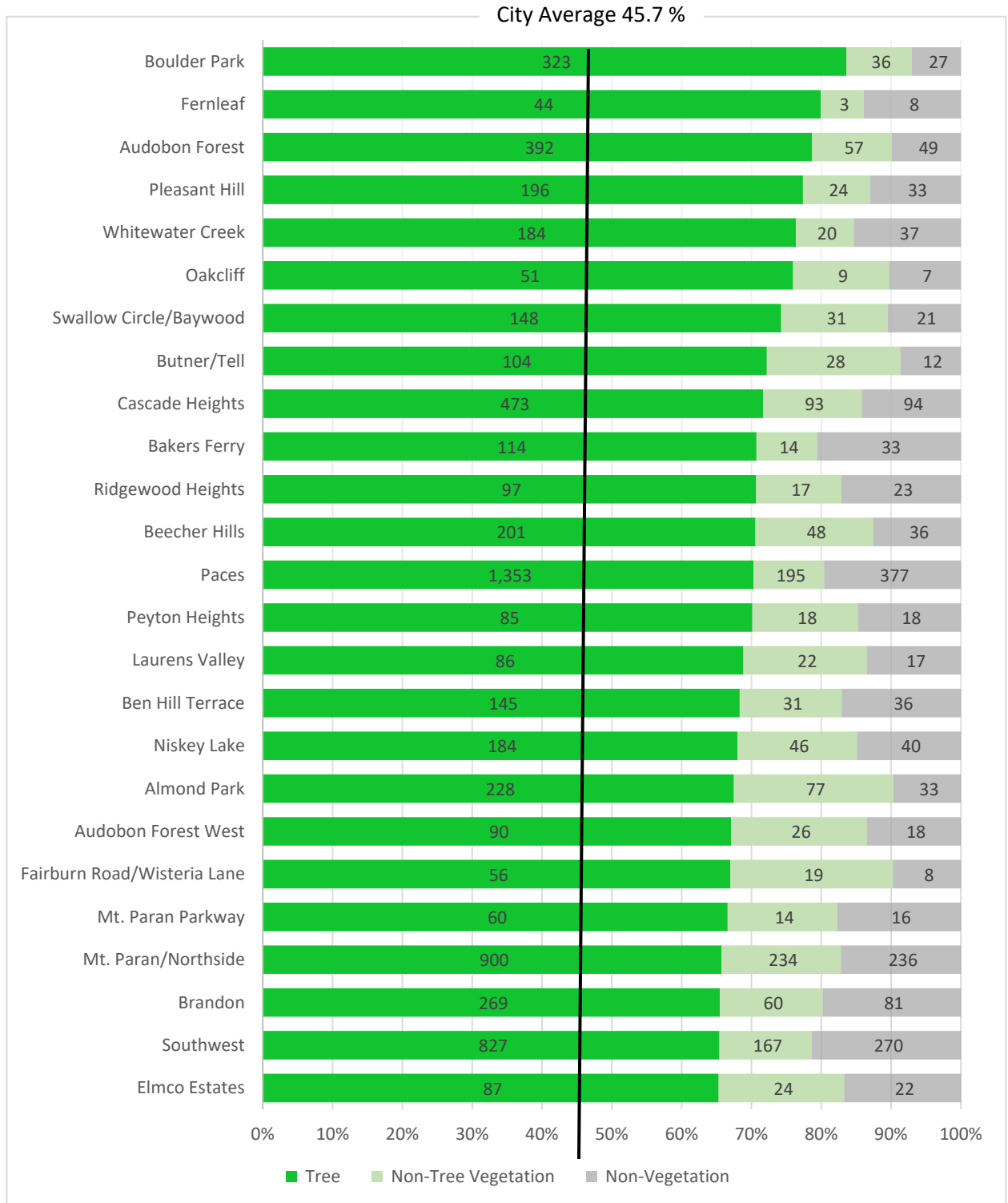
Land Cover Graphs by Selected Geographies

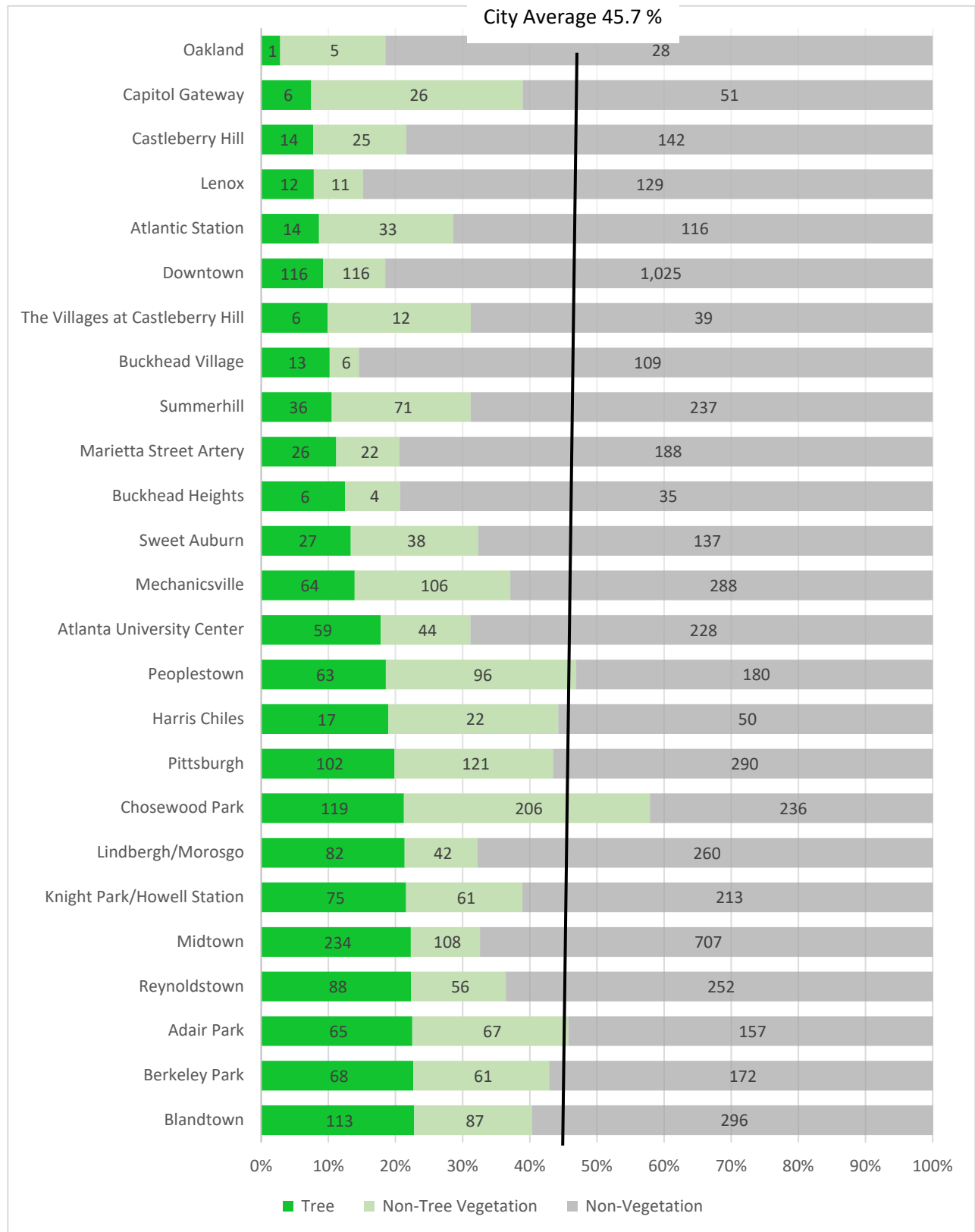
A. Neighborhood Planning Units (Acreage in bars)



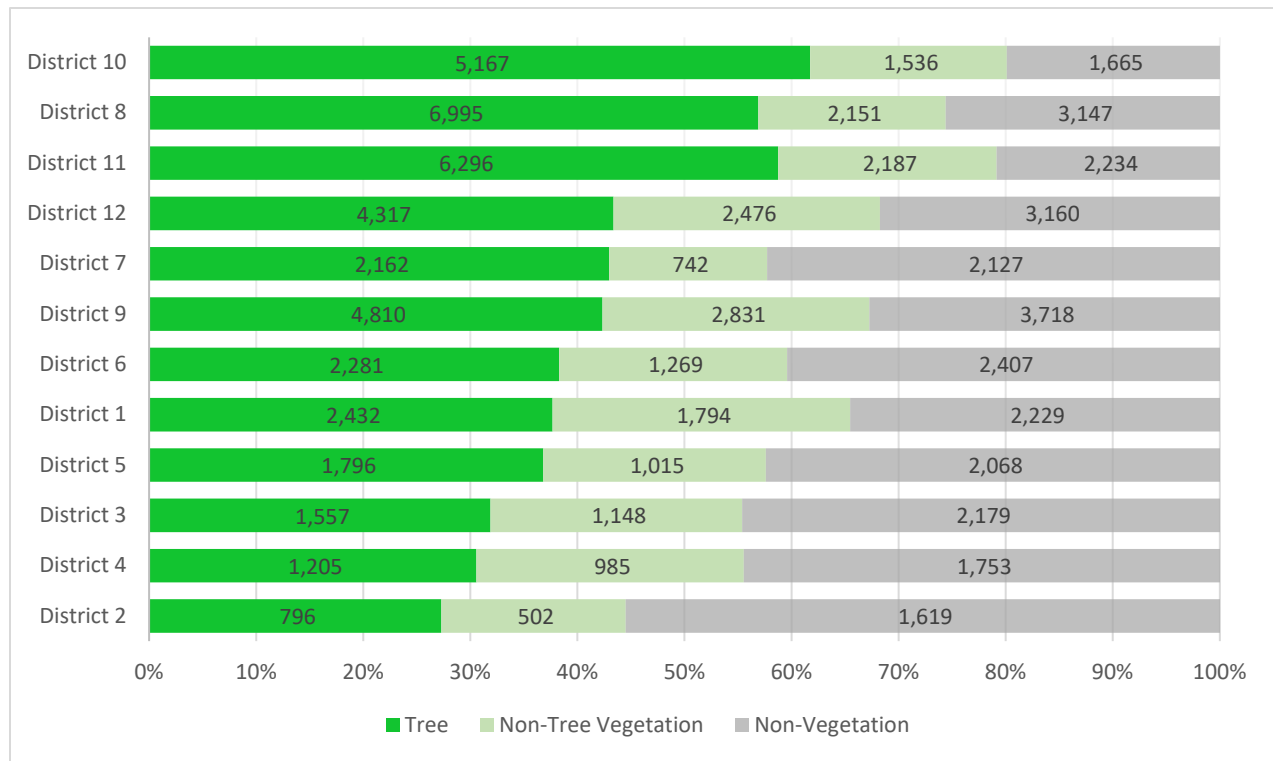
B. Neighborhoods

Due to the large number of neighborhoods, only the top (page 92) and bottom 25 (page 93) tree covered neighborhoods are shown below

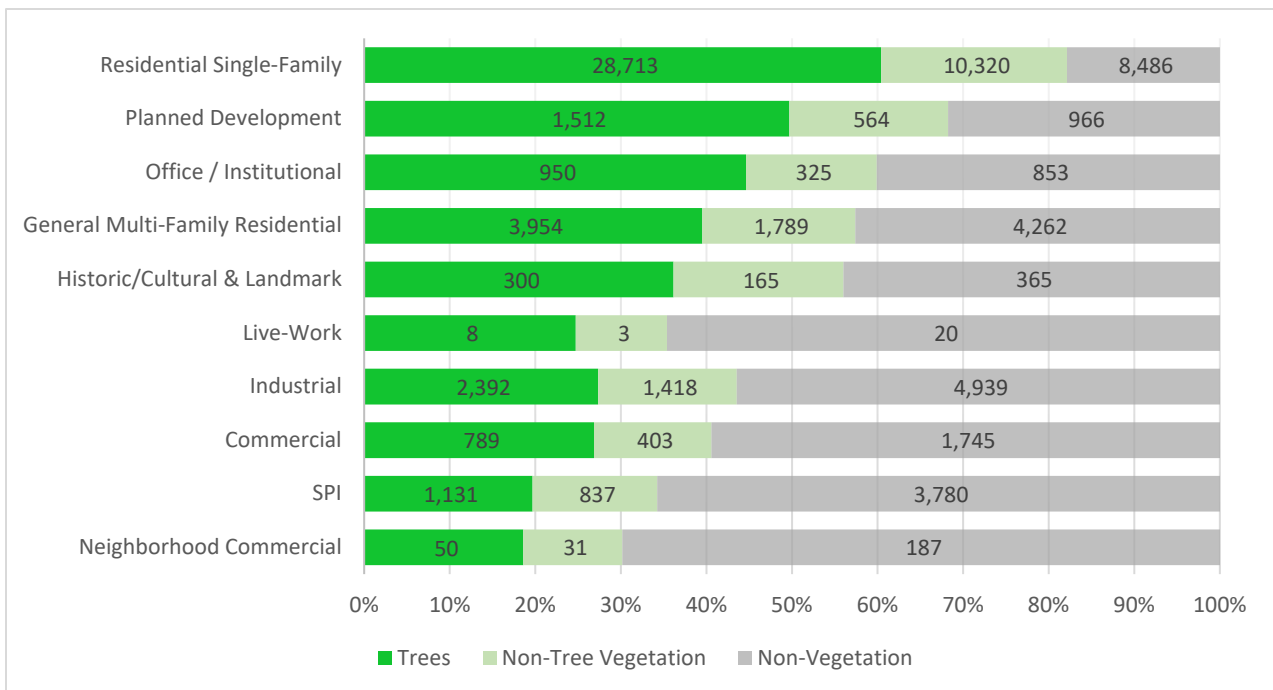




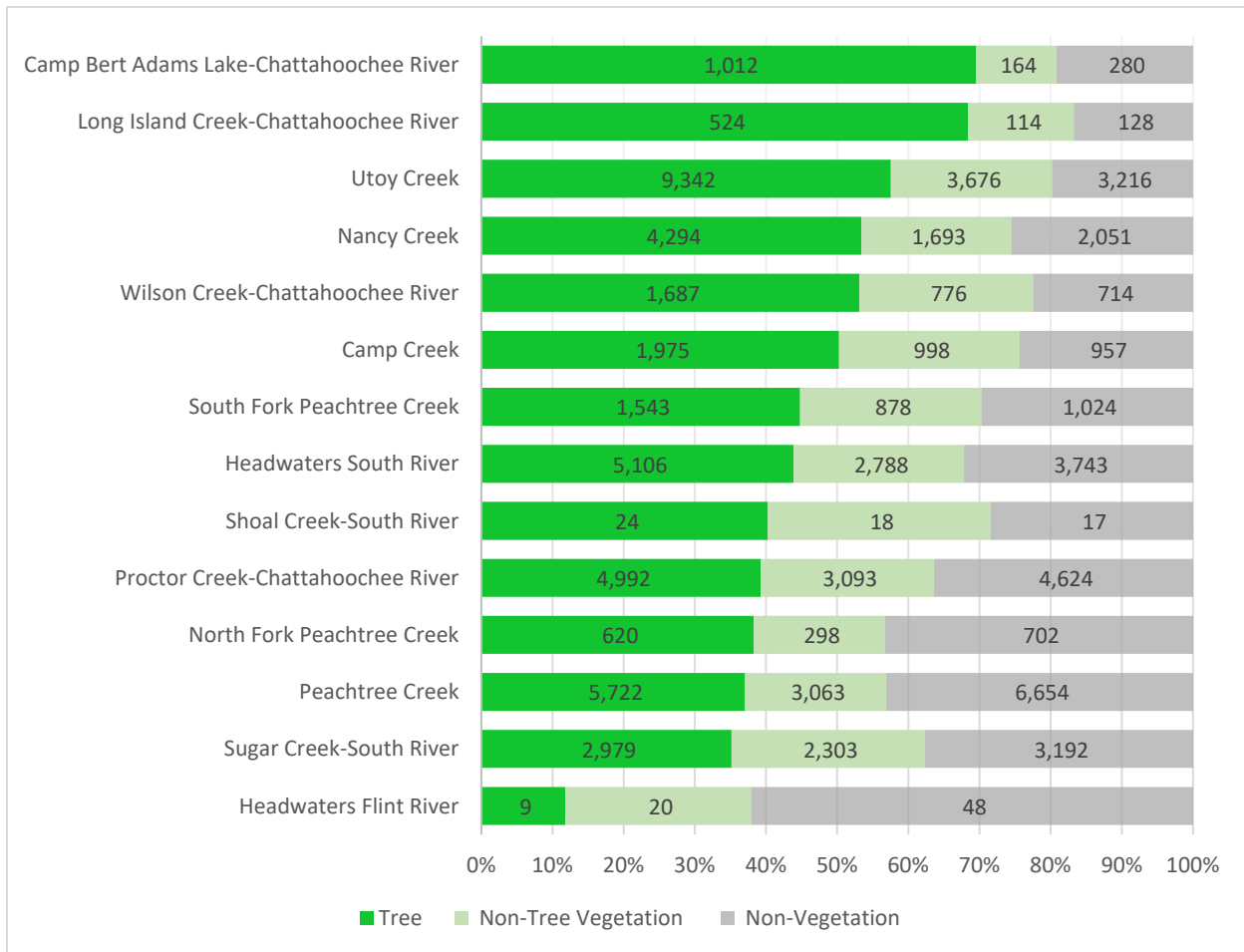
C. City Council Districts



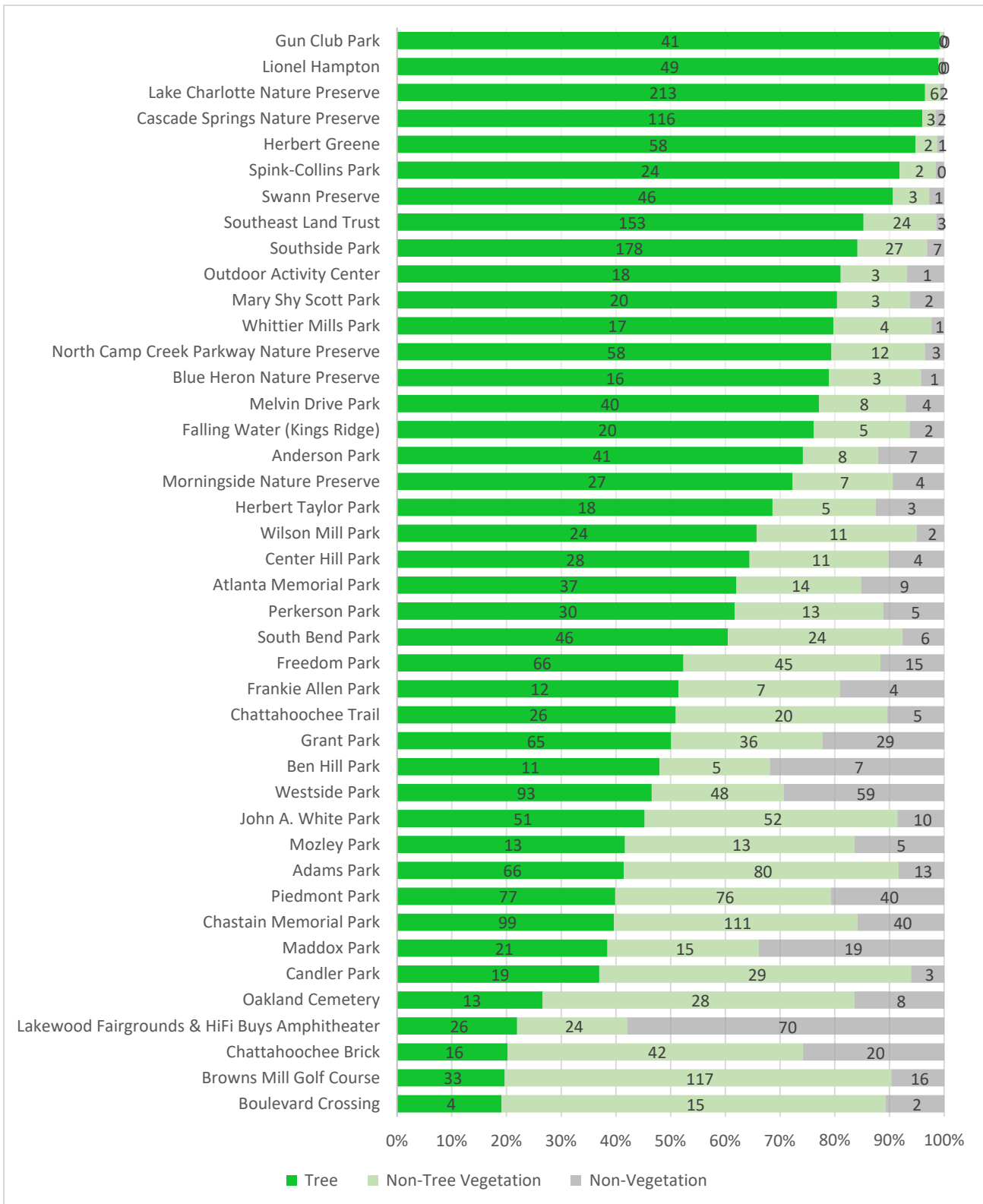
D. Zoning



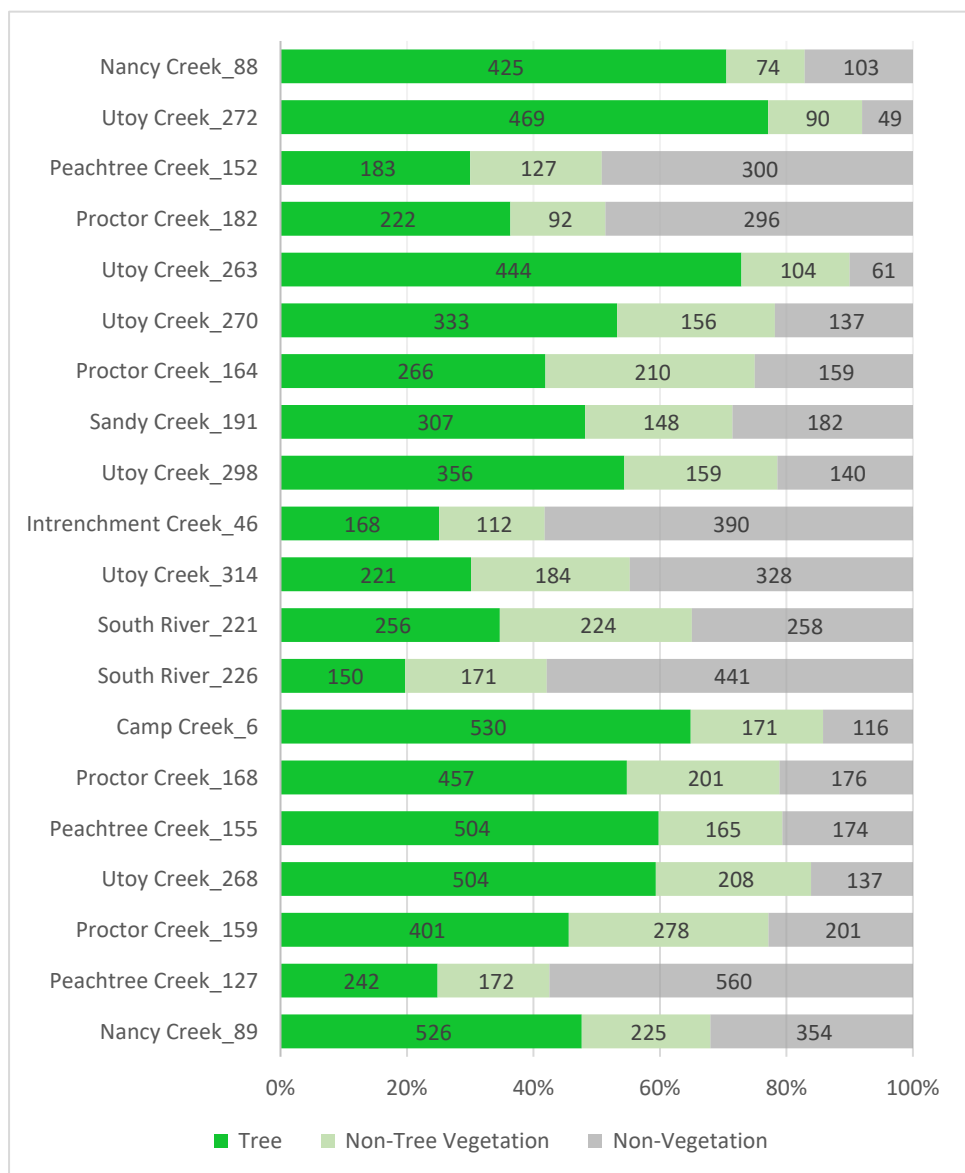
E. Watersheds



F. Parks over 20 acres



G. Small Watersheds over 600 acres



Appendix 3

Summary Land Cover Tables by Selected Geographies

Interpreting the **Summary Land Cover Tables** - Land cover summary statistics tables show land cover percentages for each geographic areas (NPUs, neighborhoods, parks, zoning, etc.) as they compare to the city as a whole (% City Land), to the geography itself (% Geography), and to each land cover class (% Cover Type), with cover types represented by acronyms (Tree cover = UTC, Non-Tree Vegetation = NTV, Non-Vegetation = NV).

