



Tree Canopy Action Plan (TCAP) Summary Report

January 2021

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Executive Summary

The City of Charlotte's tree canopy cover has been studied, mapped, analyzed, and proven to benefit the citizens of Charlotte as well as many City planning, economic development, public health, equity, and resiliency goals and programs. Trees and other green and open spaces are central elements of the City's infrastructure contributing to livability and sustainability, connecting neighborhoods to create a sense of place, and uniquely addressing public health and welfare in Charlotte.

Because of the many valuable functions and co-benefits of this municipal asset, the Tree Canopy Action Plan (TCAP) project was initiated. Through an inclusive, thorough, and thoughtful process, this Plan provides recommendations for:

- New or revised urban forest management policies;
- Concepts to improve and unify the tree ordinance and other city codes;
- Supportive management and operations processes and resources needed to enact the Plan, and;
- Goals and Place Type descriptions to support the future growth of the City envisioned by the Charlotte Future 2040 Comprehensive Plan.

The TCAP Process

The TCAP project was led by the staff of the Department of Planning, Design & Development (PD&D) and the Arborist Division of General Services. The process and outcomes were guided and built with input from community stakeholders, neighborhood leaders, and the general public. Consultants Urban Canopy Works, LLC and the Center for Watershed Protection provided project support with natural resource management, urban forest planning, and public engagement expertise.

The TCAP project's policy outcomes were formulated from the beginning to complement the City's Charlotte Future 2040 Comprehensive Plan; and the project also provided urban forest characteristics for the growth across the many unique Place Types within the City. Additionally, TCAP's recommended code concepts align with and inform the tree and natural resource ordinance language included in the City's ongoing Unified Development Ordinance (UDO) effort. The TCAP process spanned over 11 months and included:

- Review and analysis of existing codes and ordinances
- Review and analysis of existing plans, policies and data
- Examination of urban forest management policies, codes, and practices in peer cities

- Integration of best practices and national standards
- Facilitation and analysis of stakeholder guidance
- Collection and analysis of community outreach data

TCAP Results

Community Engagement. It was important to engage the community as a whole in the TCAP process. Outreach efforts gathered the opinions and ideas of nearly 4,000 citizens. A steadfast group of over 20 stakeholders discussed issues and provided guidance throughout the process.

Comprehensive Plan Goals. The TCAP project contributed to the development of the more general Comprehensive Plan's Goals, Objectives, and Policies so that the importance and value of the citywide tree canopy was integrated within each goal, as appropriate. Currently, the value and/or function of trees and tree canopy cover is referenced in eight of the ten major goals of the Comprehensive Plan.

Place Type Characteristics. As land development policies bear implications for both the built and natural environment, Place Types, as a component of the Charlotte Future 2040 Comprehensive Plan, serve as guiding policy for the City in its role as the authority over local land use and development decisions that shape our communities. The TCAP project provided a vision for the urban forest in each Place Type. For each of the 10 Place Types, TCAP provided input and language that speaks to the location, extent and role of trees, as well as how they will interact with the buildings and streets in each Place Type. The TCAP's Place Type recommendations also included a preliminary projection for the percentage of land area in each Place Type that should be covered by tree canopy.

Urban Forest Management Policies, Code Concepts and Programmatic and Resource Needs.

The TCAP process revealed important urban forest conditions and issues that could be addressed with new or revised policies and amendments to city codes. Adopting policies and enacting code amendments may likely require the City to change procedures, add or redistribute staff and funding resources, make other programmatic changes, and forge new partnerships within the city and the region. These key factors of success support each of the following 10 priority policies identified by the TCAP project.

Policy 1. Utilities and Public Trees

Policy 2. Invasive and Undesirable Trees and Plants

Policy 3. Use of In-Lieu/Mitigation Fees Fund

Policy 4. Equity & Tree Canopy Reason for the Policy

Policy 5. Balancing City Priorities with Creativity and Innovation

Policy 6. Conservation of Ecological Assets

Policy 7. Right-of-Way Trees

Policy 8. Make Room for Public Street Trees

Policy 9. Trees and Land Development

TCAP as a Blueprint for Success

The TCAP project revealed that City leaders, staff, stakeholders, and citizens recognize that trees and other green and open spaces are central elements to connect urban places and create access to the natural environment in Charlotte; and that the urban forest and its connectivity in almost all aspects of the City generates resiliency, sustainability, and supports a livable and healthy Charlotte. The Tree Canopy Action Plan can therefore be considered a blueprint for action over the next two decades to support and successfully turn the Charlotte Future 2040 Comprehensive Plan's vision into reality, as well as to equitably and proactively expand the quality and quantity of the tree canopy for the benefit of all citizens of Charlotte.

Introduction

The City of Charlotte has one of the most expansive tree canopies in the country. This natural resource provides many tangible and intangible benefits to citizens that are currently valued to be more than \$335 million every year. And unlike other municipal assets, as the trees grow, the benefit value of trees also appreciates over time, making Charlotte's urban tree canopy an important and unique component of the livability, sustainability, and ambiance of the city.

As Charlotte continues to grow and develop, a plan is needed to sustain the city's tree canopy while simultaneously dealing with modern and costly urban challenges like stormwater management, urban heat island effects, public health issues, and economic development. Charlotte recognizes that trees help define the character of the city and can be low-cost, high-impact infrastructure that provides solutions to many urban challenges.

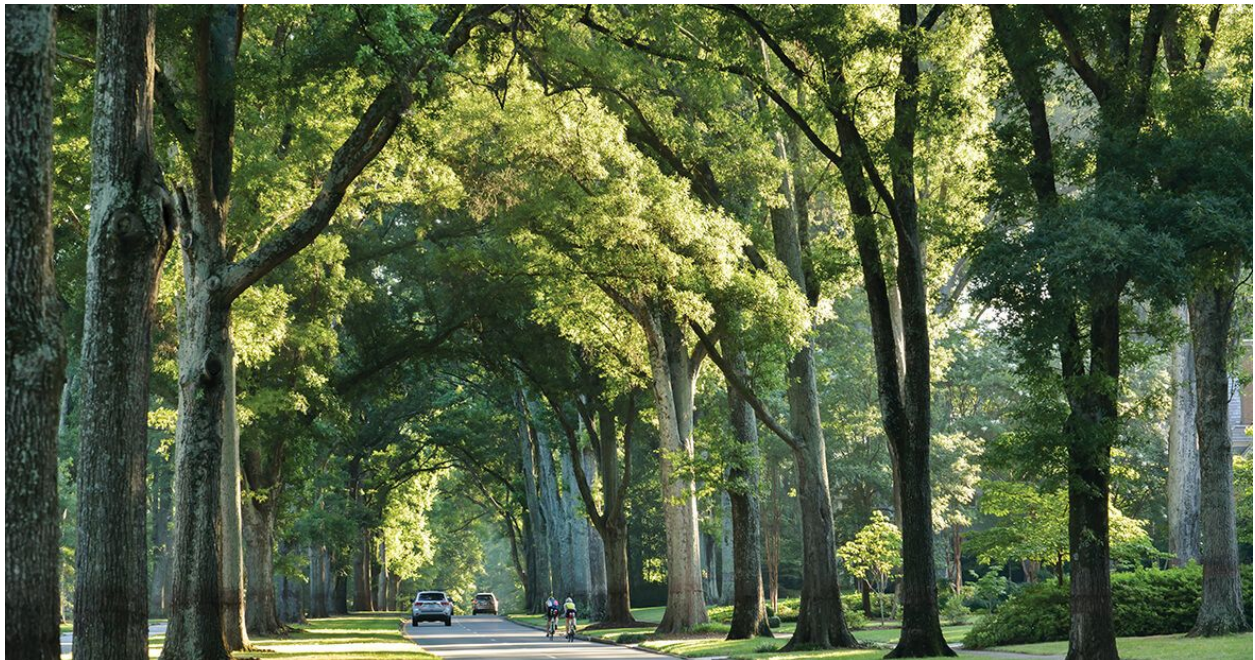
In 2020, the City of Charlotte embarked on its Tree Canopy Action Plan. Charlotte's Tree Canopy Action Plan (TCAP) is a citywide effort to define the vision, policies and legal framework for trees in the places we live, work and play. The action plan is a companion document to the Charlotte Future 2040 Comprehensive Plan that creates a policy framework for urban forest management to better define actions to preserve, restore and enhance the canopy. TCAP will continue the work of past tree-related initiatives, including the 2017 Urban Forest Master Plan (UFMP). Additionally, TCAP will serve as a guide in the upcoming Unified Development Ordinance (UDO) by recommending a set of ordinance concepts that will align and improve natural resource ordinance language included in the UDO. The symbiotic balance between these all these opportunities will define the most desirable outcomes for growth in the City, accommodating both a verdant natural environment and a vibrant urban environment.

The project relied on extensive community and stakeholder input from industry and community leaders to inform the development of policy and regulatory recommendations. It also based recommendations on scientific and demographic data, and standards and best management practices for municipal operations and urban tree management. As such, the process was a creative, thorough, and thoughtful approach to finding a sustainable way to allow the city to grow, serve the best interest of the citizens, provide long-term benefit for all of Charlotte's neighborhoods, and simultaneously maintain its valuable tree canopy.

The TCAP project revealed that City leaders, staff, stakeholders, and citizens recognize that trees and other green and open spaces are central elements to connect urban places and create access to the natural environment in Charlotte; and that the urban forest and its connectivity in almost all aspects of the City generates resiliency, sustainability, and supports a livable and healthy Charlotte. The Tree Canopy Action Plan can therefore be considered a blueprint to support and successfully turn the Comprehensive Plan 2040's vision into reality.

This Tree Canopy Action Plan Report presents:

- a brief description of the TCAP process,
- the resulting recommended tree management policies, code concepts, and programmatic resources needed for implementation,
- suggested Comprehensive Plan 2040 goal statements that acknowledge trees and tree canopy, and
- proposed urban forest characteristics for each Place Type, and
- companion documents with detailed information on the public outreach efforts, code and ordinance reviews, peer city review, and data analyses.



TCAP Process

The Tree Canopy Action Plan was completed using a thorough and balanced process based on science, data, community voices and values, and local and regional standards for proactive urban forest management.

TCAP Project Team

The TCAP project was led by a core team of city staff and consultants. City agencies represented on the project team included members from Planning, Design & Development, Landscape Management, and Charlotte Communications and Marketing. Urban Canopy Works, an urban forest management planning firm, and the Center for Watershed Protection, a non-profit organization dedicated to fostering responsible land and water management, joined City staff on

the core team. Additionally, the TCAP team reached out to and coordinated with the Comprehensive Plan's consultants, staff, and stakeholders.

Community Outreach and Input

Municipal policies, and ultimately codes and ordinances, should have the wants and needs of the citizens as their foundation. Charlotte's policies about the urban forest and other natural assets need to be "the community's policy" so that the City can execute its duties for the benefit of and expectations of the citizens. When policies and codes are based on informed community input, citizens are able to hold the City accountable and progress toward goals can be better measured. The following describes the community outreach efforts of the TCAP project and the input that was gathered.

TCAP Stakeholder Working Group

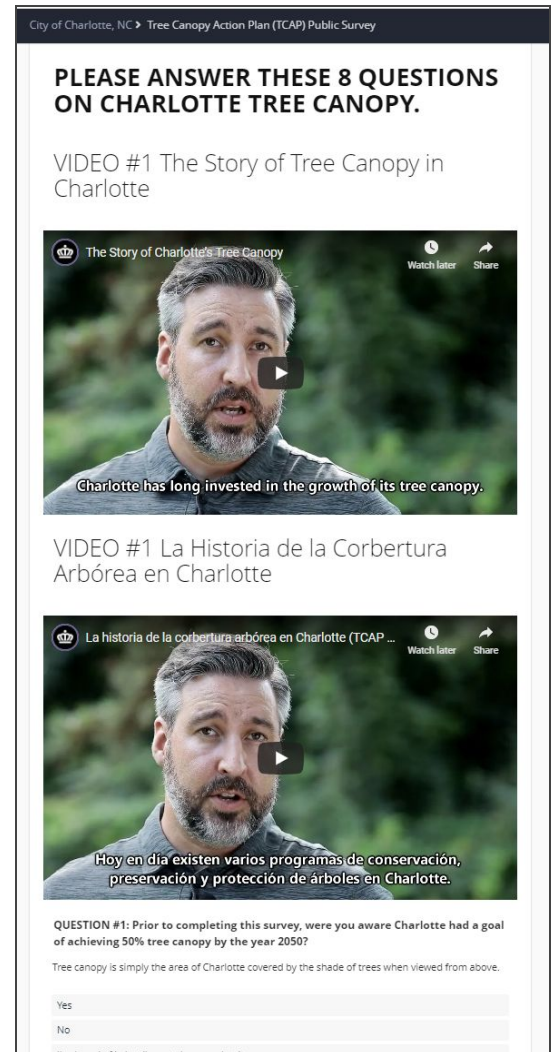
In addition to the project team, a 20+ member stakeholder working group was formed with a variety of community leaders from Charlotte, representing environmental organizations, the development community, neighborhoods, environmental and community non-profits, and regional partners (a full list can be found on the TCAP Public Engagement Report). Twelve virtual bi-weekly meetings were held between June and December 2020 to discuss the TCAP project's goals, policy options, code concepts and public engagement efforts. Individual interviews with some stakeholders were also conducted. around the TCAP project.