- **“% City Land”** - The percentage of the city’s total area that is covered by trees, non-tree vegetation, or non-vegetation for a specific geographic area. For example, a “% City Land” value of 4% in the “Tree Cover” grouping for a specific geography (NPU X, for example) means that 4% of the city’s total area is comprised of tree cover found in that geography (NPU X) alone.
- **“% Geographic Unit”** - The percentage of the specified geography’s (NPU, Council District, etc.) total area that is covered by trees, non-tree vegetation, or non-vegetation. For example, a “% Geography” value of 16% in the “Non-Tree Vegetation” group for a specified geography (NPU X) means that 16% of that geography’s area (NPU X’s area) is comprised of non-tree vegetation.
- **“% Cover Type”** - The percentage of a cover type’s total area that is covered by trees, non-tree vegetation, or non-vegetation within a specific geographic area. For example, a “% UTC” value of 8% in the “Tree Cover” grouping for a specific geography (NPU X) means that 8% of the city’s total tree canopy area is comprised of tree cover found in that geography (NPU X) alone.

A. Neighborhood Planning Units

NPU	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% NPU	% UTC	% City	% NPU	% NTV	% City	% NPU	% NV
Z	4%	52%	9%	2%	23%	8%	2%	25%	6%
Y	1%	32%	2%	1%	30%	3%	1%	38%	3%
X	1%	38%	3%	1%	26%	4%	1%	35%	4%
W	2%	42%	4%	1%	26%	5%	1%	31%	4%
V	0%	17%	1%	1%	26%	3%	1%	57%	4%
T	1%	28%	1%	1%	26%	2%	1%	46%	3%
S	1%	46%	3%	1%	28%	4%	1%	26%	2%
R	2%	56%	5%	1%	19%	3%	1%	25%	3%
Q	0%	49%	1%	0%	27%	1%	0%	24%	1%
P	4%	58%	9%	2%	23%	7%	1%	19%	4%
O	1%	36%	2%	1%	31%	4%	1%	33%	3%
N	1%	39%	2%	1%	23%	3%	1%	37%	3%
M	0%	14%	1%	0%	16%	2%	2%	70%	6%
L	0%	24%	1%	0%	30%	1%	0%	45%	1%
K	1%	36%	1%	1%	30%	2%	1%	34%	2%
J	2%	51%	4%	1%	26%	4%	1%	23%	2%
I	4%	60%	9%	1%	21%	6%	1%	19%	4%
H	3%	55%	6%	1%	21%	4%	1%	24%	4%
G	2%	46%	4%	1%	22%	4%	1%	32%	4%
F	2%	40%	4%	1%	24%	5%	2%	36%	5%
E	1%	29%	3%	1%	21%	4%	2%	50%	7%
D	2%	32%	3%	1%	20%	4%	2%	48%	7%
C	2%	53%	5%	1%	22%	4%	1%	25%	4%
B	3%	42%	7%	1%	19%	6%	3%	39%	9%
A	5%	63%	12%	2%	19%	7%	2%	18%	5%

B. Neighborhoods

Neighborhood	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Hood	% UTC	% City	% Hood	% NTV	% City	% Hood	% NV
Boulder Park	0.4%	83.6%	0.9%	0.0%	9.4%	0.2%	0.0%	7.0%	0.1%
Fernleaf	0.1%	79.9%	0.1%	0.0%	6.2%	0.0%	0.0%	13.9%	0.0%
Audobon Forest	0.5%	78.7%	1.1%	0.1%	11.4%	0.3%	0.1%	9.9%	0.2%
Pleasant Hill	0.2%	77.4%	0.5%	0.0%	9.6%	0.1%	0.0%	13.0%	0.1%

Neighborhood	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Hood	% UTC	% City	% Hood	% NTV	% City	% Hood	% NV
Whitewater Creek	0.2%	76.4%	0.5%	0.0%	8.3%	0.1%	0.0%	15.3%	0.1%
Oakcliff	0.1%	76.0%	0.1%	0.0%	13.7%	0.1%	0.0%	10.3%	0.0%
Swallow Circle/Baywood	0.2%	74.3%	0.4%	0.0%	15.3%	0.2%	0.0%	10.5%	0.1%
Butner/Tell	0.1%	72.2%	0.3%	0.0%	19.1%	0.2%	0.0%	8.7%	0.0%
Cascade Heights	0.6%	71.7%	1.3%	0.1%	14.1%	0.6%	0.1%	14.2%	0.3%
Bakers Ferry	0.1%	70.7%	0.3%	0.0%	8.7%	0.1%	0.0%	20.6%	0.1%
Ridgewood Heights	0.1%	70.7%	0.3%	0.0%	12.2%	0.1%	0.0%	17.1%	0.1%
Beecher Hills	0.2%	70.6%	0.5%	0.1%	16.9%	0.3%	0.0%	12.6%	0.1%
Paces	1.6%	70.3%	3.6%	0.2%	10.1%	1.2%	0.5%	19.6%	1.3%
Peyton Heights	0.1%	70.1%	0.2%	0.0%	15.1%	0.1%	0.0%	14.8%	0.1%
Laurens Valley	0.1%	68.9%	0.2%	0.0%	17.7%	0.1%	0.0%	13.5%	0.1%
Ben Hill Terrace	0.2%	68.3%	0.4%	0.0%	14.6%	0.2%	0.0%	17.1%	0.1%
Niskey Lake	0.2%	68.0%	0.5%	0.1%	17.1%	0.3%	0.0%	14.9%	0.1%
Almond Park	0.3%	67.5%	0.6%	0.1%	22.8%	0.5%	0.0%	9.7%	0.1%
Audobon Forest West	0.1%	67.3%	0.2%	0.0%	19.5%	0.2%	0.0%	13.5%	0.1%
Fairburn Road/Wisteria Lane	0.1%	67.0%	0.1%	0.0%	23.3%	0.1%	0.0%	9.7%	0.0%
Mt. Paran Parkway	0.1%	66.6%	0.2%	0.0%	15.7%	0.1%	0.0%	17.7%	0.1%
Mt. Paran/Northside	1.1%	65.7%	2.4%	0.3%	17.1%	1.4%	0.3%	17.2%	0.8%
Brandon	0.3%	65.5%	0.7%	0.1%	14.7%	0.4%	0.1%	19.8%	0.3%
Southwest	1.0%	65.4%	2.2%	0.2%	13.2%	1.0%	0.3%	21.3%	0.9%
Elmco Estates	0.1%	65.3%	0.2%	0.0%	18.0%	0.1%	0.0%	16.7%	0.1%
Castlewood	0.2%	65.0%	0.4%	0.0%	16.5%	0.2%	0.0%	18.4%	0.1%
Fairway Acres	0.1%	64.9%	0.2%	0.0%	18.8%	0.1%	0.0%	16.3%	0.1%
Orchard Knob	0.2%	64.9%	0.5%	0.1%	19.5%	0.3%	0.1%	15.6%	0.2%
South River Gardens	1.4%	63.8%	3.1%	0.4%	16.3%	1.8%	0.4%	19.9%	1.3%
Carey Park	0.3%	63.7%	0.6%	0.1%	19.0%	0.4%	0.1%	17.2%	0.2%
Fairburn Tell	0.1%	63.6%	0.3%	0.0%	22.1%	0.2%	0.0%	14.3%	0.1%
Ivan Hill	0.0%	63.4%	0.1%	0.0%	20.5%	0.1%	0.0%	16.1%	0.0%
Fairburn Mays	0.3%	63.2%	0.7%	0.1%	14.8%	0.4%	0.1%	22.0%	0.3%
Peyton Forest	0.2%	62.8%	0.5%	0.1%	18.6%	0.3%	0.1%	18.6%	0.2%
Venetian Hills	0.5%	61.0%	1.0%	0.1%	18.7%	0.7%	0.2%	20.2%	0.4%
Baker Hills at Campbellton	0.1%	60.9%	0.2%	0.0%	10.7%	0.1%	0.1%	28.4%	0.1%
Wesley Battle	0.1%	60.9%	0.3%	0.0%	19.4%	0.2%	0.0%	19.7%	0.1%
Lakewood	0.3%	60.7%	0.6%	0.1%	22.6%	0.5%	0.1%	16.7%	0.2%
Memorial Park	0.1%	60.5%	0.2%	0.0%	17.3%	0.1%	0.0%	22.2%	0.1%
Wilson Mill Meadows	0.2%	60.5%	0.4%	0.1%	22.9%	0.3%	0.0%	16.5%	0.1%
Margaret Mitchell	0.4%	60.4%	0.9%	0.1%	15.3%	0.5%	0.2%	24.2%	0.5%
Ben Hill Forest	0.1%	60.3%	0.2%	0.0%	24.1%	0.1%	0.0%	15.7%	0.1%

Neighborhood	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Hood	% UTC	% City	% Hood	% NTV	% City	% Hood	% NV
West Lake	0.1%	60.3%	0.3%	0.0%	17.0%	0.2%	0.1%	22.7%	0.1%
Westwood Terrace	0.1%	59.5%	0.2%	0.0%	20.4%	0.2%	0.0%	20.2%	0.1%
Bankhead Courts	0.0%	59.5%	0.1%	0.0%	26.0%	0.1%	0.0%	14.3%	0.0%
Collier Hills North	0.1%	59.4%	0.1%	0.0%	22.6%	0.1%	0.0%	18.1%	0.0%
South Oakes at Cascade	0.0%	59.2%	0.0%	0.0%	10.8%	0.0%	0.0%	29.9%	0.0%
Westover Plantation	0.0%	59.0%	0.1%	0.0%	9.4%	0.0%	0.0%	31.5%	0.1%
Chalet Woods	0.1%	58.7%	0.1%	0.0%	20.5%	0.1%	0.0%	20.8%	0.1%
Kings Forest	0.3%	58.6%	0.7%	0.1%	21.1%	0.5%	0.1%	20.3%	0.3%
West Manor	0.1%	58.6%	0.3%	0.0%	21.4%	0.2%	0.0%	20.0%	0.1%
Wildwood (NPU-H)	0.1%	58.4%	0.3%	0.0%	20.5%	0.2%	0.0%	21.1%	0.1%
Collier Hills	0.1%	58.3%	0.2%	0.0%	21.9%	0.2%	0.0%	19.9%	0.1%
Hanover West	0.1%	58.2%	0.2%	0.0%	19.4%	0.1%	0.0%	22.4%	0.1%
Kingswood	0.3%	58.1%	0.6%	0.1%	23.4%	0.6%	0.1%	18.5%	0.3%
Old Fairburn Village	0.0%	58.0%	0.0%	0.0%	23.3%	0.0%	0.0%	18.7%	0.0%
Tuxedo Park	0.5%	57.9%	1.1%	0.2%	22.1%	1.0%	0.2%	20.1%	0.5%
Rosedale Heights	0.1%	57.8%	0.3%	0.1%	22.9%	0.3%	0.0%	19.4%	0.1%
Collier Heights	0.9%	57.7%	1.9%	0.3%	20.4%	1.5%	0.3%	22.0%	1.0%
Bonnybrook Estates	0.1%	57.5%	0.1%	0.0%	21.8%	0.1%	0.0%	20.7%	0.1%
Peachtree Battle Alliance	0.3%	57.5%	0.7%	0.1%	19.8%	0.5%	0.1%	22.8%	0.4%
Mellwood	0.0%	57.0%	0.0%	0.0%	27.8%	0.0%	0.0%	15.2%	0.0%
Ben Hill	0.5%	56.8%	1.0%	0.2%	25.0%	1.0%	0.2%	18.1%	0.4%
Cascade Avenue/Road	0.5%	56.8%	1.0%	0.2%	25.2%	1.0%	0.1%	18.0%	0.4%
Fairburn	0.1%	56.8%	0.2%	0.0%	24.4%	0.2%	0.0%	18.8%	0.1%
Adams Park	0.4%	56.6%	1.0%	0.1%	10.6%	0.4%	0.2%	32.7%	0.7%
Arden/Habersham	0.1%	56.6%	0.2%	0.0%	15.3%	0.1%	0.0%	27.9%	0.1%
Wyngate	0.1%	56.3%	0.3%	0.0%	18.2%	0.2%	0.1%	25.5%	0.2%
Woodfield	0.0%	55.8%	0.1%	0.0%	17.5%	0.0%	0.0%	26.7%	0.0%
Randall Mill	0.1%	55.2%	0.3%	0.0%	17.1%	0.2%	0.1%	27.7%	0.2%
Carroll Heights	0.2%	55.0%	0.4%	0.1%	25.7%	0.4%	0.1%	19.3%	0.2%
Baker Hills	0.1%	54.6%	0.3%	0.0%	18.4%	0.2%	0.1%	27.0%	0.2%
English Park	0.1%	54.3%	0.2%	0.0%	19.4%	0.1%	0.0%	26.3%	0.1%
East Ardley Road	0.0%	54.3%	0.1%	0.0%	24.3%	0.1%	0.0%	21.4%	0.0%
Arlington Estates	0.1%	54.1%	0.3%	0.1%	20.7%	0.3%	0.1%	25.2%	0.2%
Dixie Hills	0.3%	53.9%	0.7%	0.1%	21.0%	0.6%	0.1%	25.0%	0.4%
Springlake	0.1%	53.9%	0.2%	0.0%	19.3%	0.2%	0.0%	26.8%	0.1%
West Paces Ferry/Northside	0.3%	53.5%	0.6%	0.1%	19.4%	0.5%	0.1%	27.0%	0.4%
Bolton Hills	0.0%	53.1%	0.1%	0.0%	22.2%	0.1%	0.0%	24.7%	0.0%
Ridgecrest Forest	0.0%	52.7%	0.1%	0.0%	27.3%	0.1%	0.0%	20.1%	0.1%

Neighborhood	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Hood	% UTC	% City	% Hood	% NTV	% City	% Hood	% NV
Thomasville Heights	0.3%	52.4%	0.6%	0.1%	26.8%	0.7%	0.1%	20.8%	0.3%
Fairburn Heights	0.2%	52.3%	0.5%	0.1%	24.6%	0.5%	0.1%	23.1%	0.3%
Magnum Manor	0.1%	52.1%	0.2%	0.0%	24.2%	0.2%	0.0%	23.7%	0.1%
Heritage Valley	0.2%	52.0%	0.3%	0.1%	27.1%	0.4%	0.1%	20.9%	0.2%
Grove Park	0.8%	52.0%	1.9%	0.4%	23.2%	1.9%	0.4%	24.8%	1.2%
Ben Hill Acres	0.1%	51.9%	0.1%	0.0%	20.8%	0.1%	0.0%	27.4%	0.1%
Westminster/Milmar	0.1%	51.5%	0.1%	0.0%	17.5%	0.1%	0.0%	31.0%	0.1%
Chastain Park	0.7%	51.2%	1.5%	0.3%	26.7%	1.7%	0.3%	22.1%	0.8%
Argonne Forest	0.1%	51.1%	0.2%	0.0%	14.7%	0.2%	0.1%	34.2%	0.2%
Polar Rock	0.2%	51.0%	0.4%	0.1%	23.5%	0.4%	0.1%	25.4%	0.3%
Peachtree Heights West	0.4%	50.8%	0.8%	0.1%	16.7%	0.6%	0.2%	32.5%	0.7%
Lake Claire	0.2%	50.7%	0.4%	0.1%	20.4%	0.4%	0.1%	28.9%	0.3%
Westhaven	0.1%	50.6%	0.2%	0.0%	15.8%	0.1%	0.1%	33.7%	0.2%
Bush Mountain	0.0%	50.5%	0.1%	0.0%	22.3%	0.1%	0.0%	27.2%	0.0%
Hunter Hills	0.2%	50.5%	0.4%	0.1%	26.2%	0.5%	0.1%	23.4%	0.3%
Ormewood Park	0.3%	50.3%	0.7%	0.1%	19.8%	0.6%	0.2%	29.9%	0.5%
Woodland Hills	0.1%	50.2%	0.1%	0.0%	19.8%	0.1%	0.0%	30.0%	0.1%
Horseshoe Community	0.0%	50.1%	0.0%	0.0%	25.7%	0.1%	0.0%	24.2%	0.0%
Rue Royal	0.0%	49.9%	0.0%	0.0%	32.6%	0.0%	0.0%	17.5%	0.0%
Pomona Park	0.0%	49.9%	0.1%	0.0%	23.4%	0.1%	0.0%	26.7%	0.0%
Monroe Heights	0.1%	49.6%	0.3%	0.0%	15.9%	0.2%	0.1%	34.5%	0.3%
Greenbriar Village	0.0%	49.4%	0.1%	0.0%	24.8%	0.1%	0.0%	25.8%	0.0%
Emory	0.5%	49.4%	1.0%	0.1%	14.6%	0.7%	0.3%	36.0%	1.0%
Green Forest Acres	0.1%	49.3%	0.1%	0.0%	26.5%	0.2%	0.0%	24.2%	0.1%
East Atlanta	0.6%	49.3%	1.3%	0.3%	23.0%	1.4%	0.3%	27.8%	1.0%
Brookview Heights	0.2%	49.2%	0.5%	0.1%	21.2%	0.4%	0.1%	29.6%	0.4%
Mt. Gilead Woods	0.0%	48.9%	0.0%	0.0%	27.4%	0.1%	0.0%	23.7%	0.0%
Hammond Park	0.2%	48.7%	0.5%	0.1%	20.2%	0.5%	0.1%	31.1%	0.4%
Benteen Park	0.1%	48.4%	0.2%	0.1%	28.0%	0.3%	0.1%	23.6%	0.1%
Cross Creek	0.1%	48.3%	0.2%	0.0%	20.3%	0.2%	0.1%	31.3%	0.2%
Capitol View Manor	0.1%	48.1%	0.2%	0.0%	22.9%	0.2%	0.1%	28.9%	0.1%
Pine Hills	0.4%	48.1%	0.9%	0.2%	17.5%	0.8%	0.3%	34.4%	0.9%
Brookwood Hills	0.1%	47.9%	0.3%	0.0%	19.4%	0.2%	0.1%	32.6%	0.2%
Whittier Mill Village	0.1%	47.8%	0.3%	0.0%	13.6%	0.2%	0.1%	38.6%	0.3%
Old Gordon	0.0%	47.8%	0.1%	0.0%	18.7%	0.1%	0.0%	33.5%	0.1%
Harland Terrace	0.2%	47.7%	0.4%	0.0%	12.6%	0.2%	0.1%	39.7%	0.4%
Niskey Cove	0.0%	47.6%	0.1%	0.0%	27.7%	0.1%	0.0%	24.7%	0.0%
Center Hill	0.4%	47.5%	0.9%	0.2%	27.8%	1.2%	0.2%	24.7%	0.6%

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Midwest Cascade	0.3%	47.5%	0.8%	0.2%	27.4%	1.0%	0.2%	25.1%	0.5%
Druid Hills	0.2%	47.4%	0.4%	0.1%	26.7%	0.5%	0.1%	25.9%	0.3%
Ardmore	0.0%	47.3%	0.1%	0.0%	26.1%	0.1%	0.0%	26.5%	0.1%
Riverside	0.3%	47.2%	0.6%	0.1%	19.7%	0.6%	0.2%	33.1%	0.6%
Wildwood (NPU-C)	0.1%	47.1%	0.3%	0.0%	15.6%	0.2%	0.1%	37.3%	0.3%
Wisteria Gardens	0.1%	47.0%	0.1%	0.0%	31.0%	0.2%	0.0%	22.0%	0.1%
Florida Heights	0.1%	47.0%	0.3%	0.1%	22.1%	0.3%	0.1%	30.8%	0.3%
Peachtree Heights East	0.1%	46.9%	0.2%	0.0%	18.0%	0.1%	0.1%	35.1%	0.2%
Adamsville	0.3%	46.9%	0.7%	0.2%	30.2%	1.1%	0.2%	22.9%	0.5%
Custer/McDonough/Guice	0.2%	46.7%	0.4%	0.1%	29.8%	0.5%	0.1%	23.5%	0.2%
Channing Valley	0.0%	46.4%	0.1%	0.0%	22.4%	0.1%	0.0%	31.2%	0.1%
East Chastain Park	0.2%	46.4%	0.4%	0.1%	16.4%	0.3%	0.2%	37.2%	0.5%
Sherwood Forest	0.1%	46.2%	0.2%	0.0%	22.1%	0.2%	0.1%	31.7%	0.1%
Perkerson	0.3%	46.1%	0.8%	0.1%	17.9%	0.7%	0.3%	36.0%	0.8%
Garden Hills	0.3%	46.1%	0.6%	0.1%	17.2%	0.5%	0.2%	36.8%	0.6%
North Buckhead	1.0%	46.0%	2.1%	0.4%	17.1%	1.8%	0.8%	36.9%	2.2%
Brookhaven	0.4%	46.0%	0.8%	0.2%	27.1%	1.0%	0.2%	26.9%	0.6%
Wildwood Forest	0.0%	45.8%	0.1%	0.0%	32.4%	0.1%	0.0%	21.8%	0.1%
Ben Hill Pines	0.0%	45.1%	0.1%	0.0%	33.2%	0.1%	0.0%	21.7%	0.0%
Browns Mill Park	0.4%	45.0%	0.8%	0.3%	34.5%	1.4%	0.2%	20.5%	0.5%
Peachtree Park	0.2%	44.9%	0.4%	0.1%	17.3%	0.3%	0.1%	37.7%	0.4%
Mays	0.1%	44.8%	0.3%	0.1%	21.0%	0.3%	0.1%	34.2%	0.3%
Rockdale	0.2%	44.8%	0.4%	0.1%	21.4%	0.5%	0.1%	33.8%	0.4%
Peachtree Hills	0.2%	44.6%	0.4%	0.1%	15.6%	0.3%	0.2%	39.9%	0.5%
Candler Park	0.2%	44.5%	0.5%	0.1%	24.6%	0.6%	0.2%	30.9%	0.5%
Green Acres Valley	0.0%	44.0%	0.1%	0.0%	31.1%	0.1%	0.0%	24.9%	0.0%
Continental Colony	0.1%	43.7%	0.1%	0.0%	29.4%	0.2%	0.0%	26.9%	0.1%
Glenrose Heights	0.5%	43.5%	1.0%	0.2%	18.8%	1.0%	0.4%	37.7%	1.2%
Washington Park	0.1%	43.4%	0.2%	0.0%	24.5%	0.2%	0.1%	32.1%	0.2%
Scotts Crossing	0.2%	43.2%	0.4%	0.1%	18.4%	0.3%	0.1%	38.4%	0.4%
Greenbriar	0.3%	42.9%	0.8%	0.1%	13.1%	0.5%	0.3%	44.0%	1.0%
Rebel Valley Forest	0.1%	42.8%	0.1%	0.0%	15.2%	0.1%	0.1%	42.0%	0.2%
Meadowbrook Forest	0.0%	42.8%	0.1%	0.0%	33.3%	0.1%	0.0%	24.0%	0.1%
Briar Glen	0.0%	42.8%	0.1%	0.0%	31.6%	0.1%	0.0%	25.6%	0.1%
Norwood Manor	0.2%	42.1%	0.4%	0.1%	28.0%	0.6%	0.1%	29.9%	0.3%
Lincoln Homes	0.1%	42.1%	0.2%	0.0%	17.5%	0.2%	0.1%	40.4%	0.2%
Ansley Park	0.2%	41.9%	0.4%	0.1%	28.3%	0.7%	0.1%	29.9%	0.4%
Huntington	0.0%	41.8%	0.0%	0.0%	33.5%	0.1%	0.0%	24.7%	0.0%