Broader Community Engagement

A primary component of the TCAP development process was centered on obtaining the public's concerns and priorities related to trees and tree management in Charlotte. Multiple outreach avenues were used to obtain this information. Unfortunately, because of the COVID19 crisis, the many in-person community engagement events that were originally planned had to be reworked into a format that protected the health of Charlotte residents. The revised formats were primarily virtual online methods that are briefly described below and are described in full in the [TCAP Public Engagement Report](#).

- **Neighborhood Roundtables.** Virtual neighborhood roundtables were hosted to create a space for small group conversations (4-5 neighborhood leaders at a time) on a range of tree canopy topics, including the direction of Charlotte's tree policies.

- **Online Survey & Short Educational Videos.** An 8-question public survey with an open-ended comment feature launched in September 2020. With the goal of engaging a wide range of Charlotte residents in the future of the city's urban forest, insight was gleaned on the public's priorities and needs related to tree canopy, their impressions of the city's canopy cover, and the most critical challenges and potential solutions. Over a 6 week period, over 2,420 people responded, with over 1,797 additional comments submitted. Because in-person events were not possible in 2020, the team also developed a series of bi-lingual education videos.
- **Live Q&A Session.** An online live Q&A session was held on October 1, 2020 and streamed through YouTube and Facebook Live. The event included a 20 minute presentation on an overview of the TCAP project and timeline, Charlotte's latest tree canopy data, and the solutions being considered as a part of the TCAP, followed by Alyson Craig (Deputy Planning Director) and Tim Porter (Chief Urban Forester) responding to questions received by the public as they came in.
- **Other Outreach Efforts & Media Coverage.** Other opportunities to get the message out and obtain public input on trees in Charlotte included social media posts, newspaper articles, guest appearances, socially-distanced small group tours, and other special events.



Combined, the TCAP engagement avenues reached a total of 3,972 community members.

- Half of respondents were aware of the city's current canopy goal (50% by 2050)
- Half of respondents were happy with the tree canopy in their own neighborhoods, though over 80% of respondents believe that more tree canopy is needed citywide.
- The biggest need in their own neighborhood was 1) tree maintenance, 2) preservation of existing canopy, and 3) protection from development.
- The biggest need citywide centered on 1) preservation, and 2) maintenance.
- The biggest need in underserved areas was cited to be 1) more planting, 2) more maintenance, followed by 3) preservation in development.
- 69% of respondents support regulating tree removal on private property.

Public Input and Response Themes

Major themes that emerged from the public outreach are listed here, and discussed in more detail in the companion document:

1. **Stop Clearcutting in Development - Preserve First.** This category of comments was by far the most prominent theme from the written comments received, with most centering around stopping the clearcutting and other destruction happening in development.
2. **Tree Planting Concerns.** Many comments were received focused on tree replacement planting, as well as planting work overall. These can be broken into two sentiments - need for quantity as well as quality of what is put in.
 - a. **Quantity Issue: trees aren't being replaced fast enough.**
 - b. **Quality Issue: ensure quality trees are planted.** Comments on which species were actually being planted as replacements and where planting is occurring. Ex. pears (invasive) and crepe myrtles do not replace an 80 year old oak removed.
3. **Concerns Related to Sources of Canopy Loss/Damage Beyond Development.** Beyond development, there was a broad group of comments focusing on concern for the loss of trees to other forces in play - an aging canopy, storms and damage from utilities were specifically called out.
 - a. **Aging Canopy**
 - b. **Loss of Trees to Storms**
 - c. **Damage from Utility Activity**
4. **Better Care & Maintenance for both Private and City-Managed Trees.** More tree maintenance needed on both public and private property is needed. This was also ranked as the most pressing need by survey respondents.
5. **Solutions Needed for Tree Canopy Inequity and Assistance for Those Without Means.** Respondents submitted a variety of comments dealing with the need for addressing equity in tree canopy cover and maintenance.
 - a. **Call to Address Canopy Inequity.** Existing tree canopy in Charlotte is not equitably distributed.
 - b. **Maintenance Assistance Needed/Ideas.** Comments highlighting the issue, as well as suggested solutions centered around an assistance program for private property tree maintenance for low income or high need residents of Charlotte. Other ideas: providing trees to plant on private property, cost sharing programs to provide access to arborist expertise (unbiased).
6. **Trees Are Part of our City's Identity & Quality of Life.** Comments conveying the importance of tree canopy to the various aspects of quality of life and city identity.

- a. **Quality of Life (walkability, health, noise).** Highlighting the connection between trees and quality of life and walkability of Charlotte. Multiple neighborhood representatives also mentioned the need for buffer planting along busy roads and highways for noise and pollution mitigation.
 - b. **Loss of Key City Feature or Identity.** A sentiment related to the ongoing loss of one of the features (trees and other green aspects) that people identify with loving their city (moving here or native to the area).
7. **Need for Tree Company Certification.** Comments asking for a kind of vetting system to help evaluate private tree services to reduce the amount of removals that occur due to uneducated or unethical tree services in Charlotte.
8. **Need for Possible Increase in Private Property Tree Protection.** Almost 70% of the survey respondents cited in the multiple choice survey question that they would support some type of protections to place on trees on private property. Conversely, most neighborhood roundtable participants expressed understanding of the reason for exploring this protection measure, but did not think it would go over well in their communities, citing reasons such as financial burdens it may create, as well as infringing on private property rights.

All of the outreach events, efforts, and findings are detailed in the companion document TCAP Engagement Summary Report.

Code and Ordinance Review

An important initial task was to review the City's ordinances and development regulations to determine their impacts on tree canopy, as well as to identify strengths and gaps in existing codes. Staff from the Center for Watershed Protection reviewed 12 existing codes, considered the strength or weaknesses of applicable provisions, and summarized the findings in a Memorandum. The memorandum presents the review methodology, results for the City, and preliminary recommendations for future ordinance or policy changes, and can be found in the companion document [Charlotte, North Carolina Forest Friendly Codes and Ordinances Review](#).