Neighborhood	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
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Penelope Neighbors	0.1%	41.7%	0.1%	0.0%	22.9%	0.2%	0.1%	35.3%	0.2%
Leila Valley	0.2%	41.4%	0.3%	0.1%	20.8%	0.4%	0.1%	37.8%	0.4%
Carver Hills	0.1%	41.3%	0.2%	0.1%	26.6%	0.3%	0.1%	32.1%	0.2%
Westview	0.2%	41.2%	0.4%	0.1%	21.5%	0.5%	0.2%	37.3%	0.5%
Campbellton Road	0.1%	41.0%	0.3%	0.1%	16.1%	0.3%	0.1%	42.9%	0.4%
Morningside/Lenox Park	0.7%	40.8%	1.6%	0.4%	23.9%	2.1%	0.6%	35.2%	1.8%
Kirkwood	0.5%	40.7%	1.1%	0.3%	25.3%	1.5%	0.4%	34.0%	1.2%
Tampa Park	0.0%	40.5%	0.0%	0.0%	34.5%	0.0%	0.0%	25.1%	0.0%
Capitol View	0.2%	40.4%	0.4%	0.1%	22.1%	0.5%	0.2%	37.5%	0.5%
Fort Valley	0.0%	40.4%	0.0%	0.0%	18.4%	0.0%	0.0%	41.2%	0.0%
Just Us	0.0%	39.8%	0.0%	0.0%	33.5%	0.0%	0.0%	26.7%	0.0%
Sandlewood Estates	0.0%	39.8%	0.1%	0.0%	24.3%	0.1%	0.0%	35.9%	0.1%
Atkins Park	0.0%	39.4%	0.0%	0.0%	16.3%	0.0%	0.0%	43.5%	0.1%
High Point	0.0%	39.1%	0.1%	0.0%	24.9%	0.1%	0.0%	36.0%	0.1%
Inman Park	0.2%	38.8%	0.4%	0.1%	17.6%	0.4%	0.2%	43.6%	0.6%
Mozley Park	0.1%	38.8%	0.3%	0.1%	27.5%	0.5%	0.1%	33.7%	0.3%
Lakewood Heights	0.4%	38.5%	0.9%	0.2%	23.2%	1.2%	0.4%	38.3%	1.2%
Lindridge/Martin Manor	0.2%	37.9%	0.5%	0.1%	16.0%	0.4%	0.3%	46.2%	0.7%
Poncey-Highland	0.1%	37.9%	0.2%	0.1%	17.4%	0.3%	0.1%	44.8%	0.4%
Virginia Highland	0.3%	37.2%	0.7%	0.2%	20.2%	0.8%	0.3%	42.7%	1.0%
Harvel Homes Community	0.0%	37.2%	0.0%	0.0%	32.3%	0.0%	0.0%	30.6%	0.0%
Blair Villa/Poole Creek	0.4%	36.3%	0.8%	0.1%	13.7%	0.7%	0.5%	49.9%	1.5%
Sylvan Hills	0.5%	36.3%	1.0%	0.3%	21.4%	1.4%	0.5%	42.3%	1.6%
Atlanta Industrial Park	0.2%	36.2%	0.4%	0.1%	17.0%	0.4%	0.2%	46.7%	0.7%
Ridgedale Park	0.1%	36.2%	0.1%	0.0%	19.5%	0.1%	0.1%	44.3%	0.2%
Boulevard Heights	0.1%	36.1%	0.1%	0.0%	24.5%	0.2%	0.1%	39.3%	0.2%
South Tuxedo Park	0.1%	36.1%	0.2%	0.1%	17.7%	0.3%	0.1%	46.3%	0.4%
Oakland City	0.3%	35.9%	0.6%	0.2%	22.0%	0.8%	0.3%	42.1%	0.9%
Edmund Park	0.0%	35.4%	0.0%	0.0%	19.8%	0.0%	0.0%	44.8%	0.0%
Grant Park	0.5%	34.8%	1.0%	0.3%	22.1%	1.5%	0.6%	43.1%	1.7%
East Lake	0.3%	34.7%	0.7%	0.4%	36.8%	1.7%	0.3%	28.5%	0.8%
Chattahoochee	0.1%	34.6%	0.2%	0.1%	28.2%	0.4%	0.1%	37.2%	0.3%
Bolton	0.4%	34.5%	0.9%	0.2%	20.8%	1.2%	0.5%	44.7%	1.5%
Underwood Hills	0.3%	34.3%	0.7%	0.1%	11.5%	0.5%	0.5%	54.2%	1.4%
Joyland	0.0%	34.3%	0.1%	0.0%	30.7%	0.2%	0.0%	35.1%	0.1%
Historic Westin Heights/Bankhead	0.2%	33.8%	0.4%	0.2%	33.0%	0.8%	0.2%	33.2%	0.5%
Loring Heights	0.1%	33.7%	0.3%	0.1%	17.5%	0.3%	0.2%	48.8%	0.5%
State Facility	0.0%	33.3%	0.1%	0.0%	28.4%	0.2%	0.1%	38.4%	0.2%

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	% City	% Hood	% UTC	% City	% Hood	% NTV	% City	% Hood	% NV
Betmar LaVilla	0.0%	33.1%	0.1%	0.0%	25.4%	0.1%	0.0%	41.5%	0.1%
West Highlands	0.2%	33.0%	0.4%	0.2%	26.6%	0.8%	0.2%	40.3%	0.7%
Deerwood	0.0%	32.8%	0.1%	0.1%	43.8%	0.3%	0.0%	23.3%	0.1%
Bankhead/Bolton	0.2%	32.4%	0.5%	0.1%	19.6%	0.7%	0.3%	48.0%	1.0%
Lake Estates	0.0%	32.1%	0.0%	0.0%	31.7%	0.1%	0.0%	36.2%	0.1%
Edgewood	0.2%	31.9%	0.5%	0.2%	22.6%	0.8%	0.3%	45.5%	0.9%
Brookwood	0.0%	31.8%	0.1%	0.0%	13.1%	0.1%	0.1%	55.0%	0.2%
South Atlanta	0.1%	31.8%	0.3%	0.1%	25.5%	0.5%	0.2%	42.7%	0.4%
Cascade Green	0.0%	31.5%	0.0%	0.0%	34.3%	0.1%	0.0%	34.2%	0.1%
The Villages at Carver	0.0%	31.3%	0.1%	0.0%	31.7%	0.2%	0.0%	37.0%	0.1%
Piedmont Heights	0.1%	31.2%	0.3%	0.1%	17.9%	0.3%	0.2%	51.0%	0.6%
Regency Trace	0.0%	31.1%	0.1%	0.0%	36.0%	0.1%	0.0%	32.9%	0.1%
Brentwood	0.0%	30.9%	0.0%	0.0%	47.1%	0.1%	0.0%	22.0%	0.0%
Ashview Heights	0.1%	30.5%	0.1%	0.0%	22.5%	0.2%	0.1%	47.0%	0.3%
Home Park	0.1%	30.5%	0.3%	0.1%	16.7%	0.3%	0.2%	52.8%	0.6%
Princeton Lakes	0.2%	30.0%	0.4%	0.1%	25.5%	0.7%	0.3%	44.5%	0.7%
Buckhead Forest	0.1%	29.9%	0.2%	0.0%	11.8%	0.1%	0.1%	58.3%	0.4%
Cabbagetown	0.0%	28.0%	0.1%	0.0%	11.5%	0.1%	0.1%	60.5%	0.2%
Amal Heights	0.0%	27.9%	0.0%	0.0%	35.3%	0.1%	0.0%	36.4%	0.0%
The Villages at East Lake	0.1%	27.2%	0.1%	0.1%	40.0%	0.4%	0.1%	32.8%	0.2%
West End	0.2%	26.5%	0.5%	0.1%	17.5%	0.7%	0.5%	56.0%	1.3%
Hills Park	0.3%	25.9%	0.7%	0.2%	15.8%	0.9%	0.7%	58.3%	2.0%
Ashley Courts	0.0%	25.7%	0.0%	0.0%	16.7%	0.0%	0.0%	58.1%	0.1%
Fort McPherson	0.2%	25.5%	0.4%	0.2%	36.7%	1.1%	0.2%	37.7%	0.7%
Vine City	0.1%	25.2%	0.2%	0.1%	30.6%	0.6%	0.2%	44.2%	0.5%
Colonial Homes	0.0%	24.8%	0.0%	0.0%	16.8%	0.0%	0.0%	58.4%	0.1%
Georgia Tech	0.1%	24.3%	0.2%	0.1%	18.5%	0.4%	0.2%	57.1%	0.7%
English Avenue	0.1%	23.6%	0.3%	0.2%	24.4%	0.8%	0.3%	52.0%	0.9%
Old Fourth Ward	0.2%	23.5%	0.5%	0.2%	17.6%	0.8%	0.6%	58.9%	1.6%
Blandtown	0.1%	22.8%	0.3%	0.1%	17.5%	0.5%	0.4%	59.7%	1.0%
Berkeley Park	0.1%	22.7%	0.2%	0.1%	20.2%	0.4%	0.2%	57.1%	0.6%
Adair Park	0.1%	22.5%	0.2%	0.1%	23.2%	0.4%	0.2%	54.2%	0.6%
Reynoldstown	0.1%	22.3%	0.2%	0.1%	14.1%	0.3%	0.3%	63.6%	0.9%
Midtown	0.3%	22.3%	0.6%	0.1%	10.3%	0.7%	0.9%	67.4%	2.5%
Knight Park/Howell Station	0.1%	21.6%	0.2%	0.1%	17.3%	0.4%	0.3%	61.1%	0.7%
Lindbergh/Morosgo	0.1%	21.4%	0.2%	0.1%	10.8%	0.3%	0.3%	67.8%	0.9%
Chosewood Park	0.1%	21.2%	0.3%	0.2%	36.6%	1.2%	0.3%	42.1%	0.8%
Pittsburgh	0.1%	19.9%	0.3%	0.1%	23.6%	0.7%	0.4%	56.5%	1.0%

Neighborhood	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Hood	% UTC	% City	% Hood	% NTV	% City	% Hood	% NV
Harris Chiles	0.0%	18.9%	0.0%	0.0%	25.3%	0.1%	0.1%	55.8%	0.2%
Peoplestown	0.1%	18.6%	0.2%	0.1%	28.4%	0.6%	0.2%	53.1%	0.6%
Atlanta University Center	0.1%	17.8%	0.2%	0.1%	13.4%	0.3%	0.3%	68.8%	0.8%
Mechanicsville	0.1%	13.9%	0.2%	0.1%	23.2%	0.6%	0.3%	62.9%	1.0%
Sweet Auburn	0.0%	13.3%	0.1%	0.0%	19.0%	0.2%	0.2%	67.7%	0.5%
Buckhead Heights	0.0%	12.5%	0.0%	0.0%	8.2%	0.0%	0.0%	79.3%	0.1%
Marietta Street Artery	0.0%	11.2%	0.1%	0.0%	9.4%	0.1%	0.2%	79.4%	0.7%
Summerhill	0.0%	10.5%	0.1%	0.1%	20.7%	0.4%	0.3%	68.8%	0.8%
Buckhead Village	0.0%	10.2%	0.0%	0.0%	4.4%	0.0%	0.1%	85.5%	0.4%
The Villages at Castleberry Hill	0.0%	9.9%	0.0%	0.0%	21.3%	0.1%	0.0%	68.8%	0.1%
Downtown	0.1%	9.2%	0.3%	0.1%	9.3%	0.7%	1.2%	81.5%	3.6%
Atlantic Station	0.0%	8.6%	0.0%	0.0%	19.9%	0.2%	0.1%	71.3%	0.4%
Lenox	0.0%	7.8%	0.0%	0.0%	7.3%	0.1%	0.2%	84.8%	0.5%
Castleberry Hill	0.0%	7.7%	0.0%	0.0%	13.8%	0.2%	0.2%	78.4%	0.5%
Capitol Gateway	0.0%	7.4%	0.0%	0.0%	31.5%	0.2%	0.1%	61.1%	0.2%
Oakland	0.0%	2.8%	0.0%	0.0%	15.7%	0.0%	0.0%	81.5%	0.1%

C. City Council Districts

Council	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Council	% UTC	% City	% Council	% NTV	% City	% Council	% NV
District 9	6%	42%	12%	3%	25%	15%	4%	33%	13%
District 8	8%	58%	18%	2%	17%	11%	3%	25%	11%
District 7	2%	43%	5%	1%	15%	4%	2%	42%	7%
District 6	3%	39%	6%	1%	22%	7%	3%	39%	8%
District 5	2%	36%	5%	1%	22%	6%	2%	43%	7%
District 4	1%	30%	3%	1%	26%	6%	2%	44%	6%
District 3	2%	32%	4%	1%	23%	6%	2%	45%	7%
District 2	1%	28%	2%	1%	17%	3%	2%	54%	5%
District 12	5%	44%	11%	3%	25%	13%	4%	32%	11%
District 11	7%	57%	16%	3%	20%	12%	3%	23%	9%
District 10	6%	59%	13%	2%	19%	9%	2%	22%	7%
District 1	3%	38%	6%	2%	28%	9%	3%	35%	8%

D. Watersheds

Watershed	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Shed	% UTC	% City	% Shed	% NTV	% City	% Shed	% NV
Camp Bert Adams Lake-Chattahoochee River	1%	69%	3%	0%	11%	1%	0%	19%	1%
Long Island Creek-Chattahoochee River	1%	68%	1%	0%	15%	1%	0%	17%	0%
Utoy Creek	11%	58%	23%	4%	23%	18%	4%	20%	12%
Nancy Creek	5%	53%	11%	2%	21%	9%	2%	26%	7%
Wilson Creek-Chattahoochee River	2%	53%	4%	1%	24%	4%	1%	22%	3%
Camp Creek	2%	50%	5%	1%	25%	5%	1%	24%	3%
South Fork Peachtree Creek	2%	45%	4%	1%	25%	4%	1%	30%	4%
Headwaters South River	6%	44%	13%	3%	24%	14%	4%	32%	14%
Shoal Creek-South River	0%	40%	0%	0%	31%	0%	0%	28%	0%
Proctor Creek-Chattahoochee River	6%	39%	13%	4%	24%	16%	5%	36%	17%
North Fork Peachtree Creek	1%	38%	2%	0%	18%	1%	1%	43%	3%
Peachtree Creek	7%	37%	14%	4%	20%	15%	8%	43%	24%
Sugar Creek-South River	3%	35%	7%	3%	27%	12%	4%	38%	12%
Headwaters Flint River	0%	12%	0%	0%	26%	0%	0%	62%	0%

E. Small Watersheds

Small Watershed	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Shed	% UTC	% City	% Shed	% NTV	% City	% Shed	% NV
Utoy Creek_289	0.1%	91.9%	0.2%	0.0%	4.9%	0.0%	0.0%	3.2%	0.0%
South River_231	0.1%	89.6%	0.3%	0.0%	7.7%	0.1%	0.0%	2.7%	0.0%
Utoy Creek_260	0.0%	87.8%	0.0%	0.0%	1.8%	0.0%	0.0%	10.5%	0.0%
Utoy Creek_311	0.2%	84.5%	0.5%	0.0%	9.4%	0.1%	0.0%	6.2%	0.0%
Long Island Creek_47	0.1%	83.6%	0.1%	0.0%	7.9%	0.0%	0.0%	8.5%	0.0%
South River_213	0.2%	82.0%	0.5%	0.0%	6.6%	0.1%	0.0%	11.4%	0.1%
Utoy Creek_264	0.3%	81.6%	0.7%	0.0%	11.5%	0.2%	0.0%	6.9%	0.1%
Long Island Creek_55	0.3%	81.2%	0.7%	0.0%	7.9%	0.1%	0.0%	10.9%	0.1%
Utoy Creek_302	0.2%	81.0%	0.4%	0.0%	13.2%	0.1%	0.0%	5.7%	0.0%
Utoy Creek_299	0.2%	80.2%	0.4%	0.0%	13.2%	0.1%	0.0%	6.6%	0.0%
Utoy Creek_284	0.0%	79.0%	0.0%	0.0%	17.1%	0.0%	0.0%	3.8%	0.0%
Camp Creek_22	0.1%	78.7%	0.1%	0.0%	11.6%	0.0%	0.0%	9.7%	0.0%
Long Island Creek_59	0.0%	78.2%	0.0%	0.0%	11.3%	0.0%	0.0%	10.6%	0.0%
Utoy Creek_272	0.6%	77.1%	1.2%	0.1%	14.8%	0.5%	0.1%	8.0%	0.2%

Small Watershed	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Shed	% UTC	% City	% Shed	% NTV	% City	% Shed	% NV
Long Island Creek_50	0.1%	74.5%	0.1%	0.0%	10.9%	0.0%	0.0%	14.5%	0.0%
Utoy Creek_294	0.0%	73.7%	0.0%	0.0%	18.9%	0.0%	0.0%	7.3%	0.0%
Utoy Creek_278	0.0%	73.5%	0.0%	0.0%	22.5%	0.0%	0.0%	4.0%	0.0%
Utoy Creek_263	0.5%	72.9%	1.2%	0.1%	17.1%	0.5%	0.1%	10.0%	0.2%
Utoy Creek_300	0.2%	72.2%	0.3%	0.0%	16.4%	0.2%	0.0%	11.4%	0.1%
Utoy Creek_292	0.2%	71.9%	0.4%	0.0%	17.8%	0.2%	0.0%	10.3%	0.1%
South River_238	0.3%	71.4%	0.7%	0.1%	18.7%	0.4%	0.0%	9.9%	0.1%
Nancy Creek_88	0.5%	70.5%	1.1%	0.1%	12.4%	0.4%	0.1%	17.1%	0.4%
Utoy Creek_269	0.4%	69.7%	0.8%	0.1%	16.7%	0.4%	0.1%	13.6%	0.2%
Utoy Creek_310	0.2%	69.4%	0.5%	0.1%	17.1%	0.3%	0.0%	13.5%	0.1%
Long Island Creek_52	0.3%	69.4%	0.6%	0.0%	11.5%	0.2%	0.1%	19.1%	0.2%
Long Island Creek_53	0.1%	69.1%	0.3%	0.0%	18.4%	0.2%	0.0%	12.6%	0.1%
Long Island Creek_48	0.2%	68.9%	0.4%	0.0%	11.0%	0.1%	0.0%	20.0%	0.1%
South River_209	0.0%	68.5%	0.0%	0.0%	13.5%	0.0%	0.0%	18.0%	0.0%
South River_222	0.0%	68.1%	0.0%	0.0%	18.0%	0.0%	0.0%	13.9%	0.0%
Long Island Creek_49	0.1%	67.8%	0.3%	0.0%	13.6%	0.1%	0.0%	18.7%	0.1%
Long Island Creek_51	0.1%	66.9%	0.3%	0.0%	9.2%	0.1%	0.1%	23.9%	0.2%
Nancy Creek_63	0.2%	66.6%	0.4%	0.1%	17.5%	0.2%	0.0%	16.0%	0.1%
Utoy Creek_277	0.2%	66.3%	0.4%	0.1%	19.5%	0.2%	0.0%	14.2%	0.1%
Utoy Creek_285	0.3%	66.2%	0.6%	0.1%	21.5%	0.4%	0.0%	12.3%	0.2%
Utoy Creek_293	0.2%	66.1%	0.3%	0.0%	19.4%	0.2%	0.0%	14.5%	0.1%
Long Island Creek_60	0.4%	66.0%	0.9%	0.1%	17.9%	0.5%	0.1%	16.1%	0.3%
Utoy Creek_296	0.2%	65.9%	0.5%	0.1%	22.1%	0.3%	0.0%	12.1%	0.1%
Utoy Creek_275	0.4%	65.2%	0.9%	0.1%	16.5%	0.4%	0.1%	18.3%	0.3%
Nancy Creek_74	0.2%	65.2%	0.3%	0.0%	12.6%	0.1%	0.1%	22.3%	0.2%
Nancy Creek_65	0.1%	65.0%	0.2%	0.0%	21.4%	0.2%	0.0%	13.6%	0.1%
Camp Creek_6	0.6%	64.9%	1.4%	0.2%	20.9%	0.9%	0.1%	14.2%	0.4%
South River_220	0.2%	64.9%	0.4%	0.1%	23.5%	0.3%	0.0%	11.6%	0.1%
Utoy Creek_313	0.2%	63.8%	0.4%	0.1%	21.4%	0.3%	0.0%	14.8%	0.1%
Bakers Ferry_2	0.2%	63.7%	0.5%	0.1%	22.8%	0.3%	0.0%	13.5%	0.1%
Nancy Creek_69	0.1%	63.3%	0.2%	0.0%	19.8%	0.1%	0.0%	16.9%	0.1%
Camp Creek_12	0.2%	63.1%	0.5%	0.1%	25.1%	0.4%	0.0%	11.7%	0.1%
Nancy Creek_73	0.0%	63.1%	0.1%	0.0%	21.1%	0.0%	0.0%	15.8%	0.0%
South River_207	0.2%	62.7%	0.5%	0.1%	23.4%	0.4%	0.1%	13.9%	0.2%
South River_243	0.4%	62.5%	0.8%	0.1%	22.9%	0.6%	0.1%	14.6%	0.3%
Long Island Creek_58	0.0%	62.1%	0.0%	0.0%	6.8%	0.0%	0.0%	31.1%	0.0%
Long Island Creek_54	0.0%	61.8%	0.1%	0.0%	7.9%	0.0%	0.0%	30.3%	0.0%
Proctor Creek_177	0.2%	61.8%	0.4%	0.1%	20.6%	0.3%	0.1%	17.7%	0.2%

Small Watershed	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Shed	% UTC	% City	% Shed	% NTV	% City	% Shed	% NV
Nancy Creek_64	0.4%	61.5%	0.8%	0.1%	13.5%	0.3%	0.1%	25.0%	0.5%
Peachtree Creek_138	0.2%	61.4%	0.5%	0.1%	19.2%	0.3%	0.1%	19.3%	0.2%
Proctor Creek_179	0.3%	61.4%	0.7%	0.1%	21.4%	0.5%	0.1%	17.3%	0.3%
Utoy Creek_267	0.1%	61.3%	0.2%	0.1%	32.9%	0.2%	0.0%	5.8%	0.0%
Utoy Creek_261	0.2%	61.1%	0.5%	0.1%	19.0%	0.3%	0.1%	19.9%	0.2%
Utoy Creek_287	0.2%	60.8%	0.5%	0.1%	22.4%	0.4%	0.1%	16.8%	0.2%
Nancy Creek_66	0.3%	60.5%	0.7%	0.1%	23.2%	0.5%	0.1%	16.3%	0.3%
Peachtree Creek_113	0.3%	60.4%	0.5%	0.1%	17.7%	0.3%	0.1%	21.8%	0.3%
South River_237	0.1%	60.4%	0.2%	0.0%	26.7%	0.2%	0.0%	12.9%	0.1%
Sandy Creek_193	0.2%	60.4%	0.5%	0.1%	24.5%	0.4%	0.1%	15.2%	0.2%
Nancy Creek_68	0.1%	60.4%	0.3%	0.0%	21.1%	0.2%	0.0%	18.6%	0.1%
Nancy Creek_67	0.2%	60.1%	0.4%	0.1%	26.7%	0.4%	0.0%	13.2%	0.1%
Peachtree Creek_96	0.1%	59.9%	0.3%	0.0%	18.3%	0.2%	0.1%	21.8%	0.2%
Peachtree Creek_155	0.6%	59.8%	1.3%	0.2%	19.6%	0.9%	0.2%	20.6%	0.6%
Utoy Creek_276	0.3%	59.6%	0.8%	0.1%	16.8%	0.4%	0.1%	23.5%	0.4%
Utoy Creek_268	0.6%	59.4%	1.3%	0.2%	24.5%	1.1%	0.2%	16.1%	0.5%
Utoy Creek_297	0.4%	59.4%	0.8%	0.2%	28.5%	0.8%	0.1%	12.2%	0.2%
Utoy Creek_259	0.2%	59.2%	0.5%	0.1%	16.3%	0.3%	0.1%	24.5%	0.3%
Utoy Creek_290	0.1%	59.1%	0.3%	0.0%	17.7%	0.2%	0.1%	23.2%	0.2%
Sandy Creek_199	0.2%	57.9%	0.5%	0.1%	24.1%	0.4%	0.1%	18.0%	0.2%
Camp Creek_15	0.1%	57.8%	0.2%	0.0%	15.5%	0.1%	0.0%	26.8%	0.1%
Nancy Creek_71	0.3%	57.7%	0.6%	0.1%	24.0%	0.5%	0.1%	18.2%	0.3%
Utoy Creek_306	0.2%	57.6%	0.4%	0.1%	21.6%	0.3%	0.1%	20.7%	0.2%
Nancy Creek_86	0.0%	57.6%	0.1%	0.0%	16.5%	0.1%	0.0%	25.9%	0.1%
Utoy Creek_312	0.3%	57.6%	0.6%	0.1%	25.0%	0.5%	0.1%	17.4%	0.3%
South River_228	0.1%	57.5%	0.3%	0.1%	24.3%	0.2%	0.0%	18.2%	0.1%
Nancy Creek_87	0.3%	57.2%	0.6%	0.1%	22.8%	0.5%	0.1%	20.0%	0.3%
Utoy Creek_262	0.2%	56.8%	0.4%	0.1%	19.8%	0.3%	0.1%	23.4%	0.2%
Nancy Creek_77	0.0%	56.3%	0.1%	0.0%	15.5%	0.1%	0.0%	28.2%	0.1%
Peachtree Creek_154	0.1%	56.2%	0.3%	0.0%	13.0%	0.1%	0.1%	30.7%	0.2%
Utoy Creek_291	0.2%	56.2%	0.4%	0.1%	21.0%	0.3%	0.1%	22.8%	0.2%
Intrenchment Creek_36	0.1%	56.2%	0.3%	0.0%	20.7%	0.2%	0.1%	23.1%	0.2%
Proctor Creek_163	0.2%	56.0%	0.4%	0.1%	17.1%	0.2%	0.1%	26.9%	0.3%
Nancy Creek_76	0.0%	55.9%	0.0%	0.0%	10.3%	0.0%	0.0%	33.8%	0.0%
Peachtree Creek_93	0.3%	55.9%	0.8%	0.1%	20.3%	0.5%	0.1%	23.8%	0.5%
Sandy Creek_196	0.1%	55.9%	0.3%	0.1%	26.6%	0.3%	0.0%	17.5%	0.1%
South River_244	0.4%	55.6%	0.8%	0.2%	26.3%	0.8%	0.1%	18.2%	0.4%
Nancy Creek_82	0.1%	55.4%	0.3%	0.1%	22.7%	0.2%	0.1%	21.9%	0.2%