Existing Plans, Policies, and Data Review

All available and applicable city plans, policies, and data were accessed and analyzed to inform the policy and code recommendations of this project. Primary sources included: Comprehensive Plan 2040 draft; Charlotte City Council's 2011 Environment Focus Area Plan; Preserving and Enhancing Our "City of Trees" Through Establishment of a Tree Canopy Goal; Charlotte Urban Forest Master Plan; Charlotte Tree Canopy Assessment Report; urban tree canopy mapping data; and city demographic data. Additional analysis of existing urban forest data were also performed and provided to staff.

Examining Practices in Peer Cities

To assist in policy and code planning to improve urban forest canopy and its management, it can be valuable to compare Charlotte's practices and performance with those of other cities. The resulting information can reveal strengths as well as opportunities for improvement in Charlotte, and can be made part of the conversation with citizens, elected officials, and city staff to explore specific issues.

Selection of the peer cities was based on criteria provided by City staff. Information on potential peer cities ultimately led to the selection of Raleigh, NC; Austin, TX; Atlanta, GA; and Washington, DC. Discussion with the peer cities focused on the following priority topics: regional relationships, land development and trees, management of trees on private property, trees and stormwater, mitigation fees, and how the cities are addressing issues of equity when planning for their urban trees. The full report is found in the companion document [*Peer City Review - Case Studies*](#).

Best Practices and National Standards

The TCAP project analyzed data and information, and developed recommended policies and code concepts, with the context of adherence to local, regional, and national standards and best practices for both urban forest management and policy-making. Examples of sources for these standards include the International Society of Arboriculture, American National Standards Institute, American Planning Association, American Public Works Association, State of North Carolina, and the U. S. Environmental Protection Agency.

Recommended Policy and Code Concepts

Building on the Comprehensive Plan's efforts, the TCAP process revealed important urban forest conditions and issues that could be addressed with new or revised policies. If these policies are adopted, then amendments to City codes are necessary in many cases, and the TCAP project has recommended those.

Adopting policies and enacting code amendments also will require the City to change procedures, add or redistribute staff and funding resources, make other programmatic changes, and forge new partnerships within the city and the region. These programs, resources and processes have been identified and are presented in support of the following 10 priority policies identified by the TCAP project.

Policy 1. Utilities and Public Trees

Reason for the Policy. The City of Charlotte recognizes that, like trees, construction, expansion, and repair of above-ground and below-ground utilities is critical for the safety and health of our citizens and the growth of our city. In Charlotte, trees and utilities often share the same space in the right-of-way and on private properties, and that leads to conflicts, and usually in the loss of trees. Keeping public safety as the priority, there is a need for a policy that better defines the City's position on tree and utility conflicts, and for the City to provide the resources to enforce that policy.

Relationship to 2040 Comprehensive Plan: Derived from and supports Goal 7.

Stakeholders and Citizen Input: The citizens and stakeholders support a more proactive and coordinated approach to resolving tree and utility conflicts. They have expressed dissatisfaction with the quality of pruning work performed on public trees.

NOTE: Though the Tree Canopy Action Plan will not be adopted by City Council as a standalone policy, the Plan recommends the following policy statement that is aligned with the Charlotte Future 2040 Comprehensive Plan, Urban Forest Master Plan, and community input and values.

POLICY STATEMENT RECOMMENDATION

The City expects both municipal and private utility companies to treat our rights-of-way, parks, and other public properties as ecosystems and therefore use best practices and innovative solutions to protect and care for the natural resources we have been entrusted to manage by our citizens.

- It is the City's policy that on public property, **no tree will be planted that will significantly interfere with the safety or function of the overhead utility**, and trees will be planted a sufficient distance away from underground utilities and stormwater conveyances as specified in the Guidelines Manual. The City's goal is to enact codes, policies, and provide guidance to reduce tree and utility conflicts.
- Other than in emergencies, when affecting public trees either by root disturbance or crown pruning, a **utility shall observe good arboricultural practices**, as specified by any City of Charlotte-issued permits, International Society of Arboriculture and the American National Standards Institute (ANSI) A300 Standards.
- Utility companies subject to the jurisdiction of the **North Carolina Utilities Commission may perform pruning, repair and other work** as necessary to comply with the safety regulations of the Commission and to maintain a safe operation of their facilities without a permit or fee. **However, they shall notify the City of Charlotte** prior to taking action as required by the City's permit standards. The City shall cause such pruning or other work

to be approved and subsequently inspected, when appropriate, to ensure good industry practices are followed.

- **The City Arborist has the authority to stop** any tree pruning, or maintenance or repair practices performed by a utility or their contractors if such practices are not following approved permits or agreements and/or City and industry standards, and the City can potentially collect compensatory damage payments for public trees damaged or destroyed.

RELATED CODE CONCEPTS

- **Authority Clarification.** Retain and/or refine the language in the tree ordinance that specifically describes the City's authority to regulate the actions of utility companies on public rights-of-way and other property.
- **National Standards.** Specify that utility companies may only perform tree pruning for utility clearance using national arboricultural and safety standards.
- **Annual Permitting.** Consider requiring utility companies to obtain an annual permit to perform their cyclical clearance pruning maintenance work.

PROCEDURAL ISSUES/NEEDS

- **Guidelines Manual.** Create a manual that includes information and guidance such as utility pruning standards acceptable to the City, a synthesized list of approved and appropriate tree species for planting near aerial utilities, minimum distances for tree planting near underground utilities, and that references current arboricultural standards.
- **Staff & Resources Needed.** Ensure City staff engaged with tree and utility issues are trained and provided the resources necessary to be responsive, professional, and safe.
- **Communications, Inspections and Awareness.** Establish a communication and inspection protocol with utility companies whereby advance notice is given to the City, pre-work inspections are made, and tree pruning and removals decisions are mutually agreed to. Develop and implement an engagement strategy aimed at increasing awareness in the utility industry relative to City of Charlotte tree canopy issues.

OTHER NOTES, PROGRAMMATIC RELATED ITEMS, AND/OR RESOURCES NEEDED

- **Partnerships**
 - Partner with controlling utilities on public education campaigns with various important messages such as "Right Tree, Right Place" and "Call Before You Dig."
 - Explore a partnership with nonprofits and utility companies to participate in the Energy Saving Trees program of the Arbor Day Foundation.
 - Using street tree inventory data, explore if controlling utility companies can assist the City with tree removal tasks which can support the cyclical maintenance program.
- **Design in Development.** Developers should be incentivized/encouraged to use innovative designs and techniques to minimize tree/utility conflicts.

Policy 2. Invasive and Undesirable Trees and Plants

Reason for the Policy. An invasive species is an organism that causes ecological or economic harm in a new environment where it is not native. Currently, there is no comprehensive policy on the control, management or eradication of invasive, exotic tree and plant species in the city. Charlotte recognizes the detrimental impacts these species have on and in the city's natural areas. A more proactive approach, using both regulations and education, will be taken by the City to safeguard the native ecosystems.

Relationship to 2040 Comprehensive Plan: Derived from and supports Goals 7 and 9

Stakeholders and Citizen Input: The public's comments show that citizens are concerned with the quality of the urban forest and understand that non-native and invasive trees degrade the environment and detract from the aesthetics of the City. They support some regulatory control but prefer education and incentives to address the issue.

NOTE: Though the Tree Canopy Action Plan will not be adopted by City Council as a standalone policy, the Plan recommends the following policy statement that is aligned with the Charlotte Future 2040 Comprehensive Plan, Urban Forest Master Plan, and community input and values.

POLICY STATEMENT RECOMMENDATION

Charlotte desires to have a citywide tree canopy that is sustainable and high quality. As a part of achieving that goal, the City will promote biological diversity and ecosystem integrity and oppose the modification and degradation of our ecosystems by invasive and undesirable tree and plant species. We will further require reasonable and appropriate invasive species control and management programs for City-funded projects and programs, and in private land development and property management by providing education and programs for this outcome. And we will educate citizens and businesses to discourage the further introduction of invasive and undesirable species for any purpose.

RELATED CODE CONCEPTS

- **Planting Prohibited.** Prohibit the planting of an invasive or undesirable tree species on any City-controlled, public land, or as replacement trees on any property during land development.
- **Improve Invasive Definition.** In the Code, refer to the North Carolina Plant Council's most current list of invasive species as the City's standard.
- **Accounting for Invasives on Development Sites.**
 - Incentivize invasive species management /removal.
 - Ensure Tree Save does not preserve invasives.

- **Approved Species List.** Remove the approved species list from the Code and reference it as a list maintained/edited in the City's tree manual.

PROCEDURAL ISSUES/NEEDS

- **Clarify Species via Lists.** Create an undesirable list and preferred species list in the City's tree manual. Specify that native trees are preferred but that non-native species that are urban-tolerant and non-invasive are acceptable in the City's urban forest.
- **Funding.** Funding will be needed for on-going educational campaigns regarding the detriments of invasive and undesirable species.
- **UFMP Update.** Review and update the Urban Forest Master Plan to address invasive and undesirable tree species relative to urban forest quality.

OTHER NOTES, PROGRAMMATIC RELATED ITEMS, AND/OR RESOURCES NEEDED

- **Partnerships**
 - Develop community partnerships to provide funding and/or labor to facilitate the removal of invasive species on public and private property and increase the quality of our tree canopy.
 - Develop partnerships with public schools to do more native tree planting and provide assistance in the removal of invasives on their campuses.
- **Education for Private Land.** Create an educational campaign and a proactive, strategic program to help private property owners control invasives.

Policy 3. Use of In-Lieu/Mitigation Fees Fund

Reason for the Policy: The City of Charlotte's tree ordinance (Charlotte Tree Ordinance Sections: 21-32, 21-61.) allows for and/or requires payment in lieu or mitigation fees in certain scenarios. These scenarios include but are not limited to commercial development situations. Mitigation fees are collected for the authorized removal of protected City street trees. In-lieu fees may be collected during land development scenarios in lieu of planting perimeter trees or preserving tree save on commercial sites. Clearer guidance is needed to specify the purpose, intent, and use of collected fees.

Relationship to 2040 Comprehensive Plan: Derived from and supports Goals 6, 7, and 10

Stakeholders and Citizen Input: Community data collected during the Urban Forest Master Plan process, the TCAP's stakeholder and citizen engagement efforts, and other outreach efforts identified the community's highest priority for the tree canopy is to protect and preserve existing trees. When used creatively and assessed equitably, in lieu and mitigation payments are a viable measure to protect the urban forest.

NOTE: Though the Tree Canopy Action Plan will not be adopted by City Council as a standalone policy, the Plan recommends the following policy statement that is aligned with the Charlotte Future 2040 Comprehensive Plan, Urban Forest Master Plan, and community input and values.

POLICY STATEMENT RECOMMENDATION

It is the policy of the City of Charlotte to utilize collected in-lieu and mitigation fees for the conservation of land for long-term tree canopy preservation, public and private tree planting, maintenance of public and private tree canopy, and continued assessment and analysis of the City's tree canopy and related policy work.

Long-term and perpetual conservation of land for tree canopy preservation via the Tree Canopy Preservation Program (TCPP) will be the priority uses of such funds. Tree planting and tree maintenance will be secondary priorities. Tree canopy assessment and policy work is tertiary.

Land acquired by and included in TCPP will be protected to the greatest extent possible and conservation easements will be pursued. Additional protection measures such as Declarations of Conservation will also be considered when conservation easements aren't available. The City will consider both small and larger tracts of tree canopy for ownership or easement acquisition. The criteria used to evaluate the need for and benefits of acquisition for conservation are determined by a multi-disciplinary team of City staff. The City will also consider the establishment of "Tree Save Banks" which will provide tracts of existing forested land or vacant land that may be reforested to meet off-site tree save mitigation requirements.

Mitigation or in-lieu funds will not be used in place of general fund support for the existing urban forest management program.

RELATED CODE CONCEPTS

- **Clarify In-Lieu/Mitigation Fees.** Clarify in the ordinance the situations where fees may be collected for in-lieu or mitigation payments.
- **Flexibility for Use of Funds.** Amend the current ordinance language to allow for greater flexibility for the use of the funds, and to clearly specify the intent of the fund and uses.
- **Fee Formulas.** The code should specify that the Tree Save payment formula is based on current real estate values. The Tree Save payment in-lieu formula and calculations will be in the Guideline Manual.
- **Tree Banks for Off-Site Mitigation.** Review and revise code sections that will allow the establishment and use of tree banks for off-site mitigation by making it an economically viable alternative for developers and administratively easy for the City and its partners.

PROCEDURAL ISSUES/NEEDS

- **Update Guideline with Formula.** Update the formula and dollar value in the code's guidelines to reflect regional land values..

- **Land Conservation Improvement**
 - Revise land acquisition criteria.
 - Investigate the possibility of including small tracts of land for conservation easement holdings.
 - Establish partnerships with third parties to hold and provide stewardship of conservation lands.
- **Private Property Options.** Develop a working group to determine the feasibility of using in-lieu funds gained from tree removal on private property for tree planting on private property, especially in under-canopied neighborhoods (e.g. Washington, DC's practice).