Small Watershed	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Shed	% UTC	% City	% Shed	% NTV	% City	% Shed	% NV
Peachtree Creek_92	0.1%	55.2%	0.3%	0.0%	21.2%	0.2%	0.1%	23.6%	0.2%
South River_232	0.1%	54.8%	0.3%	0.1%	26.7%	0.3%	0.0%	18.4%	0.2%
Proctor Creek_168	0.5%	54.8%	1.2%	0.2%	24.1%	1.0%	0.2%	21.1%	0.7%
Utoy Creek_301	0.2%	54.7%	0.5%	0.1%	26.7%	0.5%	0.1%	18.6%	0.2%
Utoy Creek_298	0.4%	54.4%	0.9%	0.2%	24.2%	0.8%	0.2%	21.4%	0.5%
Long Island Creek_56	0.2%	54.3%	0.3%	0.0%	13.1%	0.2%	0.1%	32.6%	0.3%
Proctor Creek_172	0.3%	53.7%	0.6%	0.1%	24.1%	0.6%	0.1%	22.1%	0.4%
Utoy Creek_270	0.4%	53.2%	0.9%	0.2%	24.9%	0.8%	0.2%	21.8%	0.5%
South River_206	0.0%	53.1%	0.1%	0.0%	20.5%	0.1%	0.0%	26.4%	0.1%
Utoy Creek_304	0.1%	53.1%	0.2%	0.1%	26.2%	0.2%	0.0%	20.7%	0.1%
Peachtree Creek_110	0.1%	53.0%	0.2%	0.0%	25.3%	0.2%	0.0%	21.7%	0.1%
South River_223	0.1%	52.9%	0.2%	0.0%	24.2%	0.2%	0.0%	22.9%	0.1%
Sandy Creek_194	0.3%	52.8%	0.6%	0.1%	26.2%	0.6%	0.1%	21.0%	0.4%
Bakers Ferry_1	0.0%	52.6%	0.0%	0.0%	31.1%	0.0%	0.0%	16.3%	0.0%
Peachtree Creek_91	0.3%	52.4%	0.6%	0.1%	19.1%	0.5%	0.2%	28.5%	0.5%
Proctor Creek_156	0.3%	52.3%	0.7%	0.1%	21.7%	0.6%	0.2%	26.0%	0.5%
Peachtree Creek_143	0.2%	52.3%	0.5%	0.1%	20.6%	0.4%	0.1%	27.2%	0.4%
Nancy Creek_81	0.1%	52.2%	0.3%	0.1%	24.0%	0.3%	0.1%	23.8%	0.2%
South River_208	0.0%	52.2%	0.1%	0.0%	20.5%	0.0%	0.0%	27.3%	0.0%
Utoy Creek_266	0.1%	52.1%	0.2%	0.0%	26.5%	0.2%	0.0%	21.4%	0.1%
South River_214	0.1%	51.9%	0.2%	0.0%	19.4%	0.2%	0.1%	28.7%	0.2%
Camp Creek_21	0.2%	51.8%	0.4%	0.1%	18.0%	0.3%	0.1%	30.2%	0.3%
Sandy Creek_195	0.3%	51.7%	0.6%	0.1%	25.9%	0.6%	0.1%	22.4%	0.4%
Sugar Creek_250	0.1%	51.5%	0.3%	0.1%	27.1%	0.3%	0.1%	21.4%	0.2%
Utoy Creek_271	0.2%	51.4%	0.4%	0.1%	34.4%	0.5%	0.0%	14.2%	0.1%
Nancy Creek_84	0.3%	51.2%	0.7%	0.1%	20.2%	0.6%	0.2%	28.5%	0.6%
Sandy Creek_200	0.1%	51.1%	0.3%	0.1%	18.9%	0.2%	0.1%	29.9%	0.3%
Camp Creek_23	0.2%	51.0%	0.4%	0.1%	29.0%	0.5%	0.1%	20.0%	0.2%
Peachtree Creek_150	0.2%	50.7%	0.3%	0.1%	24.5%	0.3%	0.1%	24.8%	0.2%
Proctor Creek_157	0.2%	50.7%	0.5%	0.1%	22.5%	0.5%	0.1%	26.9%	0.4%
Peachtree Creek_112	0.1%	50.7%	0.3%	0.1%	20.8%	0.2%	0.1%	28.6%	0.2%
Intrenchment Creek_38	0.1%	50.5%	0.3%	0.1%	27.5%	0.3%	0.1%	22.0%	0.2%
South River_205	0.3%	50.4%	0.6%	0.1%	23.9%	0.5%	0.1%	25.6%	0.4%
Utoy Creek_265	0.1%	50.3%	0.1%	0.0%	16.8%	0.1%	0.0%	32.9%	0.1%
Camp Creek_19	0.1%	50.0%	0.3%	0.1%	33.6%	0.4%	0.0%	16.4%	0.2%
Peachtree Creek_106	0.1%	49.9%	0.3%	0.1%	29.0%	0.3%	0.1%	21.0%	0.2%
Utoy Creek_295	0.1%	49.7%	0.2%	0.1%	38.3%	0.3%	0.0%	12.0%	0.1%
Utoy Creek_286	0.2%	49.6%	0.5%	0.1%	26.6%	0.6%	0.1%	23.8%	0.4%

Small Watershed	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Shed	% UTC	% City	% Shed	% NTV	% City	% Shed	% NV
Proctor Creek_181	0.2%	49.4%	0.4%	0.1%	30.6%	0.5%	0.1%	20.0%	0.3%
Sandy Creek_197	0.2%	48.7%	0.4%	0.1%	20.7%	0.4%	0.1%	30.6%	0.4%
Proctor Creek_173	0.1%	48.7%	0.2%	0.0%	24.0%	0.2%	0.0%	27.3%	0.1%
South River_211	0.1%	48.6%	0.3%	0.0%	19.9%	0.2%	0.1%	31.5%	0.2%
South River_215	0.3%	48.5%	0.6%	0.1%	24.5%	0.7%	0.2%	27.0%	0.5%
Sugar Creek_253	0.0%	48.4%	0.0%	0.0%	32.2%	0.0%	0.0%	19.5%	0.0%
Proctor Creek_176	0.2%	48.2%	0.3%	0.1%	18.7%	0.3%	0.1%	33.1%	0.3%
Sandy Creek_191	0.4%	48.2%	0.8%	0.2%	23.3%	0.8%	0.2%	28.5%	0.7%
Peachtree Creek_122	0.0%	47.9%	0.1%	0.0%	31.3%	0.1%	0.0%	20.8%	0.1%
Intrenchment Creek_41	0.0%	47.9%	0.0%	0.0%	34.6%	0.0%	0.0%	17.6%	0.0%
Intrenchment Creek_37	0.2%	47.8%	0.4%	0.1%	21.5%	0.3%	0.1%	30.7%	0.3%
Sugar Creek_248	0.1%	47.8%	0.2%	0.1%	29.1%	0.3%	0.0%	23.1%	0.2%
Nancy Creek_89	0.6%	47.6%	1.4%	0.3%	20.4%	1.2%	0.4%	32.0%	1.3%
Intrenchment Creek_35	0.2%	47.2%	0.4%	0.1%	24.3%	0.4%	0.1%	28.5%	0.4%
Peachtree Creek_141	0.3%	47.0%	0.7%	0.1%	19.1%	0.5%	0.2%	33.9%	0.7%
South River_234	0.2%	47.0%	0.5%	0.1%	25.9%	0.5%	0.1%	27.1%	0.4%
Peachtree Creek_125	0.1%	47.0%	0.3%	0.1%	20.2%	0.3%	0.1%	32.9%	0.3%
South River_225	0.1%	46.8%	0.2%	0.1%	28.6%	0.2%	0.0%	24.6%	0.1%
Peachtree Creek_102	0.1%	46.3%	0.2%	0.0%	25.1%	0.2%	0.1%	28.6%	0.2%
Nancy Creek_72	0.2%	46.3%	0.4%	0.1%	31.9%	0.6%	0.1%	21.8%	0.3%
Proctor Creek_165	0.2%	45.8%	0.5%	0.1%	25.2%	0.6%	0.2%	29.0%	0.5%
Nancy Creek_79	0.2%	45.8%	0.5%	0.1%	29.2%	0.6%	0.1%	25.0%	0.4%
Proctor Creek_159	0.5%	45.6%	1.0%	0.3%	31.6%	1.4%	0.2%	22.8%	0.8%
Nancy Creek_75	0.2%	45.5%	0.5%	0.1%	20.3%	0.4%	0.2%	34.2%	0.5%
Nancy Creek_70	0.2%	45.5%	0.5%	0.1%	18.9%	0.4%	0.2%	35.6%	0.6%
Camp Creek_8	0.2%	45.5%	0.5%	0.2%	36.6%	0.7%	0.1%	18.0%	0.3%
Shoal Creek_201	0.0%	45.4%	0.1%	0.0%	28.2%	0.1%	0.0%	26.3%	0.0%
South River_230	0.1%	45.3%	0.3%	0.0%	15.3%	0.2%	0.1%	39.3%	0.4%
South River_216	0.2%	45.2%	0.3%	0.0%	12.0%	0.2%	0.1%	42.8%	0.5%
Peachtree Creek_119	0.2%	45.2%	0.4%	0.1%	30.9%	0.5%	0.1%	23.9%	0.3%
Intrenchment Creek_40	0.1%	44.9%	0.2%	0.1%	34.5%	0.3%	0.0%	20.6%	0.1%
Utoy Creek_282	0.2%	44.9%	0.4%	0.1%	23.6%	0.4%	0.1%	31.5%	0.4%
Peachtree Creek_136	0.1%	44.7%	0.2%	0.1%	31.9%	0.4%	0.1%	23.4%	0.2%
Peachtree Creek_129	0.2%	44.6%	0.4%	0.1%	16.9%	0.3%	0.2%	38.5%	0.5%
Sugar Creek_258	0.1%	44.5%	0.3%	0.1%	23.3%	0.3%	0.1%	32.2%	0.3%
South River_219	0.1%	44.3%	0.2%	0.0%	20.4%	0.2%	0.1%	35.3%	0.2%
Proctor Creek_160	0.3%	44.0%	0.7%	0.2%	30.7%	0.9%	0.2%	25.3%	0.5%
Peachtree Creek_120	0.0%	43.9%	0.0%	0.0%	30.3%	0.1%	0.0%	25.7%	0.0%

Small Watershed	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Shed	% UTC	% City	% Shed	% NTV	% City	% Shed	% NV
Peachtree Creek_118	0.1%	43.9%	0.2%	0.1%	28.6%	0.2%	0.0%	27.5%	0.2%
Peachtree Creek_151	0.3%	43.9%	0.6%	0.2%	28.2%	0.8%	0.2%	27.9%	0.6%
South River_242	0.3%	43.9%	0.6%	0.3%	40.7%	1.1%	0.1%	15.5%	0.3%
Nancy Creek_62	0.1%	43.6%	0.2%	0.1%	29.9%	0.3%	0.1%	26.5%	0.2%
South River_212	0.2%	43.4%	0.4%	0.1%	21.2%	0.4%	0.1%	35.4%	0.4%
Sandy Creek_198	0.1%	43.3%	0.2%	0.0%	10.2%	0.1%	0.1%	46.4%	0.4%
Proctor Creek_170	0.1%	43.3%	0.2%	0.1%	31.1%	0.3%	0.1%	25.6%	0.2%
Camp Creek_9	0.1%	43.2%	0.2%	0.0%	21.8%	0.2%	0.1%	35.0%	0.2%
South River_236	0.0%	43.1%	0.0%	0.0%	11.7%	0.0%	0.0%	45.3%	0.0%
Nancy Creek_80	0.1%	43.0%	0.2%	0.1%	33.2%	0.3%	0.0%	23.8%	0.1%
Doolittle Creek_25	0.2%	42.8%	0.4%	0.1%	35.4%	0.6%	0.1%	21.7%	0.3%
Peachtree Creek_107	0.2%	42.8%	0.4%	0.1%	22.3%	0.4%	0.2%	35.0%	0.5%
Camp Creek_16	0.1%	42.7%	0.3%	0.1%	24.9%	0.3%	0.1%	32.4%	0.3%
Peachtree Creek_101	0.1%	42.3%	0.3%	0.1%	28.4%	0.4%	0.1%	29.3%	0.3%
Sugar Creek_257	0.1%	42.3%	0.2%	0.1%	24.6%	0.3%	0.1%	33.0%	0.3%
Sugar Creek_256	0.2%	42.2%	0.3%	0.1%	32.4%	0.5%	0.1%	25.4%	0.3%
South River_217	0.3%	42.1%	0.6%	0.2%	23.6%	0.7%	0.2%	34.2%	0.7%
Proctor Creek_164	0.3%	41.9%	0.7%	0.2%	33.1%	1.1%	0.2%	25.0%	0.6%
Doolittle Creek_24	0.0%	41.3%	0.1%	0.0%	32.7%	0.2%	0.0%	26.0%	0.1%
Sugar Creek_249	0.2%	41.1%	0.4%	0.1%	27.2%	0.5%	0.1%	31.7%	0.4%
Peachtree Creek_115	0.2%	40.9%	0.4%	0.1%	18.5%	0.4%	0.2%	40.6%	0.6%
Camp Creek_7	0.1%	40.6%	0.3%	0.1%	32.7%	0.5%	0.1%	26.7%	0.3%
Intrenchment Creek_44	0.2%	40.5%	0.5%	0.2%	28.4%	0.7%	0.2%	31.1%	0.5%
Peachtree Creek_134	0.1%	40.4%	0.2%	0.0%	17.6%	0.2%	0.1%	42.0%	0.3%
South River_247	0.2%	40.3%	0.4%	0.1%	13.5%	0.3%	0.2%	46.1%	0.7%
Utoy Creek_303	0.0%	40.3%	0.1%	0.0%	22.3%	0.1%	0.0%	37.4%	0.1%
Intrenchment Creek_45	0.0%	39.8%	0.0%	0.0%	32.3%	0.0%	0.0%	28.0%	0.0%
Peachtree Creek_147	0.2%	39.7%	0.4%	0.1%	29.9%	0.7%	0.2%	30.3%	0.5%
Camp Creek_18	0.0%	39.7%	0.1%	0.0%	24.8%	0.1%	0.0%	35.5%	0.1%
Peachtree Creek_111	0.1%	39.5%	0.1%	0.1%	34.7%	0.2%	0.0%	25.7%	0.1%
Proctor Creek_180	0.2%	39.5%	0.3%	0.1%	34.6%	0.6%	0.1%	26.0%	0.3%
South River_235	0.1%	39.5%	0.2%	0.1%	26.8%	0.2%	0.1%	33.8%	0.2%
South River_227	0.2%	39.3%	0.3%	0.1%	19.3%	0.3%	0.2%	41.4%	0.5%
Nancy Creek_78	0.0%	39.2%	0.1%	0.0%	38.4%	0.1%	0.0%	22.3%	0.0%
Proctor Creek_162	0.1%	38.9%	0.3%	0.1%	34.7%	0.5%	0.1%	26.4%	0.3%
Peachtree Creek_95	0.1%	38.7%	0.2%	0.1%	36.2%	0.4%	0.1%	25.1%	0.2%
Peachtree Creek_105	0.1%	38.2%	0.3%	0.1%	21.2%	0.3%	0.1%	40.6%	0.4%
Peachtree Creek_133	0.2%	38.1%	0.3%	0.1%	26.1%	0.5%	0.1%	35.8%	0.5%

Small Watershed	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Shed	% UTC	% City	% Shed	% NTV	% City	% Shed	% NV
Bakers Ferry_3	0.1%	37.7%	0.1%	0.0%	27.3%	0.2%	0.1%	35.0%	0.2%
Peachtree Creek_98	0.1%	37.6%	0.1%	0.0%	22.4%	0.2%	0.1%	39.9%	0.2%
Utoy Creek_273	0.2%	37.4%	0.4%	0.2%	38.3%	0.8%	0.1%	24.4%	0.4%
Peachtree Creek_140	0.1%	37.1%	0.3%	0.1%	28.1%	0.4%	0.1%	34.8%	0.3%
Peachtree Creek_146	0.2%	37.1%	0.5%	0.1%	17.0%	0.5%	0.3%	45.9%	0.9%
Peachtree Creek_108	0.1%	37.0%	0.3%	0.1%	34.9%	0.6%	0.1%	28.0%	0.3%
Utoy Creek_305	0.0%	36.8%	0.1%	0.0%	16.8%	0.1%	0.1%	46.4%	0.2%
Intrenchment Creek_43	0.2%	36.5%	0.5%	0.2%	28.8%	0.8%	0.2%	34.7%	0.7%
Sandy Creek_190	0.1%	36.4%	0.2%	0.1%	21.9%	0.3%	0.1%	41.8%	0.4%
Proctor Creek_182	0.3%	36.4%	0.6%	0.1%	15.0%	0.5%	0.4%	48.6%	1.1%
Peachtree Creek_149	0.0%	36.0%	0.0%	0.0%	19.1%	0.0%	0.0%	44.9%	0.1%
Proctor Creek_158	0.1%	36.0%	0.2%	0.1%	24.0%	0.3%	0.1%	39.9%	0.3%
Peachtree Creek_116	0.2%	35.8%	0.4%	0.1%	20.5%	0.5%	0.2%	43.7%	0.8%
Peachtree Creek_109	0.1%	35.5%	0.2%	0.0%	16.0%	0.2%	0.1%	48.5%	0.4%
South River_221	0.3%	34.7%	0.7%	0.3%	30.3%	1.2%	0.3%	35.0%	1.0%
Intrenchment Creek_32	0.1%	34.5%	0.1%	0.1%	42.4%	0.3%	0.0%	23.1%	0.1%
Proctor Creek_175	0.1%	34.3%	0.2%	0.1%	29.5%	0.4%	0.1%	36.2%	0.3%
Proctor Creek_167	0.2%	34.2%	0.4%	0.1%	16.1%	0.4%	0.3%	49.7%	0.9%
Intrenchment Creek_39	0.1%	34.2%	0.2%	0.1%	30.8%	0.3%	0.1%	35.0%	0.3%
South River_204	0.0%	34.2%	0.0%	0.0%	12.6%	0.0%	0.0%	53.2%	0.0%
Shoal Creek_203	0.0%	34.2%	0.0%	0.0%	40.7%	0.0%	0.0%	25.1%	0.0%
Sugar Creek_255	0.1%	33.9%	0.3%	0.1%	32.4%	0.5%	0.1%	33.7%	0.4%
Peachtree Creek_132	0.1%	33.8%	0.2%	0.1%	21.7%	0.3%	0.1%	44.4%	0.4%
Peachtree Creek_148	0.1%	33.8%	0.2%	0.1%	33.0%	0.4%	0.1%	33.2%	0.3%
South River_241	0.1%	33.4%	0.2%	0.1%	34.7%	0.5%	0.1%	31.9%	0.3%
Utoy Creek_288	0.0%	33.3%	0.1%	0.0%	24.4%	0.1%	0.0%	42.3%	0.2%
Peachtree Creek_142	0.1%	33.2%	0.2%	0.1%	30.8%	0.4%	0.1%	35.9%	0.3%
Camp Creek_11	0.2%	33.2%	0.3%	0.1%	28.3%	0.6%	0.2%	38.5%	0.6%
Intrenchment Creek_46	0.0%	33.2%	0.0%	0.0%	21.3%	0.0%	0.0%	45.5%	0.0%
Intrenchment Creek_43	0.0%	33.2%	0.0%	0.0%	21.3%	0.0%	0.0%	45.5%	0.0%
Proctor Creek_189	0.1%	32.8%	0.2%	0.1%	30.7%	0.3%	0.1%	36.5%	0.3%
South River_224	0.1%	32.8%	0.3%	0.1%	24.1%	0.5%	0.2%	43.1%	0.6%
South River_229	0.0%	32.7%	0.0%	0.0%	17.6%	0.0%	0.0%	49.7%	0.1%
South River_233	0.1%	32.2%	0.1%	0.0%	26.3%	0.2%	0.1%	41.4%	0.2%
Peachtree Creek_144	0.2%	32.0%	0.3%	0.1%	15.4%	0.3%	0.3%	52.6%	0.8%
Peachtree Creek_145	0.1%	31.4%	0.2%	0.0%	16.5%	0.2%	0.2%	52.1%	0.5%
Proctor Creek_185	0.2%	31.2%	0.4%	0.2%	28.8%	0.7%	0.2%	40.0%	0.7%
Sugar Creek_251	0.1%	31.1%	0.3%	0.1%	28.4%	0.5%	0.2%	40.6%	0.5%

Small Watershed	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Shed	% UTC	% City	% Shed	% NTV	% City	% Shed	% NV
Utoy Creek_274	0.1%	31.0%	0.3%	0.2%	42.3%	0.7%	0.1%	26.6%	0.3%
Sugar Creek_254	0.0%	30.6%	0.0%	0.0%	19.1%	0.0%	0.0%	50.3%	0.0%
Intrenchment Creek_46	0.0%	30.6%	0.0%	0.0%	19.1%	0.0%	0.0%	50.3%	0.0%
Proctor Creek_186	0.0%	30.4%	0.0%	0.0%	37.9%	0.0%	0.0%	31.7%	0.0%
Peachtree Creek_100	0.1%	30.4%	0.1%	0.0%	18.3%	0.2%	0.1%	51.3%	0.3%
Peachtree Creek_90	0.1%	30.3%	0.3%	0.1%	13.1%	0.3%	0.3%	56.6%	0.8%
Proctor Creek_174	0.1%	30.2%	0.1%	0.0%	14.0%	0.1%	0.1%	55.8%	0.3%
Utoy Creek_314	0.3%	30.1%	0.6%	0.2%	25.1%	1.0%	0.4%	44.8%	1.2%
Peachtree Creek_152	0.2%	30.0%	0.5%	0.1%	20.8%	0.7%	0.4%	49.2%	1.1%
Peachtree Creek_99	0.1%	29.7%	0.3%	0.1%	18.4%	0.4%	0.2%	51.8%	0.8%
South River_239	0.1%	29.6%	0.2%	0.0%	16.1%	0.2%	0.2%	54.4%	0.5%
South River_240	0.2%	29.5%	0.4%	0.2%	26.0%	0.7%	0.3%	44.4%	0.9%
Sugar Creek_252	0.0%	29.1%	0.0%	0.0%	27.8%	0.0%	0.0%	43.1%	0.0%
Proctor Creek_171	0.1%	29.1%	0.2%	0.0%	15.3%	0.2%	0.2%	55.6%	0.5%
Camp Creek_17	0.0%	28.6%	0.0%	0.0%	46.8%	0.0%	0.0%	24.7%	0.0%
Intrenchment Creek_31	0.1%	27.9%	0.2%	0.1%	26.5%	0.3%	0.1%	45.6%	0.4%
Peachtree Creek_117	0.1%	27.6%	0.3%	0.1%	12.8%	0.3%	0.3%	59.5%	0.9%
Peachtree Creek_124	0.1%	27.6%	0.2%	0.1%	24.4%	0.3%	0.1%	48.1%	0.4%
Shoal Creek_202	0.0%	26.5%	0.0%	0.0%	47.5%	0.0%	0.0%	26.0%	0.0%
Sandy Creek_192	0.1%	26.5%	0.1%	0.0%	19.0%	0.2%	0.1%	54.5%	0.4%
Sugar Creek_254	0.1%	26.3%	0.2%	0.1%	20.3%	0.3%	0.2%	53.4%	0.6%
Peachtree Creek_123	0.0%	26.2%	0.1%	0.0%	15.9%	0.1%	0.1%	57.9%	0.3%
Peachtree Creek_97	0.1%	25.4%	0.1%	0.0%	13.1%	0.1%	0.1%	61.5%	0.4%
Peachtree Creek_137	0.1%	25.4%	0.2%	0.1%	16.3%	0.2%	0.2%	58.3%	0.6%
Proctor Creek_187	0.1%	25.2%	0.2%	0.1%	24.7%	0.4%	0.2%	50.1%	0.5%
Intrenchment Creek_46	0.2%	25.1%	0.4%	0.1%	16.7%	0.6%	0.5%	58.2%	1.5%
Peachtree Creek_127	0.3%	24.8%	0.6%	0.2%	17.7%	0.9%	0.7%	57.5%	2.1%
South River_245	0.2%	24.5%	0.3%	0.2%	29.9%	0.8%	0.3%	45.6%	0.9%
Camp Creek_20	0.0%	23.9%	0.1%	0.0%	9.8%	0.1%	0.1%	66.3%	0.3%
Proctor Creek_178	0.0%	23.5%	0.1%	0.1%	42.5%	0.3%	0.1%	34.0%	0.2%
Peachtree Creek_103	0.1%	23.3%	0.2%	0.1%	22.2%	0.4%	0.2%	54.5%	0.7%
Proctor Creek_188	0.1%	22.3%	0.2%	0.1%	27.3%	0.4%	0.2%	50.4%	0.5%
Peachtree Creek_121	0.0%	22.2%	0.0%	0.0%	68.4%	0.0%	0.0%	9.4%	0.0%
Peachtree Creek_135	0.1%	21.8%	0.2%	0.1%	13.3%	0.2%	0.2%	64.9%	0.8%
Peachtree Creek_128	0.1%	21.6%	0.1%	0.0%	13.3%	0.2%	0.2%	65.0%	0.5%
Peachtree Creek_131	0.0%	21.1%	0.1%	0.0%	16.2%	0.2%	0.1%	62.7%	0.5%
Camp Creek_13	0.0%	20.0%	0.0%	0.0%	40.4%	0.0%	0.0%	39.6%	0.0%
South River_226	0.2%	19.7%	0.4%	0.2%	22.4%	0.9%	0.5%	57.9%	1.6%

Small Watershed	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Shed	% UTC	% City	% Shed	% NTV	% City	% Shed	% NV
Utoy Creek_283	0.0%	19.7%	0.1%	0.1%	29.1%	0.3%	0.1%	51.2%	0.4%
Nancy Creek_85	0.1%	19.7%	0.1%	0.0%	9.2%	0.1%	0.2%	71.1%	0.7%
Intrenchment Creek_46	0.0%	19.6%	0.0%	0.0%	29.6%	0.0%	0.0%	50.8%	0.0%
Intrenchment Creek_33	0.0%	19.6%	0.0%	0.0%	29.6%	0.0%	0.0%	50.8%	0.0%
Intrenchment Creek_46	0.0%	19.2%	0.0%	0.0%	68.8%	0.0%	0.0%	12.0%	0.0%
Intrenchment Creek_35	0.0%	19.2%	0.0%	0.0%	68.8%	0.0%	0.0%	12.0%	0.0%
Proctor Creek_184	0.1%	18.9%	0.1%	0.1%	29.4%	0.5%	0.2%	51.7%	0.6%
Intrenchment Creek_30	0.0%	18.8%	0.1%	0.1%	34.0%	0.3%	0.1%	47.2%	0.3%
Peachtree Creek_114	0.1%	18.6%	0.2%	0.1%	19.2%	0.4%	0.3%	62.2%	0.9%
Proctor Creek_183	0.1%	18.5%	0.2%	0.2%	30.9%	0.7%	0.2%	50.6%	0.8%
Intrenchment Creek_33	0.1%	17.6%	0.2%	0.2%	30.3%	0.7%	0.3%	52.0%	0.8%
South River_246	0.0%	17.2%	0.1%	0.0%	11.3%	0.1%	0.1%	71.5%	0.4%
Peachtree Creek_94	0.0%	16.7%	0.1%	0.0%	13.0%	0.1%	0.2%	70.3%	0.5%
Peachtree Creek_116	0.0%	16.2%	0.0%	0.0%	13.2%	0.0%	0.0%	70.6%	0.0%
Intrenchment Creek_46	0.0%	16.2%	0.0%	0.0%	13.2%	0.0%	0.0%	70.6%	0.0%
Proctor Creek_169	0.0%	15.5%	0.1%	0.0%	9.8%	0.1%	0.2%	74.7%	0.7%
Peachtree Creek_130	0.1%	14.6%	0.1%	0.1%	19.6%	0.3%	0.3%	65.7%	0.8%
Peachtree Creek_104	0.0%	14.0%	0.0%	0.0%	30.5%	0.0%	0.0%	55.5%	0.0%
Intrenchment Creek_46	0.0%	14.0%	0.0%	0.0%	30.5%	0.0%	0.0%	55.5%	0.0%
Proctor Creek_166	0.0%	13.3%	0.1%	0.1%	15.6%	0.2%	0.3%	71.1%	0.8%
Intrenchment Creek_34	0.1%	12.7%	0.1%	0.1%	22.2%	0.4%	0.3%	65.1%	0.8%
Camp Creek_10	0.0%	11.9%	0.0%	0.0%	17.6%	0.0%	0.0%	70.5%	0.1%
Mud Creek_61	0.0%	11.7%	0.0%	0.0%	25.3%	0.1%	0.1%	63.0%	0.2%
Peachtree Creek_104	0.0%	11.7%	0.1%	0.1%	17.2%	0.3%	0.3%	71.1%	1.0%
Peachtree Creek_153	0.0%	11.1%	0.1%	0.0%	11.1%	0.1%	0.2%	77.8%	0.6%
Peachtree Creek_139	0.0%	10.8%	0.1%	0.0%	13.7%	0.2%	0.2%	75.5%	0.8%
Intrenchment Creek_42	0.1%	8.9%	0.1%	0.1%	19.2%	0.5%	0.4%	71.9%	1.4%
South River_210	0.0%	8.7%	0.0%	0.0%	3.4%	0.0%	0.0%	87.9%	0.0%
Nancy Creek_83	0.0%	8.2%	0.0%	0.0%	59.2%	0.1%	0.0%	32.5%	0.0%
South River_218	0.0%	7.9%	0.0%	0.0%	20.1%	0.0%	0.0%	72.1%	0.1%
Proctor Creek_161	0.0%	6.1%	0.1%	0.1%	15.0%	0.3%	0.3%	79.0%	1.0%
Peachtree Creek_126	0.0%	4.9%	0.0%	0.0%	10.7%	0.0%	0.0%	84.4%	0.0%
Bakers Ferry_5	0.0%	4.8%	0.0%	0.0%	38.8%	0.0%	0.0%	56.4%	0.0%
Sugar Creek_257	0.0%	1.4%	0.0%	0.0%	25.8%	0.0%	0.0%	72.8%	0.0%
Intrenchment Creek_46	0.0%	1.4%	0.0%	0.0%	25.8%	0.0%	0.0%	72.8%	0.0%
Bakers Ferry_4	0.0%	0.0%	0.0%	0.0%	81.5%	0.0%	0.0%	18.5%	0.0%

F. Parks > 2 Acres in Size (Sorted by highest canopy cover)

	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
Park	% City	% Park	% UTC	% City	% Park	% NTV	% City	% Park	% NV
Gun Club Park	0.0%	99.2%	0.1%	0.0%	0.6%	0.0%	0.0%	0.2%	0.0%
Cumberlander	0.0%	99.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.4%	0.0%
Lionel Hampton	0.1%	99.0%	0.1%	0.0%	0.7%	0.0%	0.0%	0.4%	0.0%
Jennie Drake Park	0.0%	98.4%	0.0%	0.0%	1.1%	0.0%	0.0%	0.4%	0.0%
Alexander Park	0.0%	97.4%	0.0%	0.0%	1.9%	0.0%	0.0%	0.7%	0.0%
Mayson Ravine	0.0%	97.0%	0.0%	0.0%	2.1%	0.0%	0.0%	0.9%	0.0%
Dale Creek Park	0.0%	96.6%	0.0%	0.0%	3.1%	0.0%	0.0%	0.4%	0.0%
Lake Charlotte Nature Preserve	0.2%	96.4%	0.5%	0.0%	2.7%	0.0%	0.0%	0.8%	0.0%
Klaus Park and Preserve in Bakers Ferry	0.0%	96.2%	0.0%	0.0%	2.4%	0.0%	0.0%	1.3%	0.0%
Sibley Park	0.0%	96.2%	0.0%	0.0%	2.7%	0.0%	0.0%	1.0%	0.0%
Daniel Johnson Nature Preserve	0.0%	96.1%	0.0%	0.0%	2.5%	0.0%	0.0%	1.3%	0.0%
Mayson Park	0.0%	96.1%	0.0%	0.0%	2.5%	0.0%	0.0%	1.4%	0.0%
Cascade Springs Nature Preserve	0.1%	96.0%	0.3%	0.0%	2.5%	0.0%	0.0%	1.5%	0.0%
Campbellton Road Park	0.0%	95.5%	0.0%	0.0%	0.4%	0.0%	0.0%	4.1%	0.0%
Springlake Park	0.0%	95.4%	0.0%	0.0%	3.4%	0.0%	0.0%	1.2%	0.0%
Herbert Greene	0.1%	94.8%	0.1%	0.0%	3.9%	0.0%	0.0%	1.3%	0.0%
Beecher Park	0.0%	94.7%	0.0%	0.0%	4.1%	0.0%	0.0%	1.2%	0.0%
Riverside	0.0%	94.5%	0.0%	0.0%	4.9%	0.0%	0.0%	0.6%	0.0%
Sunnybrook Park	0.0%	94.4%	0.0%	0.0%	4.1%	0.0%	0.0%	1.5%	0.0%
Mantissa Road	0.0%	94.2%	0.0%	0.0%	3.7%	0.0%	0.0%	2.1%	0.0%
Avery Park-Gilbert House	0.0%	93.8%	0.0%	0.0%	3.8%	0.0%	0.0%	2.5%	0.0%
Stone Hogan Park	0.0%	92.8%	0.0%	0.0%	4.3%	0.0%	0.0%	2.9%	0.0%
Edwin Place Park	0.0%	92.5%	0.0%	0.0%	5.0%	0.0%	0.0%	2.5%	0.0%
Greenbriar	0.0%	92.4%	0.0%	0.0%	5.4%	0.0%	0.0%	2.2%	0.0%
Spink-Collins Park	0.0%	91.8%	0.1%	0.0%	6.6%	0.0%	0.0%	1.6%	0.0%
Vermont Road Park	0.0%	91.5%	0.0%	0.0%	6.6%	0.0%	0.0%	1.9%	0.0%
Swann Preserve	0.1%	90.7%	0.1%	0.0%	6.6%	0.0%	0.0%	2.7%	0.0%
Indian Creek Park	0.0%	90.6%	0.0%	0.0%	7.0%	0.0%	0.0%	2.4%	0.0%
Beaverbrook Park	0.0%	90.1%	0.0%	0.0%	8.9%	0.0%	0.0%	1.0%	0.0%
Sidney Marcus Park	0.0%	88.8%	0.0%	0.0%	8.1%	0.0%	0.0%	3.1%	0.0%
Ansley Park	0.0%	88.3%	0.0%	0.0%	8.2%	0.0%	0.0%	3.5%	0.0%
Kirkwood Urban Forest	0.0%	87.7%	0.0%	0.0%	9.9%	0.0%	0.0%	2.4%	0.0%
Spring Valley Park	0.0%	87.6%	0.0%	0.0%	9.4%	0.0%	0.0%	3.0%	0.0%

Park	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Park	% UTC	% City	% Park	% NTV	% City	% Park	% NV
17th Street Park	0.0%	85.9%	0.0%	0.0%	8.3%	0.0%	0.0%	5.8%	0.0%
Coventry Station CE	0.0%	85.7%	0.0%	0.0%	11.8%	0.0%	0.0%	2.5%	0.0%
Southeast Land Trust	0.2%	85.5%	0.4%	0.0%	13.3%	0.1%	0.0%	1.5%	0.0%
Orme Park	0.0%	85.2%	0.0%	0.0%	9.5%	0.0%	0.0%	5.3%	0.0%
Barbara A. McCoy Park	0.0%	85.1%	0.0%	0.0%	10.7%	0.0%	0.0%	4.1%	0.0%
Tanyard Creek Urban Forest	0.0%	84.9%	0.0%	0.0%	11.0%	0.0%	0.0%	4.1%	0.0%
Howard Park	0.0%	84.4%	0.0%	0.0%	13.2%	0.0%	0.0%	2.4%	0.0%
Fort Peachtree Landings	0.0%	84.2%	0.0%	0.0%	10.1%	0.0%	0.0%	5.7%	0.0%
Southside Park	0.2%	84.2%	0.4%	0.0%	12.7%	0.1%	0.0%	3.1%	0.0%
Lenox-Wildwood Park	0.0%	83.3%	0.0%	0.0%	11.4%	0.0%	0.0%	5.4%	0.0%
Isabel Gates Webster Park	0.0%	82.3%	0.0%	0.0%	12.9%	0.0%	0.0%	4.8%	0.0%
Browns Mill Food Forest	0.0%	82.3%	0.0%	0.0%	14.8%	0.0%	0.0%	3.0%	0.0%
Little Nancy Creek Park	0.0%	82.2%	0.0%	0.0%	13.7%	0.0%	0.0%	4.1%	0.0%
Emma Millican Park	0.0%	81.5%	0.0%	0.0%	12.8%	0.0%	0.0%	5.6%	0.0%
Outdoor Activity Center	0.0%	81.1%	0.0%	0.0%	12.1%	0.0%	0.0%	6.8%	0.0%
Mary Shy Scott Park	0.0%	80.4%	0.0%	0.0%	13.4%	0.0%	0.0%	6.2%	0.0%
Yonah Park	0.0%	80.4%	0.0%	0.0%	13.3%	0.0%	0.0%	6.3%	0.0%
Tullwater Park	0.0%	80.1%	0.0%	0.0%	11.4%	0.0%	0.0%	8.5%	0.0%
Whittier Mills Park	0.0%	79.8%	0.0%	0.0%	17.9%	0.0%	0.0%	2.3%	0.0%
North Camp Creek Parkway Nature Preserve	0.1%	79.4%	0.1%	0.0%	17.1%	0.1%	0.0%	3.5%	0.0%
Blue Heron Nature Preserve	0.0%	79.0%	0.0%	0.0%	16.8%	0.0%	0.0%	4.2%	0.0%
Brownwood Park	0.0%	78.7%	0.0%	0.0%	14.5%	0.0%	0.0%	6.8%	0.0%
Underwood Hills Park	0.0%	77.8%	0.0%	0.0%	16.4%	0.0%	0.0%	5.9%	0.0%
Melvin Drive Park	0.0%	77.1%	0.1%	0.0%	15.9%	0.0%	0.0%	7.0%	0.0%
Peachtree Battle Parkway	0.0%	76.2%	0.0%	0.0%	19.0%	0.0%	0.0%	4.8%	0.0%
Falling Water (Kings Ridge)	0.0%	76.2%	0.0%	0.0%	17.5%	0.0%	0.0%	6.3%	0.0%
Tanyard Creek Park	0.0%	75.9%	0.0%	0.0%	21.7%	0.0%	0.0%	2.4%	0.0%
Haynes Manor Park	0.0%	74.8%	0.0%	0.0%	16.0%	0.0%	0.0%	9.2%	0.0%
Renaissance Park	0.0%	74.6%	0.0%	0.0%	17.9%	0.0%	0.0%	7.5%	0.0%
Collier Park	0.0%	74.6%	0.0%	0.0%	20.4%	0.0%	0.0%	5.0%	0.0%
Anderson Park	0.0%	74.2%	0.1%	0.0%	13.8%	0.0%	0.0%	12.1%	0.0%
Shirley Place Park	0.0%	74.1%	0.0%	0.0%	16.6%	0.0%	0.0%	9.4%	0.0%
West Cascade Park	0.0%	72.7%	0.0%	0.0%	4.2%	0.0%	0.0%	22.8%	0.0%
Morningside Nature Preserve	0.0%	72.3%	0.1%	0.0%	18.3%	0.0%	0.0%	9.4%	0.0%
Lake Claire Park	0.0%	70.2%	0.0%	0.0%	24.2%	0.0%	0.0%	5.6%	0.0%
Gilliam Park	0.0%	70.2%	0.0%	0.0%	20.9%	0.0%	0.0%	8.9%	0.0%

	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
Park	% City	% Park	% UTC	% City	% Park	% NTV	% City	% Park	% NV
Springvale Park	0.0%	68.8%	0.0%	0.0%	20.9%	0.0%	0.0%	10.3%	0.0%
Herbert Taylor Park	0.0%	68.6%	0.0%	0.0%	18.9%	0.0%	0.0%	12.5%	0.0%
Shady Valley Park	0.0%	68.4%	0.0%	0.0%	24.3%	0.0%	0.0%	7.3%	0.0%
Tucson Trail Park	0.0%	68.4%	0.0%	0.0%	22.0%	0.0%	0.0%	9.6%	0.0%
Lanier Boulevard Parkway	0.0%	68.1%	0.0%	0.0%	19.7%	0.0%	0.0%	12.1%	0.0%
Knight Park	0.0%	67.6%	0.0%	0.0%	21.6%	0.0%	0.0%	10.8%	0.0%
Shadyside Park (Olmsted Linear Park)	0.0%	67.1%	0.0%	0.0%	24.0%	0.0%	0.0%	8.9%	0.0%
Lower Paul Park	0.0%	65.9%	0.0%	0.0%	26.4%	0.0%	0.0%	7.7%	0.0%
Wilson Mill Park	0.0%	65.7%	0.1%	0.0%	29.2%	0.1%	0.0%	5.0%	0.0%
Enota Park	0.0%	65.2%	0.0%	0.0%	21.5%	0.0%	0.0%	13.4%	0.0%
John Howell Memorial Park	0.0%	64.7%	0.0%	0.0%	22.2%	0.0%	0.0%	13.0%	0.0%
Center Hill Park	0.0%	64.4%	0.1%	0.0%	25.4%	0.1%	0.0%	10.1%	0.0%
Winn Park	0.0%	64.0%	0.0%	0.0%	32.9%	0.0%	0.0%	3.1%	0.0%
A.D. Williams Park	0.0%	63.9%	0.0%	0.0%	24.6%	0.0%	0.0%	11.5%	0.0%
Rosel Fann Park	0.0%	63.0%	0.0%	0.0%	18.7%	0.0%	0.0%	18.3%	0.0%
Atlanta Memorial Park	0.0%	62.0%	0.1%	0.0%	22.8%	0.1%	0.0%	15.2%	0.0%
Perkerson Park	0.0%	61.7%	0.1%	0.0%	27.1%	0.1%	0.0%	11.1%	0.0%
Garden Hills Park	0.0%	61.0%	0.0%	0.0%	21.3%	0.0%	0.0%	17.6%	0.0%
South Bend Park	0.1%	60.5%	0.1%	0.0%	31.9%	0.1%	0.0%	7.6%	0.0%
Deerwood Park	0.0%	59.3%	0.0%	0.0%	32.2%	0.0%	0.0%	8.5%	0.0%
Rockdale Park	0.0%	59.0%	0.0%	0.0%	38.8%	0.0%	0.0%	2.2%	0.0%
Thomasville Park	0.0%	58.9%	0.0%	0.0%	26.9%	0.0%	0.0%	14.2%	0.0%
Harper Park	0.0%	58.5%	0.0%	0.0%	31.5%	0.0%	0.0%	10.0%	0.0%
Benteen Park	0.0%	58.2%	0.0%	0.0%	37.8%	0.0%	0.0%	4.1%	0.0%
Empire Park	0.0%	57.5%	0.0%	0.0%	36.3%	0.0%	0.0%	6.1%	0.0%
Goldsboro Park	0.0%	56.7%	0.0%	0.0%	33.1%	0.0%	0.0%	10.2%	0.0%
Robert W. Woodruff Park	0.0%	56.4%	0.0%	0.0%	19.9%	0.0%	0.0%	23.7%	0.0%
Mountain Way Common	0.0%	56.2%	0.0%	0.0%	9.6%	0.0%	0.0%	34.2%	0.0%
West Manor Park	0.0%	55.5%	0.0%	0.0%	29.1%	0.0%	0.0%	15.4%	0.0%
Oak Grove Park (Olmsted Linear Park)	0.0%	54.3%	0.0%	0.0%	31.7%	0.0%	0.0%	13.9%	0.0%
Rose Circle Park	0.0%	53.8%	0.0%	0.0%	28.4%	0.0%	0.0%	17.8%	0.0%
Virgilee Park (Olmsted Linear Park)	0.0%	53.0%	0.0%	0.0%	40.6%	0.0%	0.0%	6.3%	0.0%
Freedom Park	0.1%	52.3%	0.2%	0.1%	36.0%	0.2%	0.0%	11.6%	0.1%
McClatchey Park	0.0%	51.9%	0.0%	0.0%	32.0%	0.0%	0.0%	16.1%	0.0%
Frankie Allen Park	0.0%	51.5%	0.0%	0.0%	29.4%	0.0%	0.0%	19.1%	0.0%

	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
Park	% City	% Park	% UTC	% City	% Park	% NTV	% City	% Park	% NV
Chattahoochee Trail	0.0%	50.9%	0.1%	0.0%	38.7%	0.1%	0.0%	10.4%	0.0%
Grove Park	0.0%	50.9%	0.0%	0.0%	32.1%	0.0%	0.0%	16.9%	0.0%
Chosewood Park	0.0%	50.5%	0.0%	0.0%	31.3%	0.0%	0.0%	18.2%	0.0%
Iverson Park	0.0%	50.1%	0.0%	0.0%	45.4%	0.0%	0.0%	4.5%	0.0%
Grant Park	0.1%	50.1%	0.2%	0.0%	27.7%	0.2%	0.0%	22.2%	0.1%
English Park	0.0%	49.7%	0.0%	0.0%	34.0%	0.0%	0.0%	16.3%	0.0%
Peachtree Hills Park	0.0%	49.6%	0.0%	0.0%	34.6%	0.0%	0.0%	15.8%	0.0%
Cleveland Avenue Park	0.0%	49.1%	0.0%	0.0%	33.7%	0.0%	0.0%	17.2%	0.0%
Ben Hill Park	0.0%	48.0%	0.0%	0.0%	20.2%	0.0%	0.0%	31.9%	0.0%
Phoenix III Park	0.0%	47.8%	0.0%	0.0%	38.6%	0.0%	0.0%	13.5%	0.0%
Howell Park	0.0%	47.1%	0.0%	0.0%	30.8%	0.0%	0.0%	22.1%	0.0%
Chattahoochee Park	0.0%	46.6%	0.0%	0.0%	38.0%	0.0%	0.0%	15.4%	0.0%
Westside Park	0.1%	46.5%	0.2%	0.1%	24.1%	0.3%	0.1%	29.3%	0.2%
John A. White Park	0.1%	45.3%	0.1%	0.1%	46.2%	0.3%	0.0%	8.5%	0.0%
Washington Park	0.0%	43.9%	0.0%	0.0%	37.2%	0.0%	0.0%	18.9%	0.0%
Mozley Park	0.0%	41.7%	0.0%	0.0%	41.9%	0.1%	0.0%	16.4%	0.0%
Adams Park	0.1%	41.4%	0.2%	0.1%	50.2%	0.4%	0.0%	8.3%	0.0%
Doctors Memorial Park	0.0%	41.0%	0.0%	0.0%	32.5%	0.0%	0.0%	26.5%	0.0%
Rev. James Orange Park at Oakland City	0.0%	40.5%	0.0%	0.0%	39.8%	0.0%	0.0%	19.7%	0.0%
Piedmont Park	0.1%	39.9%	0.2%	0.1%	39.4%	0.4%	0.0%	20.7%	0.1%
Chastain Memorial Park	0.1%	39.6%	0.2%	0.1%	44.5%	0.6%	0.0%	15.9%	0.1%
Arthur Langford Jr Park	0.0%	39.5%	0.0%	0.0%	39.7%	0.0%	0.0%	20.8%	0.0%
Springdale Park (Olmsted Linear Park)	0.0%	38.9%	0.0%	0.0%	54.7%	0.0%	0.0%	6.4%	0.0%
Lillian Cooper Shepherd Park	0.0%	38.7%	0.0%	0.0%	41.6%	0.0%	0.0%	19.7%	0.0%
Maddox Park	0.0%	38.4%	0.1%	0.0%	27.7%	0.1%	0.0%	33.9%	0.1%
J. Allen Couch Park (Burger Bowl @ GA Tech)	0.0%	37.5%	0.0%	0.0%	55.6%	0.0%	0.0%	6.9%	0.0%
Candler Park	0.0%	37.0%	0.0%	0.0%	57.0%	0.2%	0.0%	6.0%	0.0%
Coan Park	0.0%	36.5%	0.0%	0.0%	47.6%	0.0%	0.0%	15.9%	0.0%
John C. Burdine Center	0.0%	36.4%	0.0%	0.0%	27.2%	0.0%	0.0%	36.4%	0.0%
Lucius D. Simon, Sr. Memorial Park at South Atlanta	0.0%	36.2%	0.0%	0.0%	47.1%	0.0%	0.0%	16.7%	0.0%
Central Park	0.0%	35.8%	0.0%	0.0%	52.5%	0.0%	0.0%	11.6%	0.0%
West End Park	0.0%	35.7%	0.0%	0.0%	50.2%	0.0%	0.0%	14.1%	0.0%
Adair Park I	0.0%	33.6%	0.0%	0.0%	50.9%	0.0%	0.0%	15.5%	0.0%
Walker Park	0.0%	30.1%	0.0%	0.0%	62.8%	0.0%	0.0%	7.1%	0.0%