OTHER NOTES, PROGRAMMATIC RELATED ITEMS, AND/OR RESOURCES NEEDED

- **Staff.** May need additional staff to manage/oversee lands held in conservation easements.
- **Education.** Create a public education program about conservation easements, and to be transparent with the annual use of the mitigation and in-lieu funds.

Policy 4. Equity & Tree Canopy Reason for the Policy

Reason for the Policy: Equity is a major goal of the City and has been identified by the Charlotte Future 2040 Comprehensive Plan as a Guiding Principle. Currently, the City's urban tree canopy mapping and data show an inequitable citywide distribution of tree canopy, and therefore tree benefits. Improvements are also needed in the areas of service delivery and public education and engagement with underserved neighborhoods.

Relationship to 2040 Comprehensive Plan: Derived from and supports Goals 2, 5, and 6. Additionally, addresses the "Metrics for Equitable Growth of Environmental Justice and Access to Essential Amenities, Goods, and Services."

Stakeholders and Citizen Input: The public is clearly concerned with the lack of equity in tree cover, service delivery, and access to education; they also generally support City assistance for tree care and planting on private property where there is the greatest need. Citizens want to see equity throughout the whole process of urban forest management, and not only in the quantity of trees in neighborhoods.

NOTE: Though the Tree Canopy Action Plan will not be adopted by City Council as a standalone policy, the Plan recommends the following policy statement that is aligned with the Charlotte Future 2040 Comprehensive Plan, Urban Forest Master Plan, and community input and values.

POLICY STATEMENT RECOMMENDATION

All citizens in Charlotte have the right to pure air, clean water, and an environment that promotes public health and enriches life. The City's tree canopy provides these and other benefits, therefore the City will be inclusive and transparent in the development, implementation, and

enforcement of urban forest programs, regulations and policies, and prioritize tree planting, protection, and maintenance in under-canopied areas of the city with the goal of achieving equitable tree canopy coverage.

The City is dedicated to and will be accountable for moving equity forward in the planning process and giving neighborhoods and communities an earlier and more meaningful voice in the current and future urban forest in their neighborhood as plans are made. The City will use traditional and digital technologies and innovative outreach techniques to make it much easier for all citizens and city council to access and understand information about specific planning and development projects and how they will affect trees in their neighborhood and citywide. The City will continue to develop and implement a tree maintenance assistance program in underserved and vulnerable neighborhoods.

RELATED CODE CONCEPTS

- **Basis of Regulations.** The Purpose statement of the Tree Ordinance should state that equal access to trees and tree benefits is a component of the basis of the regulations.
- **Flexibility.** Allow flexibility in the use of in-lieu and mitigation funds and money donated to or generated by the City to be used on private property for tree maintenance and planting in underserved neighborhoods.

PROCEDURAL ISSUES/NEEDS

- **Staff/Training.** Additional funding for staff and training, or for specialized contractors, to implement outreach and education programs about public and private tree care, planting, and benefits. May need a volunteer coordinator and urban forest educator.
- **Funding.** Additional funding will also be needed to create a financial assistance program for mature tree care and new tree planting in low-income areas.
- **Proactive Care.** Establish a cyclical tree maintenance program that will assure all public trees receive timely care regardless of their location in any particular neighborhood.
- **Planting Focus.** Create a public tree planting plan that targets low-income, low-tree canopy areas of the City as a first priority.
- **Update UFMP.** Review recommendations of the Urban Forest Master Plan, and revise as needed.

OTHER NOTES, PROGRAMMATIC RELATED ITEMS, AND/OR RESOURCES NEEDED

- **More Data.** Perform regular UTC updates and perform tree benefit, urban heat island, and socio-economic/demographic analyses to understand changes over time and to determine if progress has been made in tree canopy expansion and equitable access to tree benefits, particularly in low-income and low-canopy areas.
- **Measure for Equity.** Consider establishing an urban forest cover/benefits/equity rating system for each neighborhood using national models.

- **Regularly Assess Progress.** Annually audit service requests, site visits, tree maintenance and planting tasks, and community relations programming or touchpoints to gain metrics to see if urban forest management services are being equitably provided.
- **Workforce Development.** Create a green workforce development program to employ residents in the emerging “green economy” which includes urban forest planting, restoration and stewardship. These programs can provide training and resources for the skilled workers that will be needed to meet the demand for new sustainable products, technologies, and services; market this program to low-income neighborhoods. Work examples are:
 - Implement afforestation initiatives to plant new acres of trees and manage them through establishment.
 - Provide young tree care for public trees on streets and parks.
 - Provide natural area maintenance and stewardship tasks in Conservation Easements and other publicly owned or held natural areas.
- **Marketing & Outreach.** Develop a marketing campaign to promote the low-income assistance program for tree preservation and care for trees on private property. Should explore partnerships for funding and outreach.
- **Partnership in Tree Care & Outreach.** Create a partnership with a non-profit to implement and sustain a “Tree Stewards” program for volunteers that can perform small tree maintenance, tree monitoring, and neighborhood outreach and education in all areas of the City.
- **Sustainability**
 - Encourage the creation of community gardens and food forests in neighborhoods supported by local nonprofits and neighborhood groups.
 - Explore creating an equity-based tree planting project that *City Forest Credits* will certify as an “Impact” project, which will in turn garner funding from local and regional corporations.

Policy 5. Balancing City Priorities with Creativity and Innovation

Reason for the Policy: The City has a number of important goals and responsibilities related to servicing and providing for the safety and welfare of its citizens, creating a healthy environment, and creating economic opportunity. In terms of the urban forest, the City must balance the many environmental, economic, and social benefits of trees with equally important citywide priorities such as available and affordable housing, mobility, equity, economic development and opportunity, utilities, and stormwater. The City needs a policy that recognizes all of these priorities and promotes innovative and creative solutions for balancing them for the public good and sustainability of the City.

Relationship to 2040 Comprehensive Plan: Derived from and supports Goals 1-9

Stakeholders and Citizen Input: Citizen comments acknowledge the need for growth in the City, but thought trees are not considered priorities by the City or by developers. Citizens on the

whole believe that trees compliment other city priorities, such as safe and attractive streets, walkability, equity, and community identity. Stakeholders advised that trees should be regarded as infrastructure equal to what is traditionally thought of as infrastructure and city assets. This mindset would allow trees better standing during decision-making and would allow trees a more direct tie into many programs and projects.