Park	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Park	% UTC	% City	% Park	% NTV	% City	% Park	% NV
Selena S. Butler Park	0.0%	29.0%	0.0%	0.0%	43.9%	0.0%	0.0%	27.1%	0.0%
Four Corners Park	0.0%	27.8%	0.0%	0.0%	57.1%	0.0%	0.0%	15.1%	0.0%
Ella Mae Wade Brayboy Memorial Park	0.0%	27.3%	0.0%	0.0%	59.9%	0.0%	0.0%	12.9%	0.0%
Bass Recreation Center	0.0%	27.2%	0.0%	0.0%	60.2%	0.0%	0.0%	12.6%	0.0%
Oakland Cemetery	0.0%	26.6%	0.0%	0.0%	57.0%	0.1%	0.0%	16.4%	0.0%
Historic Fourth Ward Park	0.0%	26.1%	0.0%	0.0%	37.3%	0.0%	0.0%	36.5%	0.0%
East Lake Park	0.0%	26.0%	0.0%	0.0%	59.1%	0.0%	0.0%	14.9%	0.0%
Lang-Carson Park	0.0%	25.4%	0.0%	0.0%	38.1%	0.0%	0.0%	36.5%	0.0%
C.T. Martin Natatorium and Recreation Center	0.0%	24.3%	0.0%	0.0%	19.5%	0.0%	0.0%	56.2%	0.0%
Dean Rusk Park	0.0%	23.1%	0.0%	0.0%	42.4%	0.0%	0.0%	34.5%	0.0%
Cleopas R. Johnson Park	0.0%	22.4%	0.0%	0.0%	49.0%	0.0%	0.0%	28.6%	0.0%
Lakewood Fairgrounds & HiFi Buys Amphitheater	0.0%	21.9%	0.1%	0.0%	20.1%	0.1%	0.1%	57.9%	0.2%
Adair Park II	0.0%	21.7%	0.0%	0.0%	57.0%	0.0%	0.0%	21.3%	0.0%
Bessie Branham Park	0.0%	21.2%	0.0%	0.0%	53.9%	0.0%	0.0%	24.9%	0.0%
Pittman Park	0.0%	20.9%	0.0%	0.0%	52.3%	0.0%	0.0%	26.8%	0.0%
Rosa L. Burney Park	0.0%	20.5%	0.0%	0.0%	51.0%	0.0%	0.0%	28.5%	0.0%
Chattahoochee Brick	0.0%	20.2%	0.0%	0.0%	54.0%	0.2%	0.0%	25.8%	0.1%
Browns Mill Golf Course	0.0%	19.7%	0.1%	0.1%	70.7%	0.6%	0.0%	9.7%	0.1%
Rawson-Washington Park	0.0%	19.2%	0.0%	0.0%	46.9%	0.0%	0.0%	33.8%	0.0%
Boulevard Crossing	0.0%	19.1%	0.0%	0.0%	70.2%	0.1%	0.0%	10.7%	0.0%
Phoenix II Park	0.0%	16.6%	0.0%	0.0%	62.0%	0.0%	0.0%	21.4%	0.0%
D.H. Stanton Park	0.0%	13.4%	0.0%	0.0%	67.2%	0.0%	0.0%	19.4%	0.0%
Kathryn Johnston Memorial Park	0.0%	9.5%	0.0%	0.0%	72.6%	0.0%	0.0%	17.9%	0.0%
J.F. Kennedy Park	0.0%	5.9%	0.0%	0.0%	20.7%	0.0%	0.0%	73.4%	0.0%
MLK Recreation and Aquatic Center	0.0%	5.8%	0.0%	0.0%	11.0%	0.0%	0.0%	83.3%	0.0%
Memorial Drive Greenway	0.0%	5.3%	0.0%	0.0%	80.3%	0.0%	0.0%	14.5%	0.0%
Rodney Cook Senior Park	0.0%	4.3%	0.0%	0.0%	61.3%	0.0%	0.0%	34.4%	0.0%

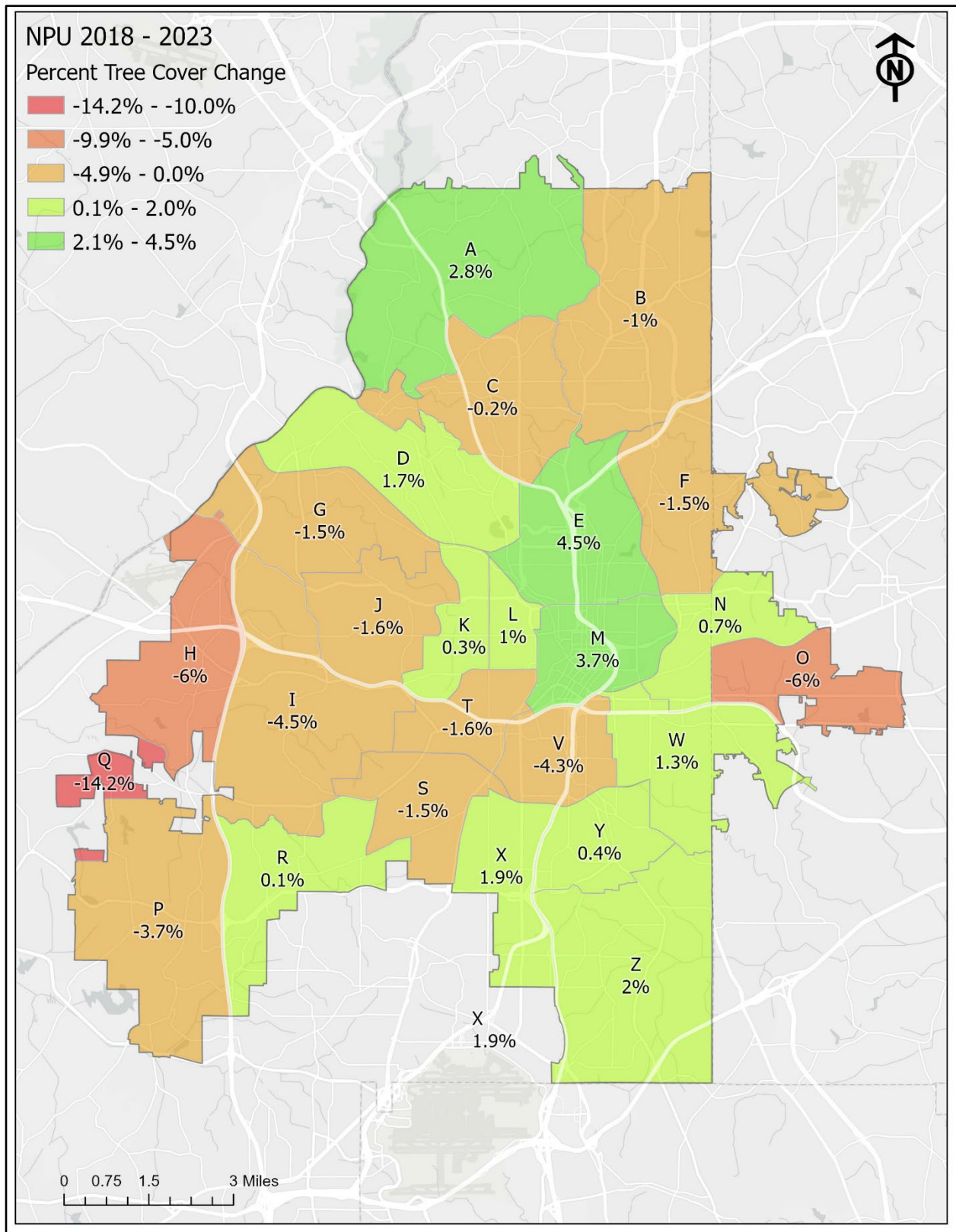
G. Zoning

Zoning	Tree Cover			Non-Tree Vegetation			Non-Vegetation		
	% City	% Zoning	% UTC	% City	% Zoning	% UTC	% City	% Zoning	% UTC
Residential-single family	33%	56%	72%	14%	24%	66%	12%	20%	36%
Planned Development	2%	47%	4%	1%	23%	4%	1%	30%	3%
Office / Institutional	1%	42%	2%	0%	14%	2%	1%	44%	4%
General Multi-Family Residential	5%	37%	10%	3%	22%	13%	5%	40%	15%
Historic/Cultural & Landmark	0%	33%	1%	0%	26%	1%	0%	40%	1%
Live-Work	0%	27%	0%	0%	7%	0%	0%	66%	0%
Industrial	3%	26%	6%	2%	16%	7%	6%	58%	19%
Commercial	1%	26%	2%	1%	16%	3%	2%	58%	6%
Neighborhood Commercial	0%	18%	0%	0%	11%	0%	0%	71%	1%

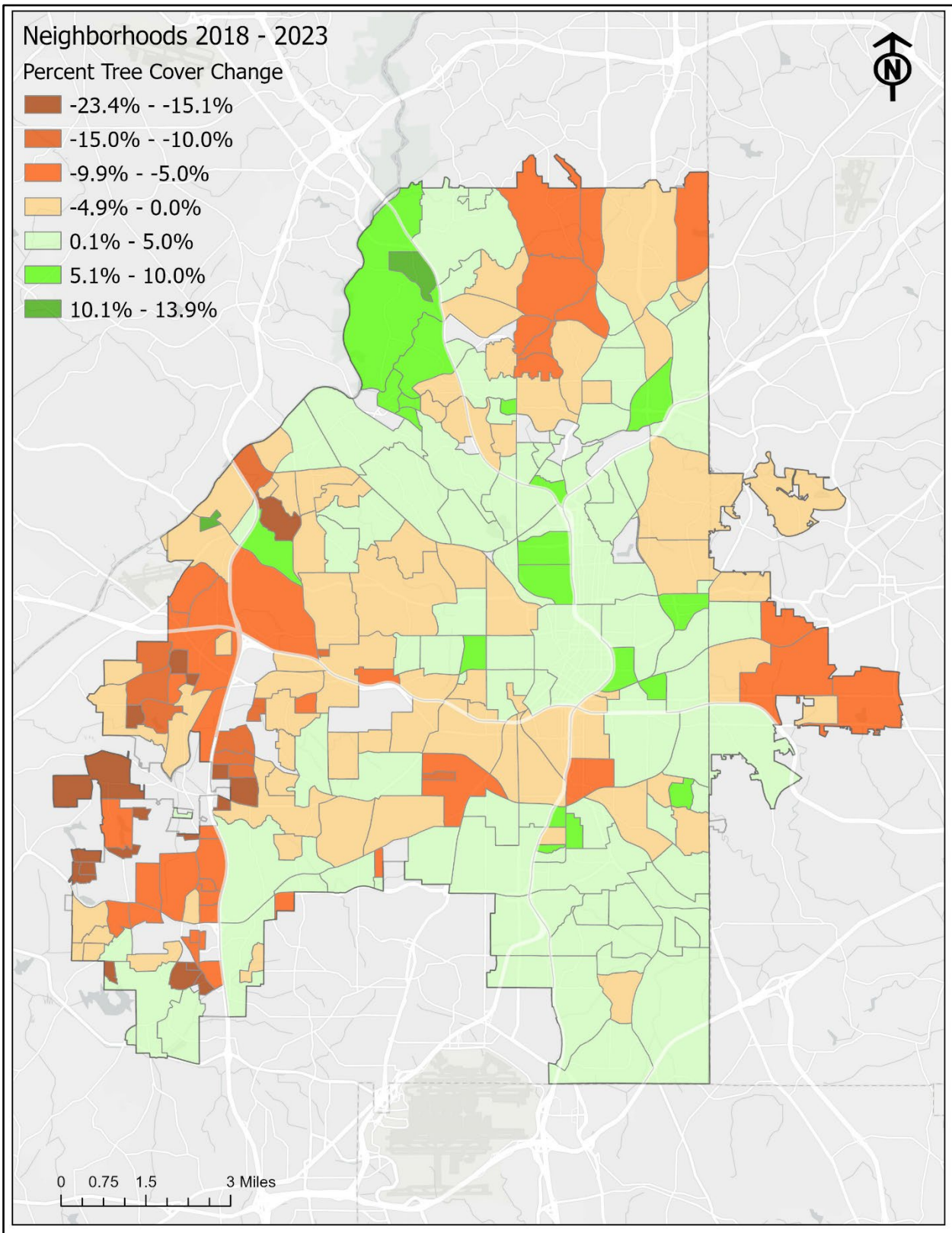
Appendix 4

Land Cover Change Maps by Selected Geographies

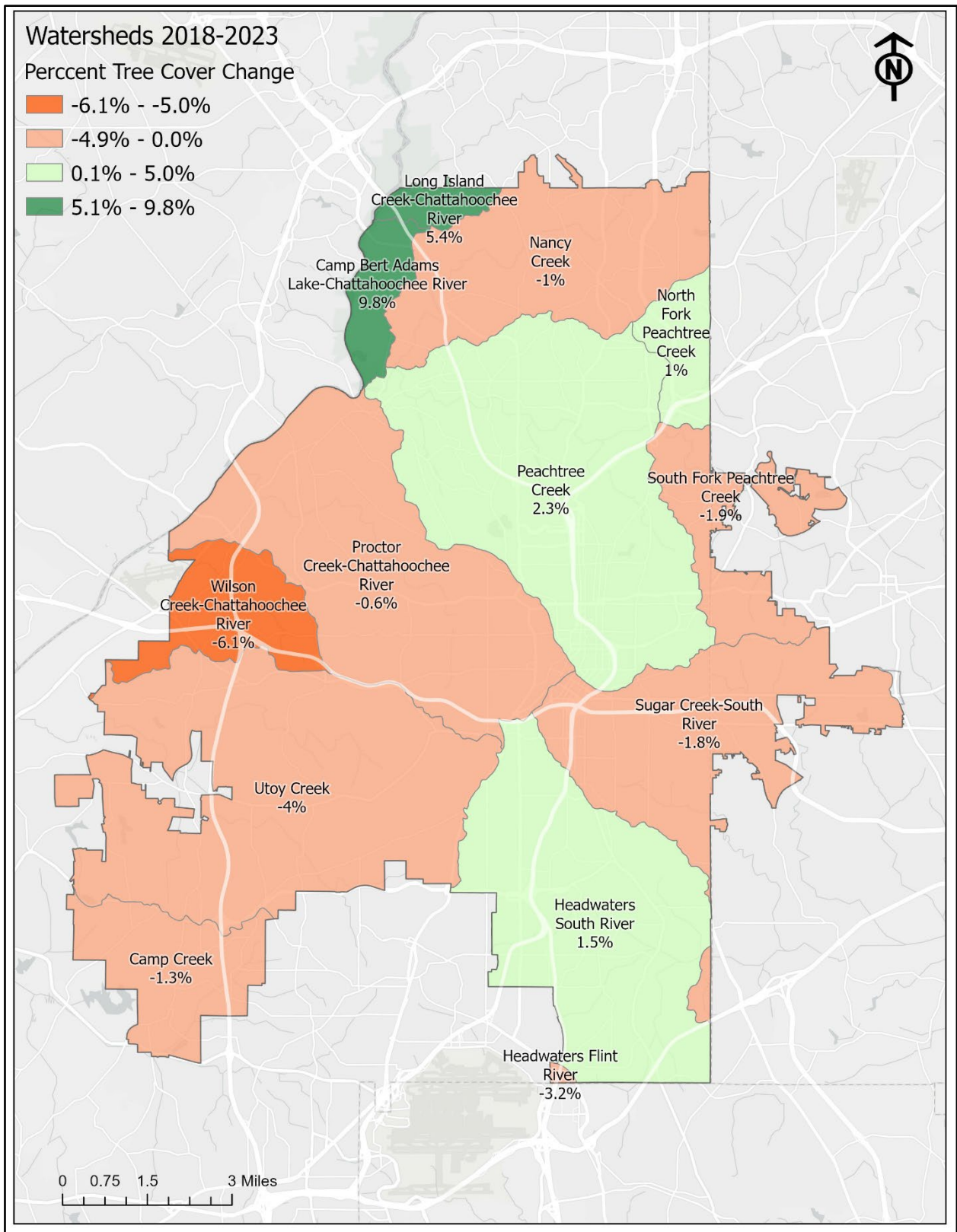
1. Neighborhood Planning Units



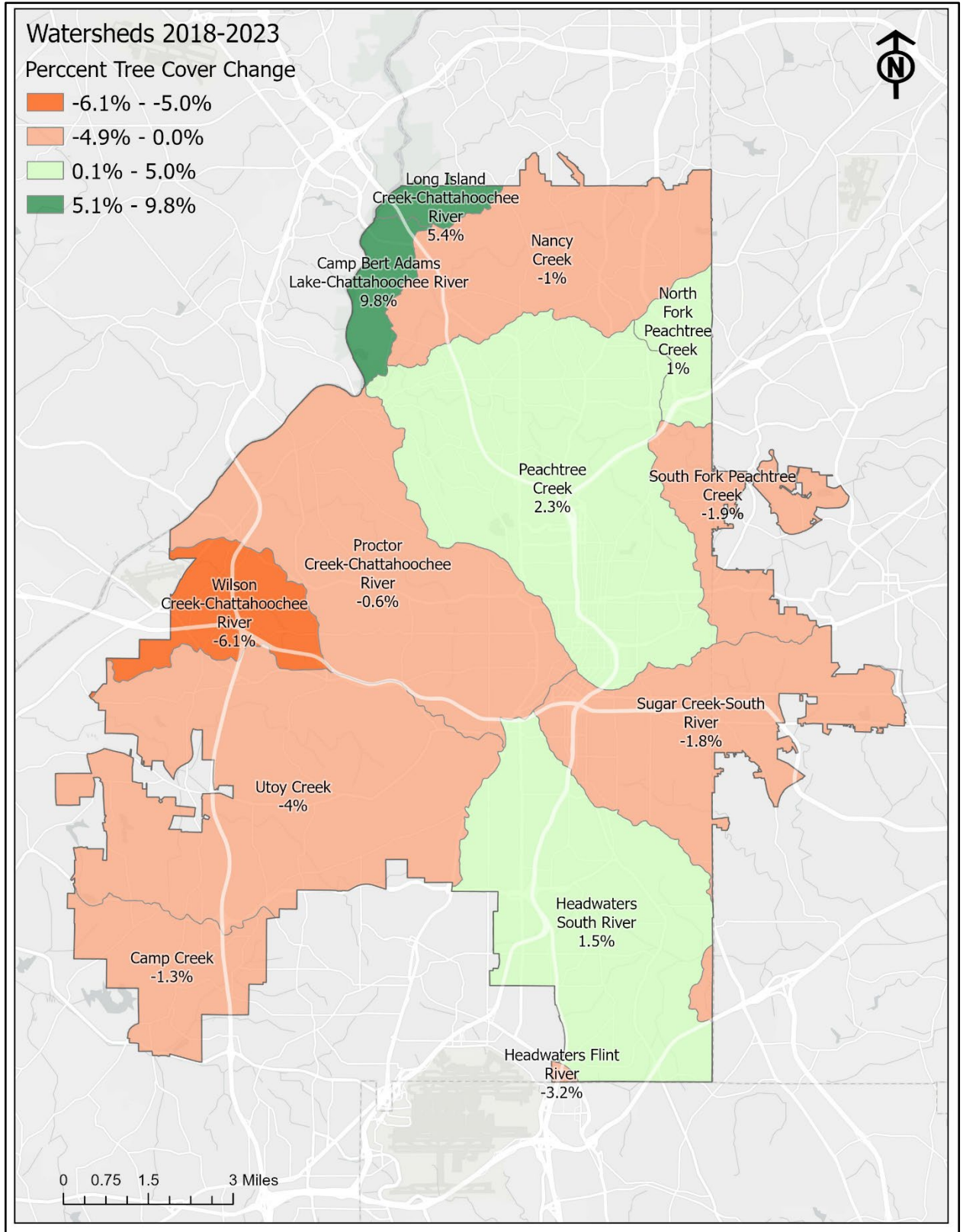
2. Neighborhoods



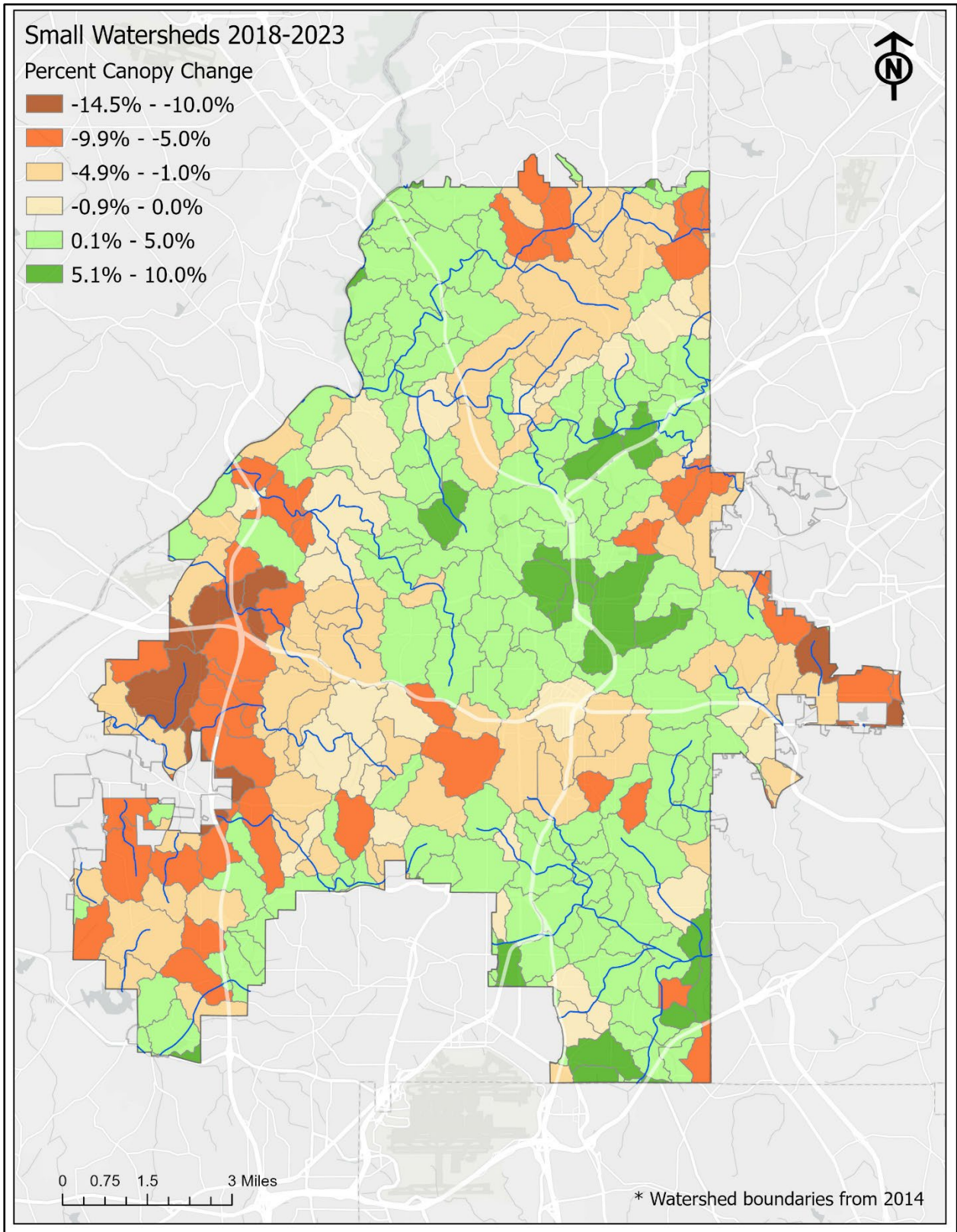
3. City Council Districts



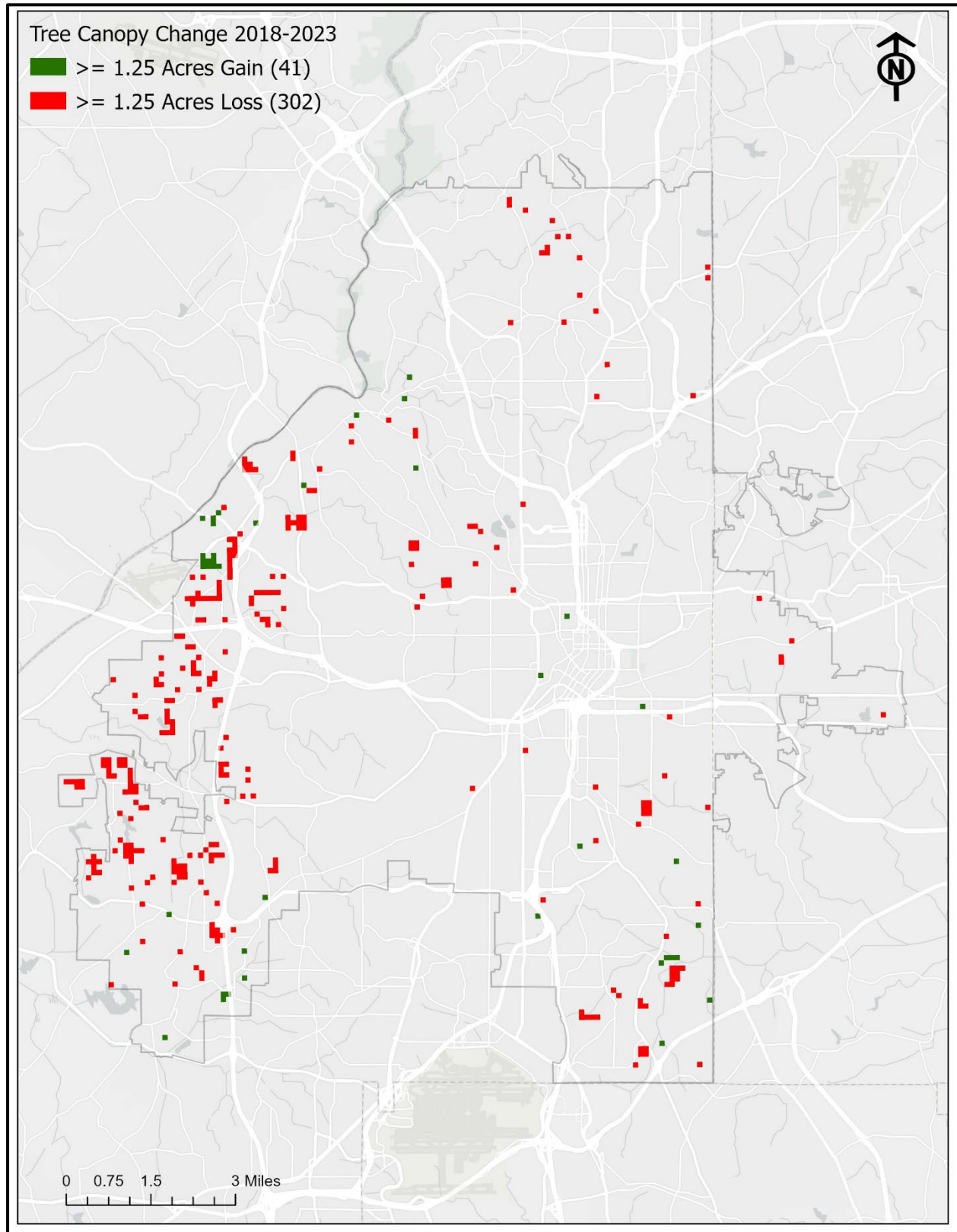
4. Watersheds



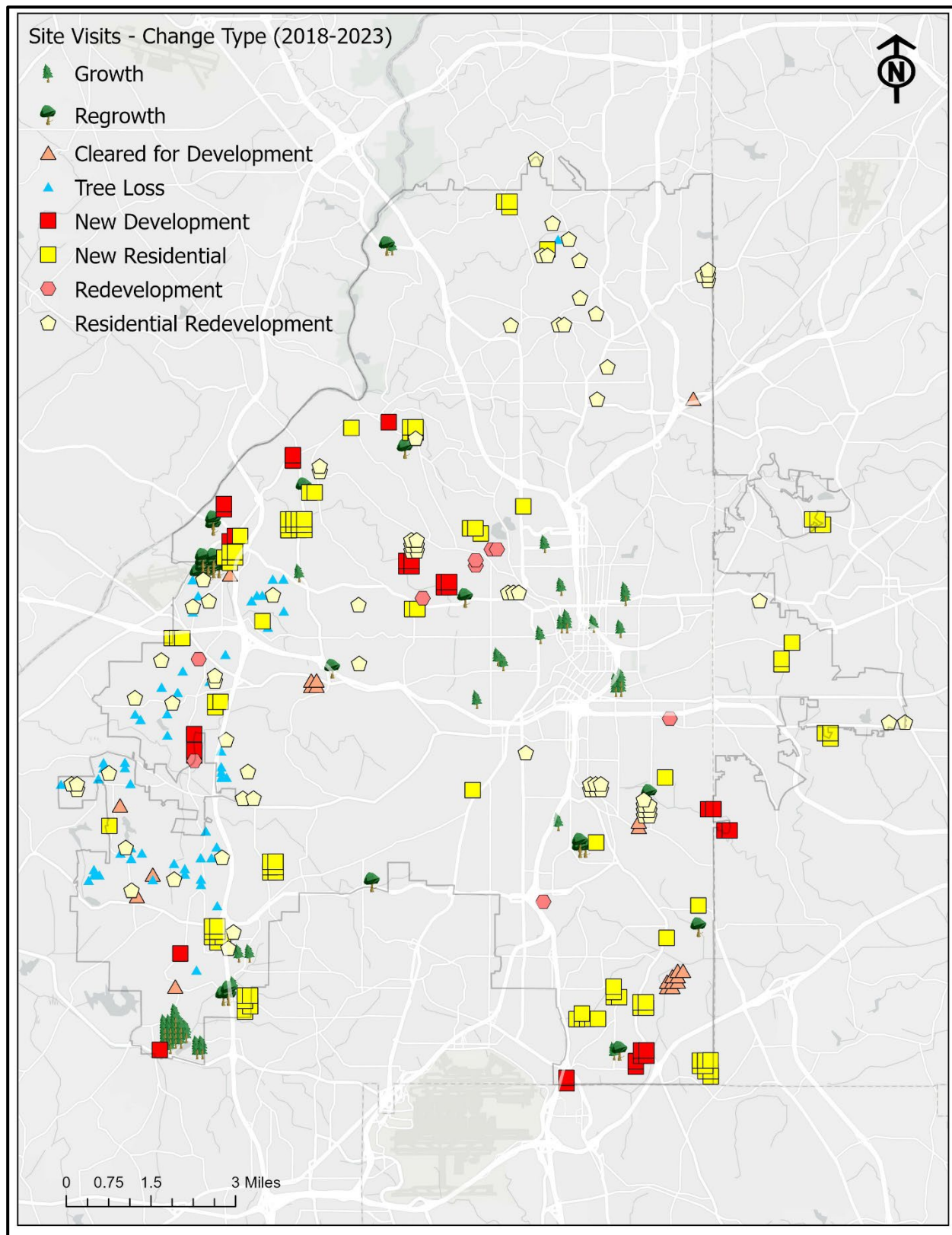
5. Small Watersheds



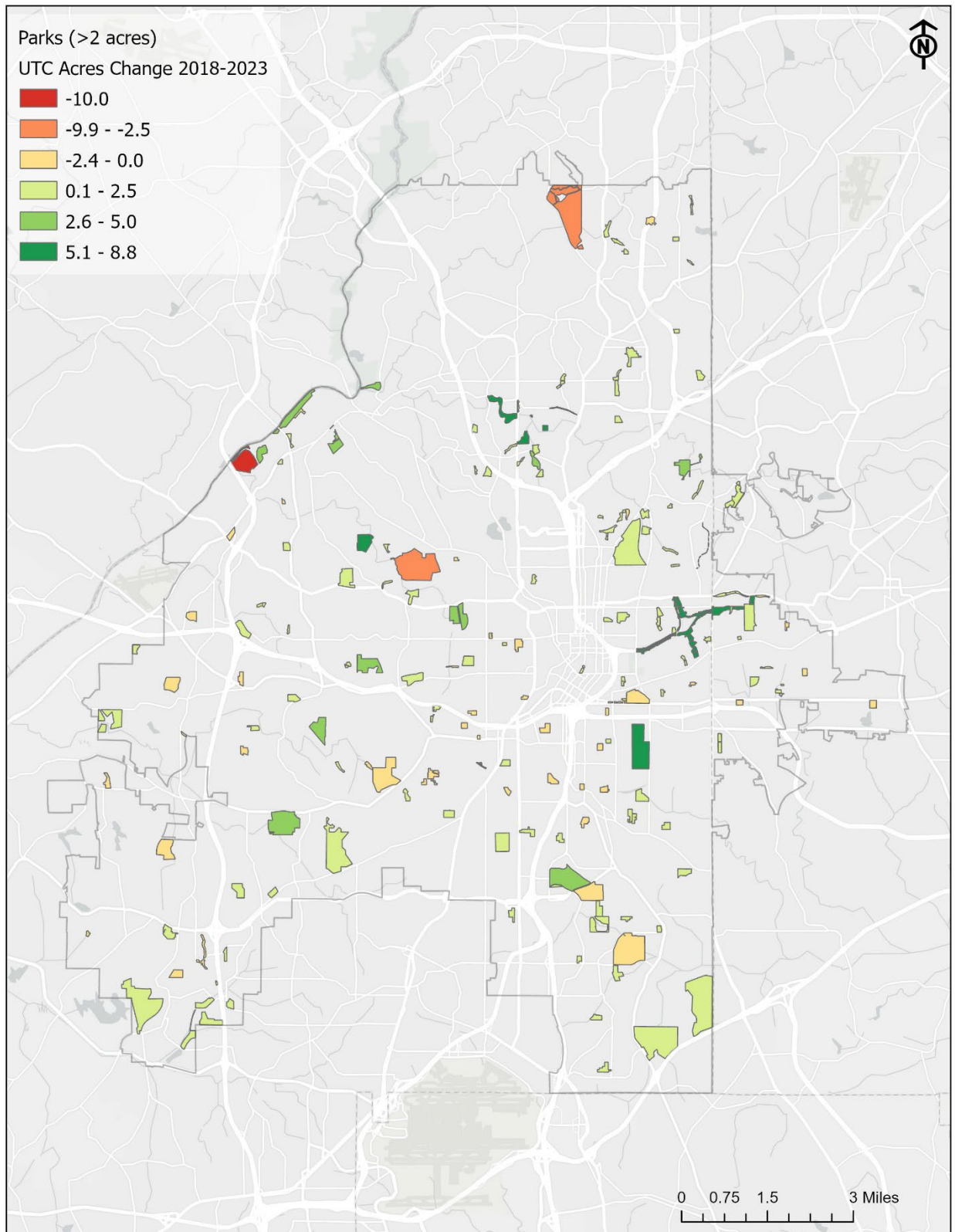
6. City Grid – (6 acre cells): canopy loss and gain at greater than 1.25acre



7. Site Visits Change Type



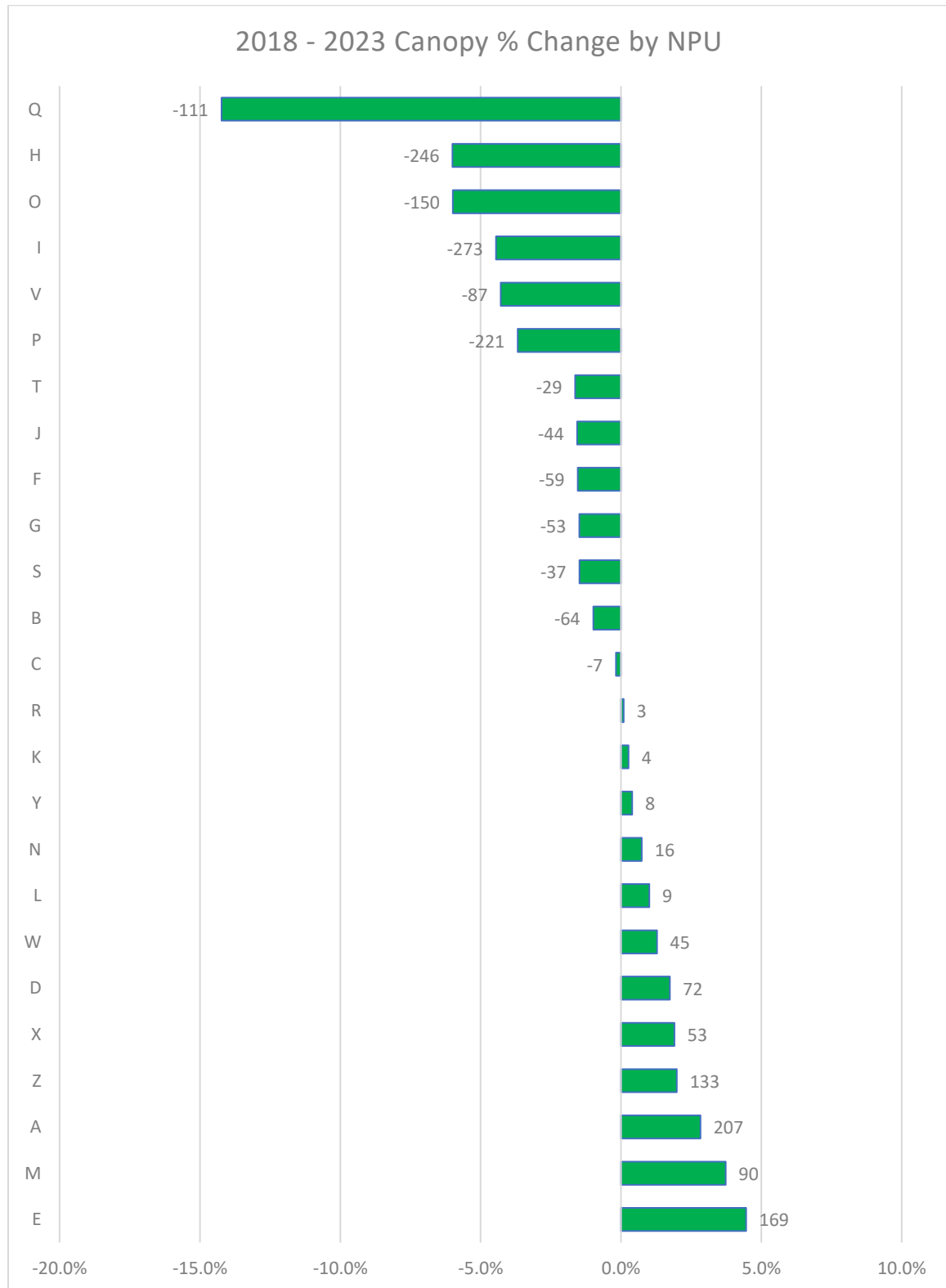
8. Parks > 2 Acres



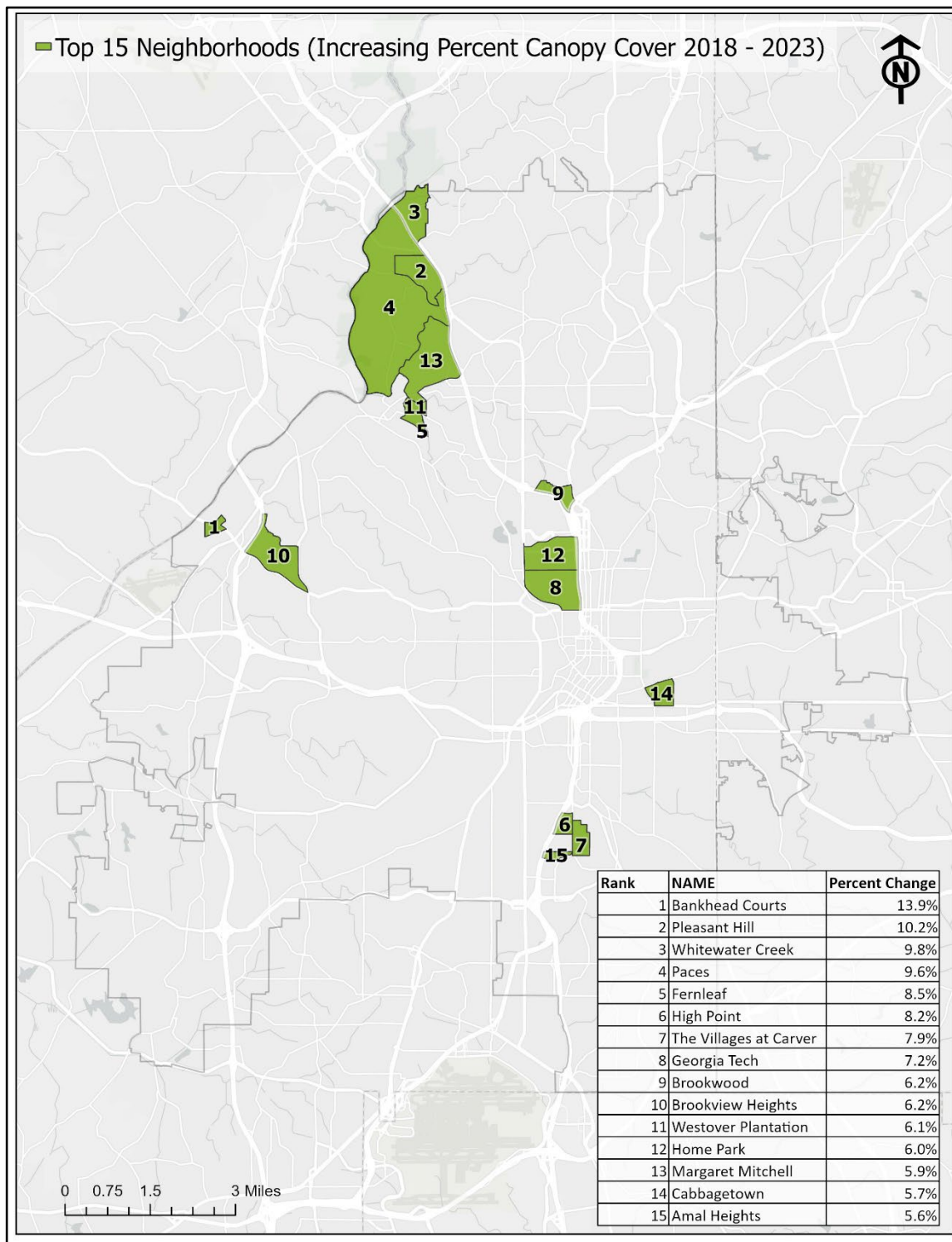
Appendix 5

Land Cover Change 2018-2023 Graphs by Selected Geographies

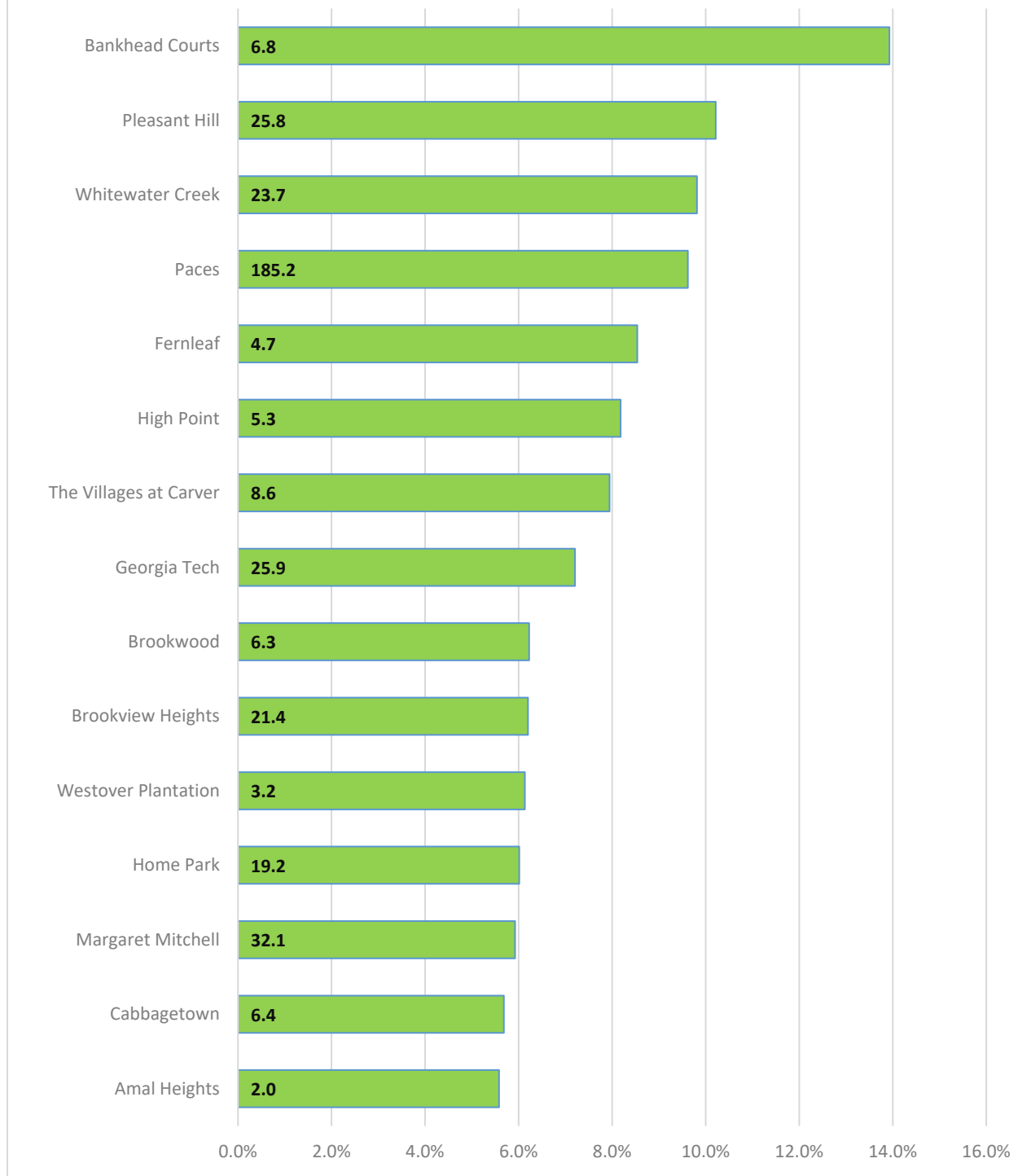
1. Neighborhood Planning Units (% Tree Cover Change – Acres Change Next to Bar)

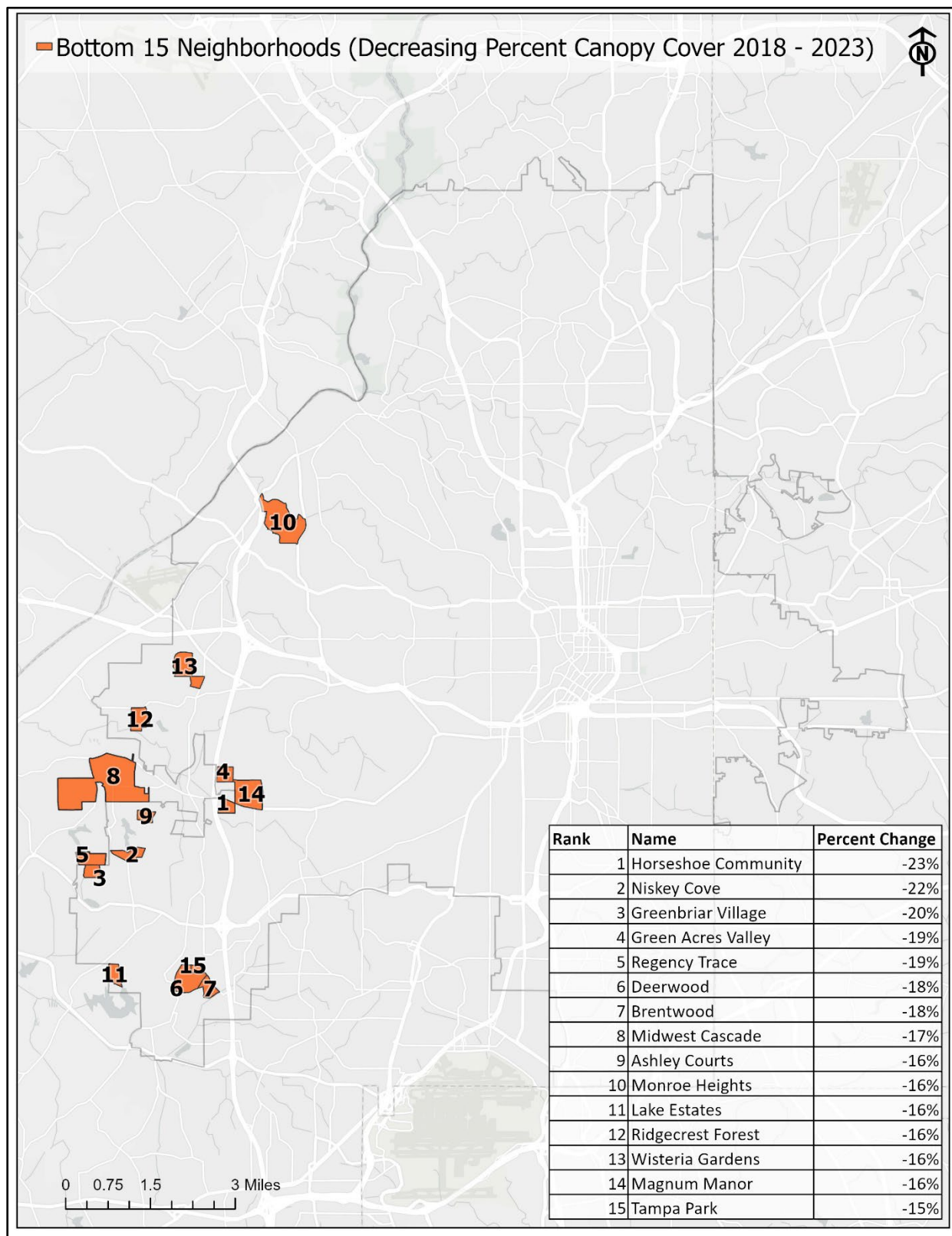


2. Neighborhoods – Tree canopy change in percent change and change in acres – only top and bottom 15 are shown due to large number of neighborhoods in the city