NOTE: Though the Tree Canopy Action Plan will not be adopted by City Council as a standalone policy, the Plan recommends the following policy statement that is aligned with the Charlotte Future 2040 Comprehensive Plan, Urban Forest Master Plan, and community input and values.

POLICY STATEMENT RECOMMENDATION

The City of Charlotte recognizes the immense value of the benefits trees provide the city and its residents, and strives to balance that with available and affordable housing, ADA and mobility, economic development and opportunity, energy conservation, and stormwater management. It is the City's policy to support creative and innovative solutions that protect the tree canopy when there are perceived or real conflicts between trees and other city priorities, economic development projects, and infrastructure improvement projects.

In determining alternatives, and/or the outcome of the trade-off, the City will communicate with citizens and other stakeholders about the advantages and disadvantages of the decision at hand and solicit input. The City will then demonstrate clearly how the final decision/modifications were made to achieve the results desired by the community, and how the decision will be put into action.

RELATED CODE CONCEPTS

- **Infrastructure Designation.** City-maintained trees should be defined and referenced in the code as 'public infrastructure'.
- **Plan for Creativity.** UDO should be written to allow for creativity and flexibility potentially using Place Type-specific incentives and requirements for developers that allow for more trees to be preserved or open space that can be planted.
- **Adjust Tree Save Trigger.** Adjust regulatory applicability to trigger tree save for development that expands built upon area or changes the use of the building.
- **Modify Payment In-Lieu/Mitigation.** The payment in-lieu program and the off-site mitigation options need to be modified/expanded.
- **Provide Options.** Allow greater options for flexibility or alternative compliance in more densely developed urban areas

PROCEDURAL ISSUES/NEEDS

- **Interdepartmental Communication.** Success of this policy depends heavily on interdepartmental communication and coordination with elected officials. A notification

and review system should be established/enhanced so that the City has knowledge and input on the particular issue or situation.

- **Additional Staff.** A more flexible UDO with options, incentives, and alternatives will require additional staff for plan review, site inspections, and interdepartmental coordination.

OTHER NOTES, PROGRAMMATIC RELATED ITEMS, AND/OR RESOURCES NEEDED

- Stronger ties and communication channels with neighborhood representatives and groups will need to be made.
- Evaluate feasibility of affordable housing funds/incentives tied to tree protection or planting.

Policy 6. Conservation of Ecological Assets

Reason for the Policy: Charlotte's streams, rivers, wetlands, forest lands, and other ecological assets are vital to the health and sustainability of the City. The City is aware of the positive and negative impacts that humans and development growth have on these assets. The City also recognizes the critical link between ecosystems and human health and welfare. A policy to promote and protect the conservation and management of forest and other ecological assets as well as landscape trees, will enhance the health and resiliency of ecosystems, better engage and serve the citizens, attract private investment, and join leadership in a common effort to protect natural systems and accommodate equitable growth in the city.

Relationship to 2040 Comprehensive Plan: Derived from and supports Goals 7 and 9

Stakeholders and Citizen Input: The public's comments show that citizens value other ecological assets, appreciate wildlife, and want access to them in their neighborhoods. Stakeholders emphasized the particular need to protect water resources with expanded forested buffers, incentives for developers, and public education.

NOTE: Though the Tree Canopy Action Plan will not be adopted by City Council as a standalone policy, the Plan recommends the following policy statement that is aligned with the Charlotte Future 2040 Comprehensive Plan, Urban Forest Master Plan, and community input and values.

POLICY STATEMENT RECOMMENDATION

Because of both the intrinsic value and public health benefits of a healthy environment, the City is committed to protecting our natural assets, the trees associated with them, and the connections to other ecological components of our ecosystem. The City will demonstrate this commitment by complying with applicable environmental legislation as a minimum level of performance, assessing the environmental impacts of activities in the City, and providing education and incentives to citizens and businesses. The City will further dedicate sufficient resources for City staff to enforce policies and codes, and to monitor progress and review environmental

performance against targets and objectives on a regular basis. Major strategies to achieve these goals will be to acquire land for preservation purposes, establish strong partnerships with other government agencies, nonprofits, and other entities, and to create systems that encourage stewardship of our natural resources by all landowners.

RELATED CODE CONCEPTS

- **Include Mentions of Canopy.** Since many natural features, like streams, steep slopes, and critical wildlife habitat occur with and within tree-covered areas, natural resource protection ordinances should include language to encourage tree canopy growth and describe measures to ensure tree health.
- **Protect Canopy Patches.** Extend protections to important natural features such as steep slopes, wetlands, and important forest resources with the intent of increasing urban tree canopy patch size.
- **Update Development Regulations by Place Type.** Update development regulations and incentives by Place Type to better mitigate impacts from development and infill development such as stormwater runoff and tree removal or retention.
- **Wetland Protection.** Reexamine the adoption of a local wetland protection ordinance to provide additional protections to this important resource, taking into consideration other levels of regulation. If this is not feasible, consider expanding the 10' buffer requirement for wetlands to 40' depending on adjacent land use.
- **Data Collection.** Consider requiring mapping and inventory of all tree canopy on a site (in addition to streams and wetlands) so that important forest stands and/or significant trees can be identified for protection.
- **Evaluate Tree Save Requirements.** Evaluate current tree save area percentage requirements to see if increases are warranted in some cases, or can be reduced in other cases depending on the land development project location and other criteria.
- **Ensure Flexibility to Balance City Priorities.** Require tree preservation on all sites while allowing innovative and flexible mitigation measures and alternative compliance options for sites with multiple city priorities.
- **Prioritize Quality.**
 - Prioritize large, healthy trees and existing contiguous healthy forests in tree preservation regulations
 - Alter the buffer screening requirements to increase overall tree canopy and help create travel corridors for wildlife. This can be done by either adopting a minimum percentage or by increasing the number of trees versus shrubs.
- **Define Uses for Funds.** Explore codifying the intent, purpose and use of the fee-in-lieu option to support the acquisition, protection, and management of green spaces in developing areas (see Policy 3).

PROCEDURAL ISSUES/NEEDS

- **Manual Needed.** Create a natural resource management manual that references national and local best management practices for ecological assets.

- **Data Required.** Geospatial and ecological data on the locations, types, and characteristics of ecological assets is needed. Partnering with universities and non-profits to obtain this information is key.
- **Training & Expertise.** Expand staff and/or include training for existing staff so that natural resource management expertise is available.
- **Resources Needed for Enforcement & Progress Measurement.** Ensure sufficient resources are available for City staff to enforce policies and codes, monitor progress, and review environmental performance against targets and objectives on a regular basis.
- **Education.** Develop a comprehensive education and stewardship initiative to teach and equip citizens and businesses to sustain our natural systems and tree canopy.