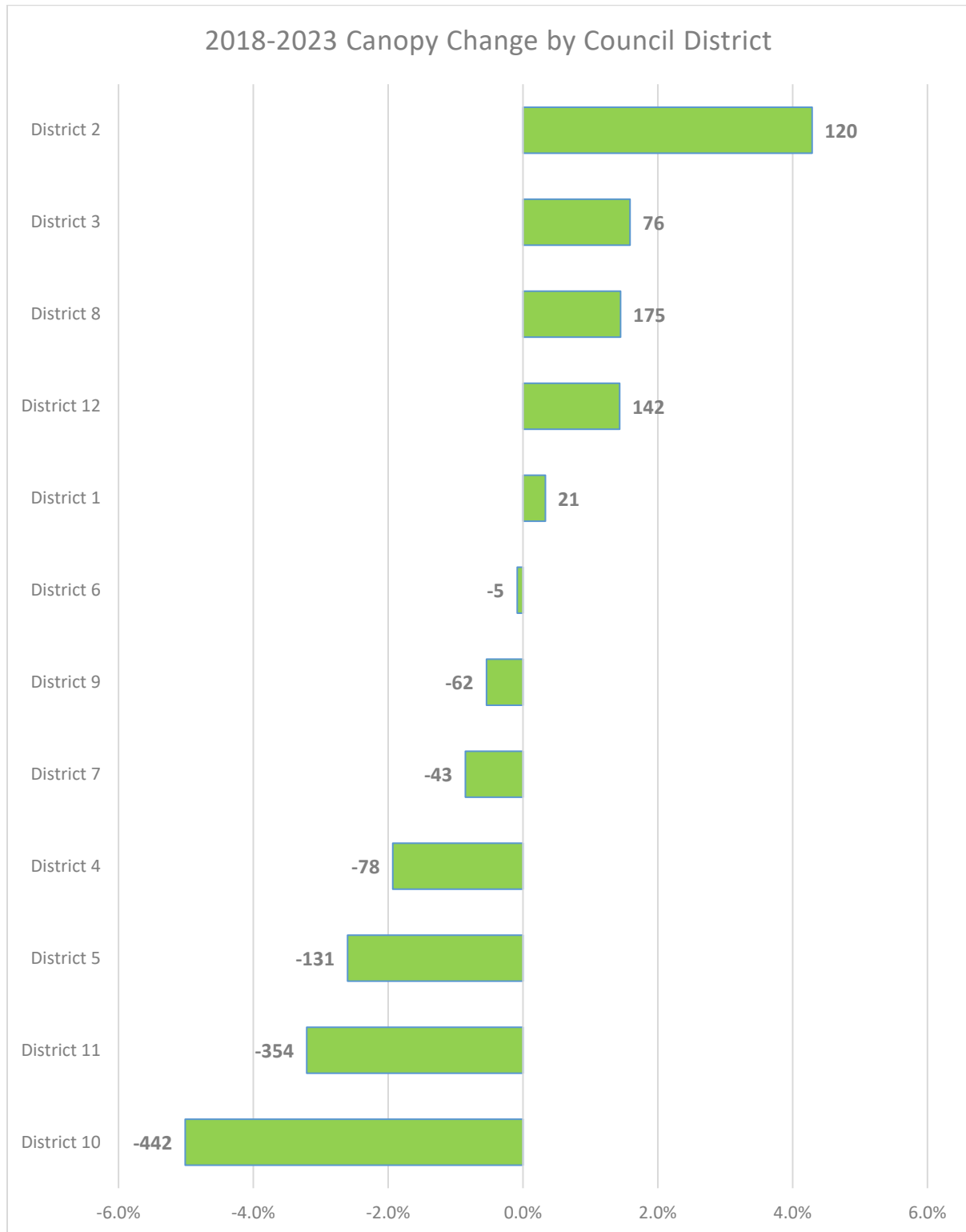
Top 15 Neighborhoods with Highest Percent Canopy Gain 2018-2023



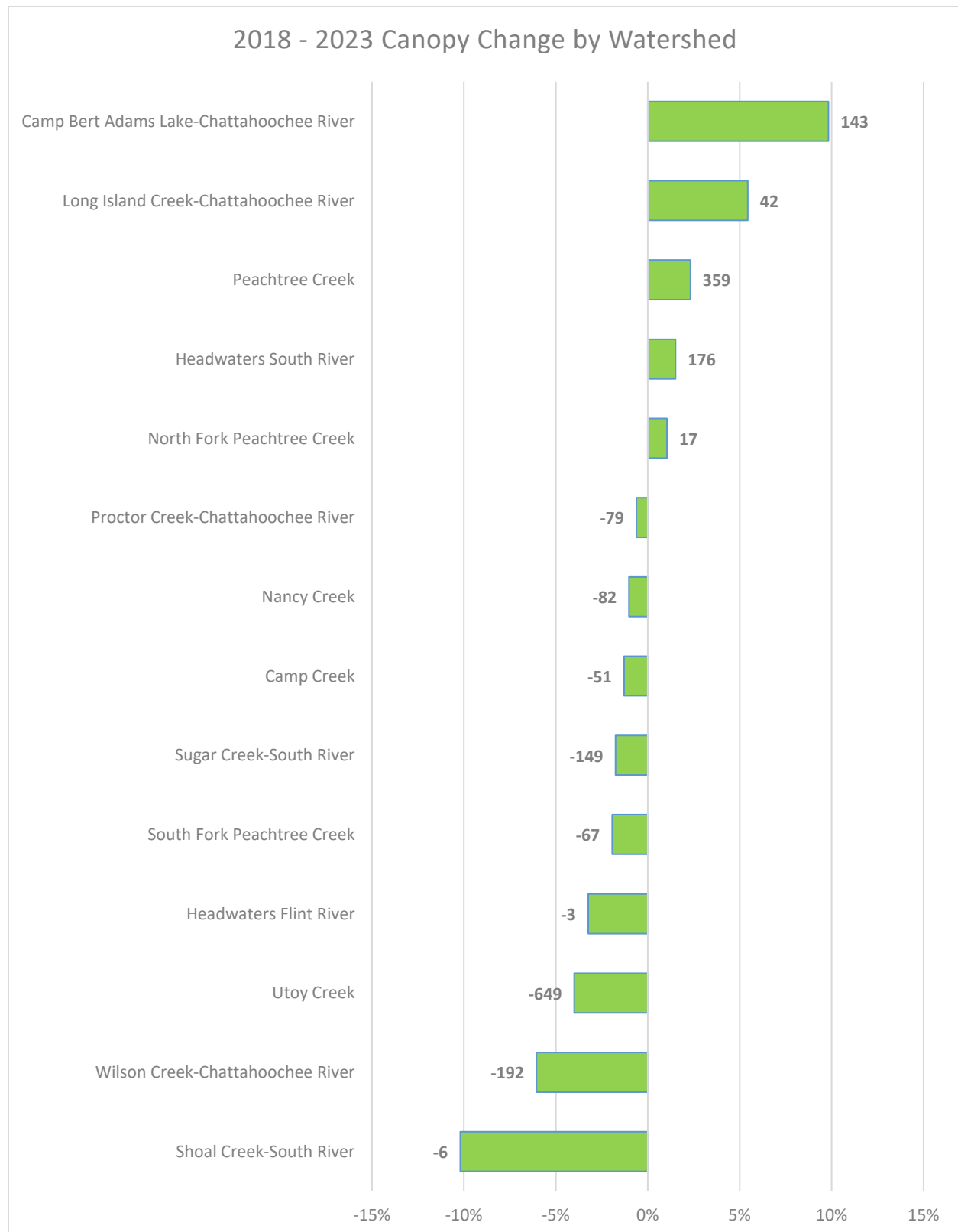




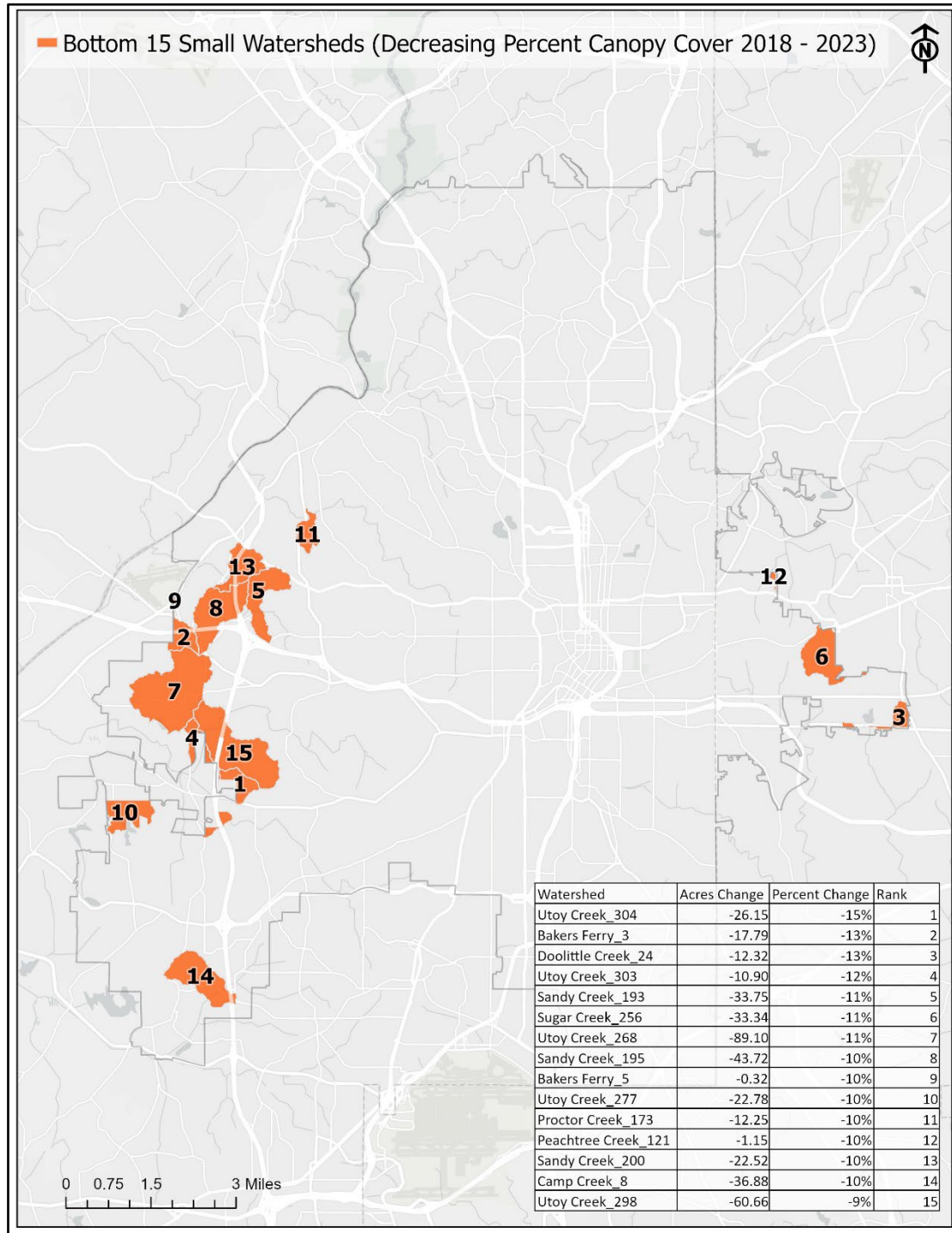
3. City Council Districts - (% Tree Cover Change – Acres Change in Bar)



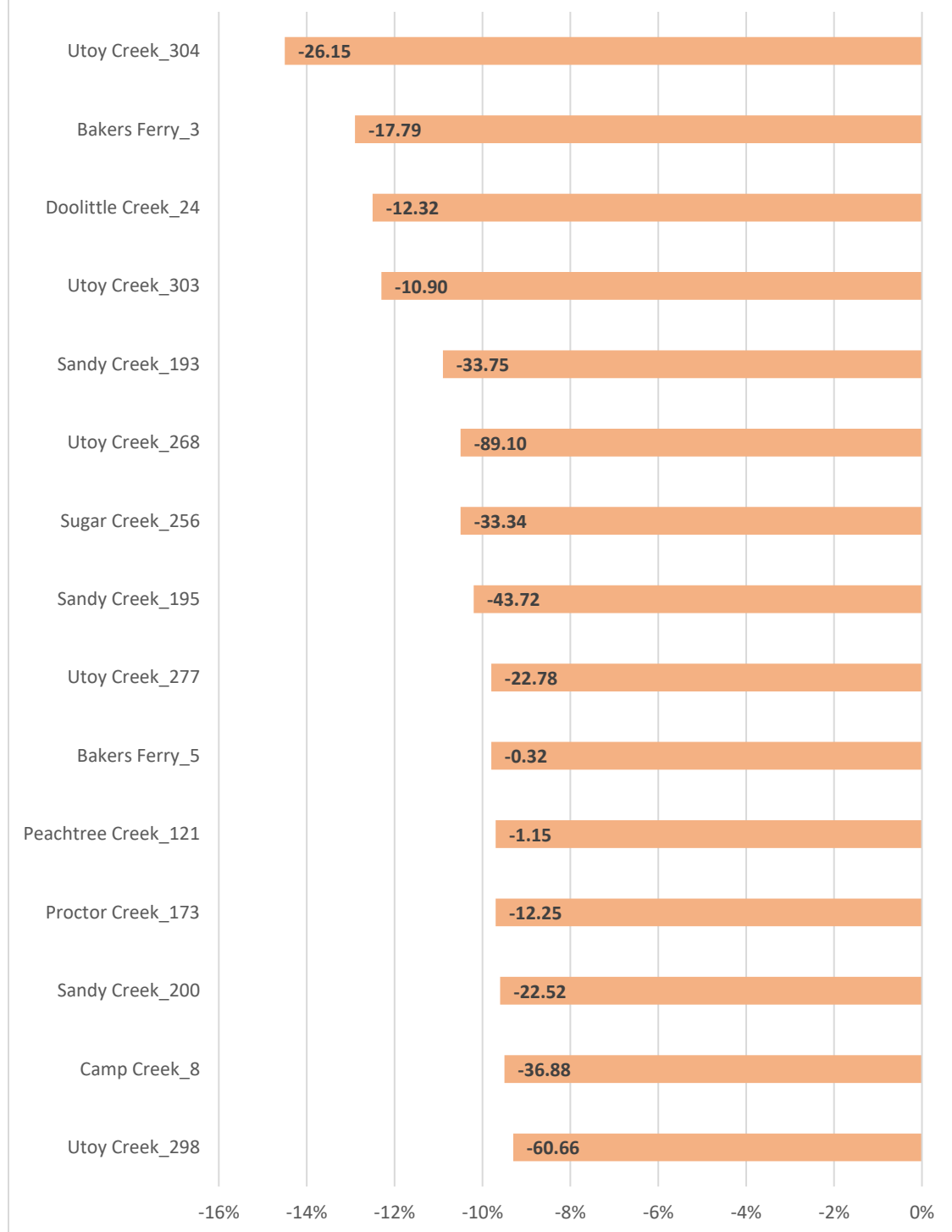
4. Watersheds - (% Tree Cover Change – Acres Change in Bar)

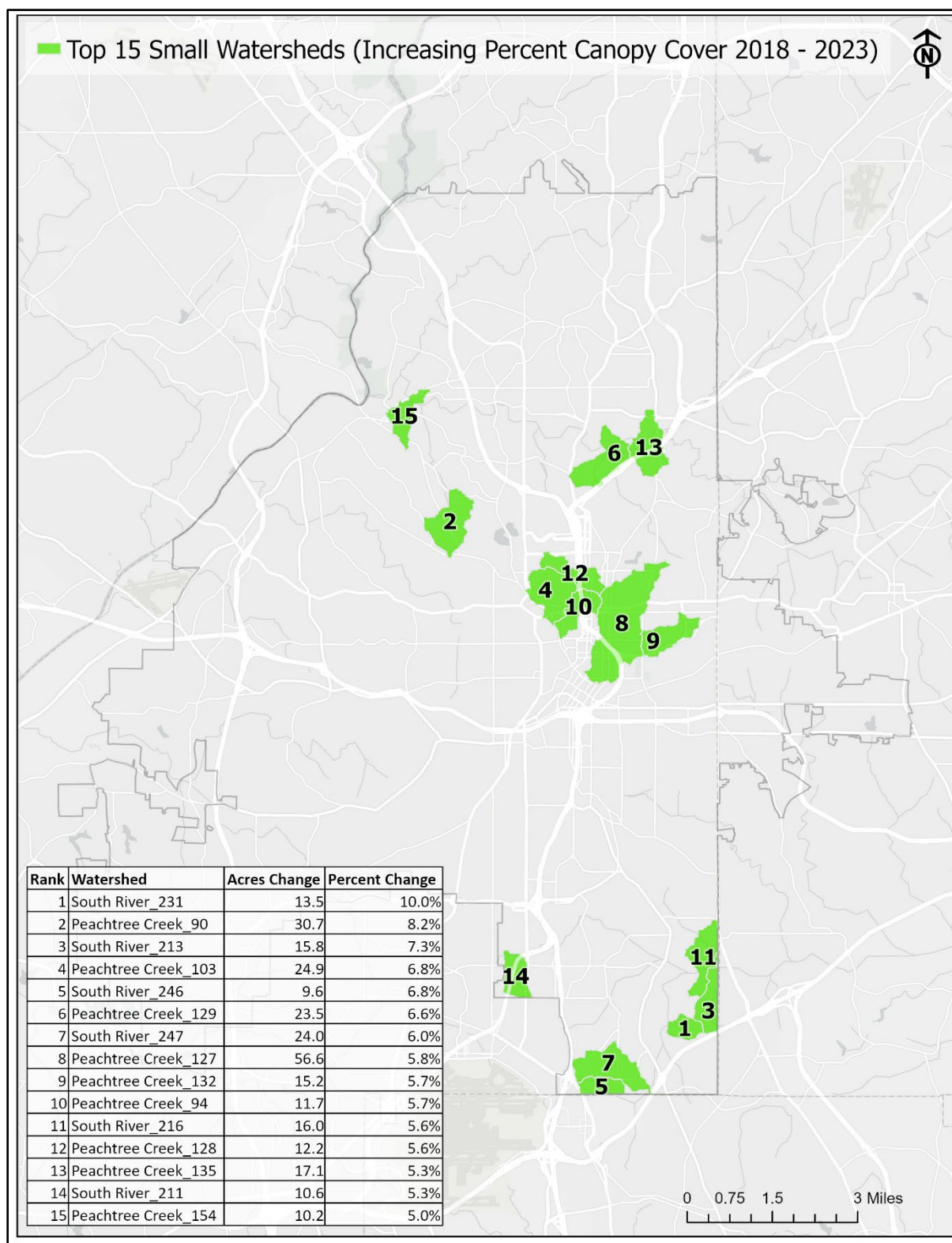


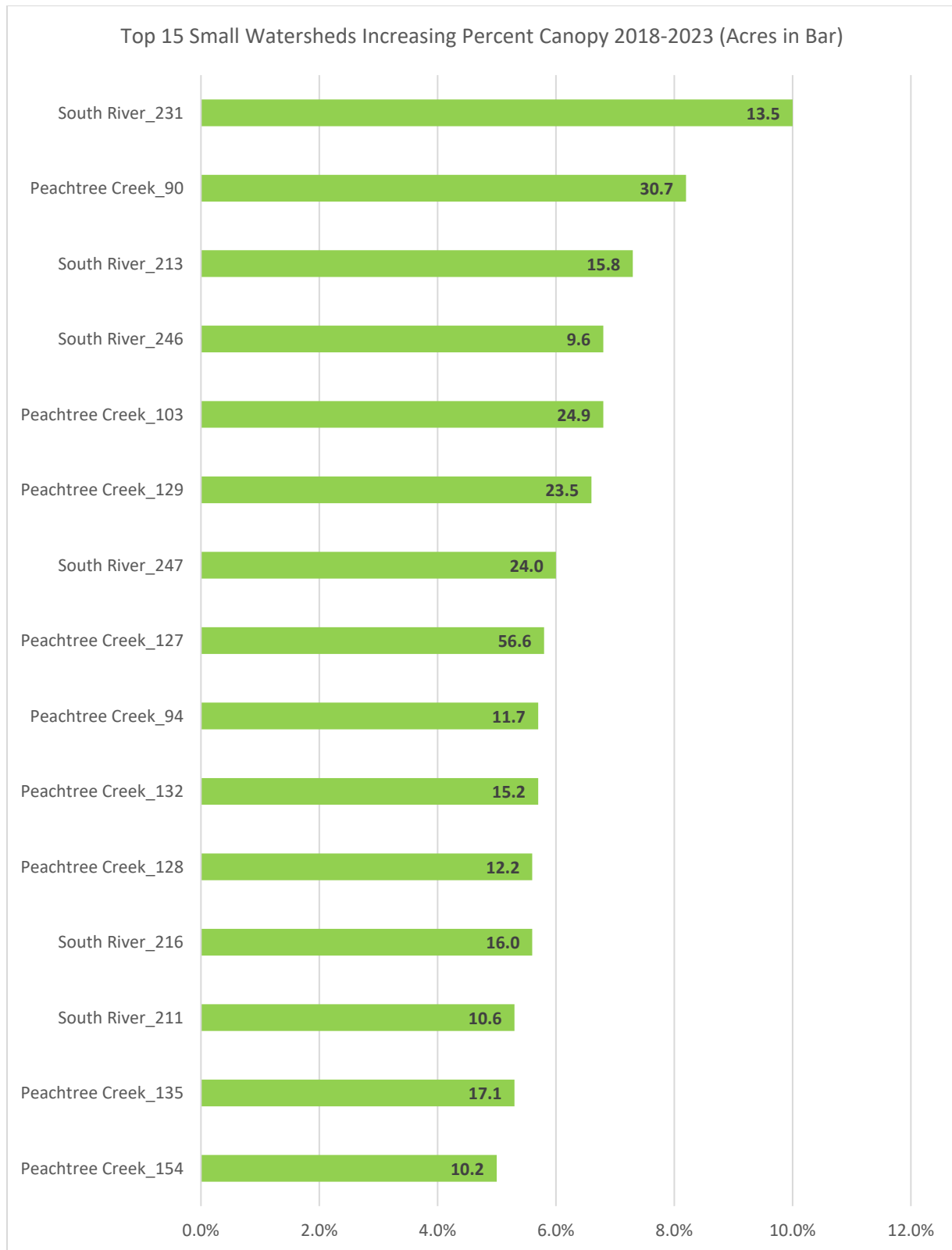
5. Small Watersheds – Due to the large number of small watersheds, only the twelve top and bottom small watersheds gaining or losing percent tree canopy are shown below.



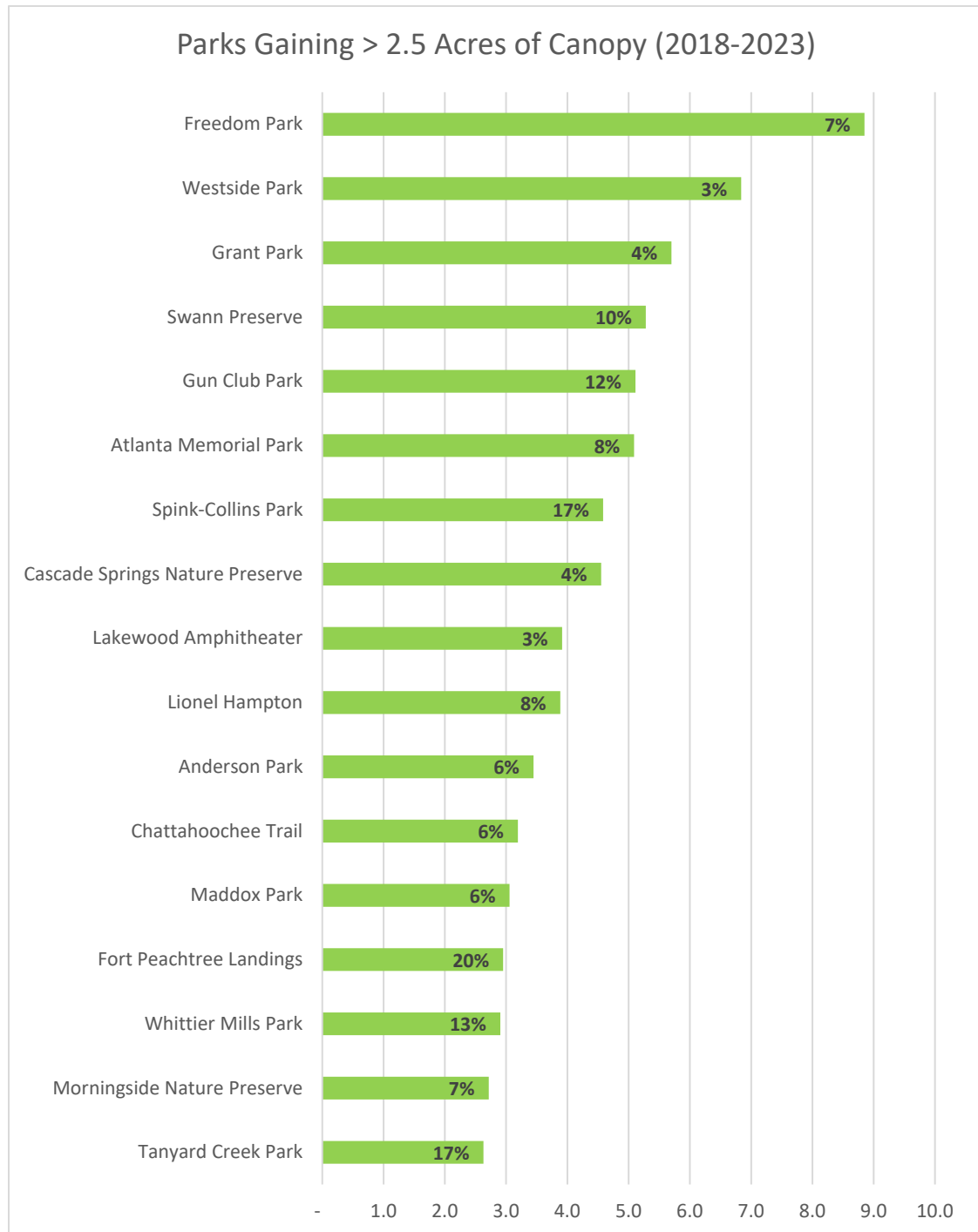
*Bottom 15 Small Watersheds Showing Loss in Percent Tree Canopy
Acres Gained in Bar (2018-2023)*







6. Parks – Due to the large number of parks and wide range in size, only parks with canopy change of greater or less than 2.5 acres are shown below with percent change 2008-2018 inside bar.



Parks Losing > 1 Acres of Canopy (2018-2023)