OTHER NOTES, PROGRAMMATIC RELATED ITEMS, AND/OR RESOURCES NEEDED

- **Advance the TCPP.** Further develop Tree Canopy Preservation Program using the Tree Conservation Fund and potentially new funding sources, for land acquisition or conservation easements to support protection of prime conservation lands.
- **Reexamine the tree mitigation measures in the Water Quality Guidelines** in light of new mapping information to see if fee-in lieu waivers are being used in greater numbers in parts of the City.
- **More Conservation Development.** Increase the number of developments utilizing conservation design, conservation/clustered residential and low-impact development.
- **Control Invasives in Development.** Expand and enhance non-regulatory solutions to controlling or eliminating invasive plant species on public lands and in tree preservation areas during development. See Policy 2.
- **Explore Preservation of Ephemeral Streams and Unconnected Wetlands.** Have interdepartmental discussions to explore expanding the stream side zone buffer width and using incentives to protect buffers along ephemeral streams since current waterway protections defer to what is regulated by the State, which omits ephemeral streams and unconnected wetlands.
- **More Green Infrastructure.** Continue to implement and encourage green stormwater infrastructure (such as bioswales, rain gardens, and green roofs).

Policy 7. Right-of-Way Trees

Reason for the Policy: Charlotte aspires to create and maintain a safe and equitable integrated transit system for all travelers. Trees in public rights-of-way are critical infrastructure that provide public health and safety benefits as well as contribute significantly to the City's identity. Street trees also support other City efforts to make streets sustainable community "places." Currently, right-of-way trees comprise 7% of the City's tree canopy, and there is a documented loss of 1,200 acres of tree canopy along streets between 2012 and 2018. To reverse this loss and expand tree cover along Charlotte's streets, the City should rededicate itself to properly maintaining and protecting its existing street trees, replacing trees that are damaged, dying, or diseased, and expanding street tree planting in areas of Charlotte in most need.

Relationship to 2040 Comprehensive Plan: Derived From and Supports Goals 1, 4, 5, 6, 7, and 9

Stakeholders and Citizen Input: The citizens overwhelmingly recognize the value of street trees and want more trees and better care of those trees. They cite storms, lack of replacement, poor species selection, and the aging canopy as negative aspects of the current street tree population. Stakeholders echoed these same sentiments and further stated that street tree diversity, protection, and maintenance will be key to increasing the quality and extent of public trees.

NOTE: Though the Tree Canopy Action Plan will not be adopted by City Council as a standalone policy, the Plan recommends the following policy statement that is aligned with the Charlotte Future 2040 Comprehensive Plan, Urban Forest Master Plan, and community input and values.

POLICY STATEMENT RECOMMENDATION

Any tree located within a municipal right-of-way is recognized as a City-maintained tree, and is subject to the policies described herein.

Public Tree Quality. The City's policy is to have a diverse population of street trees growing and thriving in every available and appropriate space on City maintained rights-of-way. This will be accomplished by planting a combination of native tree species and non-invasive, urban tolerant non-native tree species, and by targeting tree planting projects in under-canopied neighborhoods. Further, the City will strive to come to a common understanding with NCDOT on the opportunities for canopy growth along state roads and interstates.

Commitment to Proactive Care. Charlotte protects and enhances its street trees by providing proactive management for newly planted and mature trees by providing cyclical maintenance, addressing tree risk issues in an appropriate and timely manner, and by protecting trees from damage during construction or other activities on the right-of-way.

Tree Removal. Charlotte will not cause or allow the removal of any street tree unless 1) it is dead, damaged or diseased beyond reasonable correction measures; 2) removal is necessary for emergency utility repair or other situations; or 3) is hazardous. Any public tree removal must be approved by the City through the permitting process, and will be subject to compensatory measures including replacement tree planting and/or payment.

Tree Replacement. Any street tree approved for removal must be replaced in the same location, if it is appropriate. If this is not possible, the location of the replacement tree must be in these areas in order of preference: on the same street, in the same neighborhood, or in the same subwatershed. In cases where this is not possible, the replacement tree should be planted on streets where trees are needed most to achieve tree canopy equity across the city, or on other public property where many people can benefit from the tree.

Utility Work and Public Trees. Public and private utility agencies and companies must obtain a permit from the City prior to performing any repair or new construction work within 15 feet of a

public tree. The requirement for a permit is waived in emergencies, but the utilities are still required to inform the City of the work location. All public trees must be protected from damage by utility projects. If a street tree must be removed due to routine or emergency utility work, or due to uncorrectable damage by the work, then the City will evaluate the tree and may be due appropriate replacement trees and/or mitigation/compensatory payment.

RELATED CODE CONCEPTS

- **Protection.** Public street trees are protected, and no removal or disturbance within the Root Protection Zone of a tree, or planting may occur without a permit.
- **Fines.** Penalties for violations include remediation of damage, cost of tree replacement, compensatory payment, and/or fines.
- **National Standards.** Require adherence to arboricultural industry best practices and City standards as specified in City's tree manual.
- **Require Planting.** Require street tree plantings for all Capital Improvement Projects (other than NC DOT controlled rights-of-way) and land development projects.

PROCEDURAL ISSUES/NEEDS

- **Accurate Data.** Maintain a complete and up-to-date street tree inventory and map database
- **Stocking Level Goal.** Set a goal to achieve and maintain at least a 90% stocking level of available and appropriate spaces for trees on streets.
- **Manual Needed.** Create a street tree manual with administrative and technical guidelines that describes and/or prescribes:
 - Recommended street tree species, undesirable/prohibited species, and minimum planting size
 - Appropriate minimum tree planting space dimensions
 - Minimum rootable soil volumes and soil mix percentages
 - Minimum planting strip width per mature tree size
 - Alternative tree well, sidewalk, and planting strip construction methods
 - Tree protection requirements for street trees
- **Coordinate and Consolidate Manuals.** Review/revise the Charlotte Land Development Standards Manual to be consistent with the Guidelines Manual, and consolidate all standards and requirements in one document aligned with the UDO.
- **Interdepartmental Coordination.** Strengthen inter-departmental collaboration between the City Arborist and all agencies whose work may impact street trees.
- **UFMP.** Review recommendations of the Urban Forest Master Plan, and revise as needed.

OTHER NOTES, PROGRAMMATIC RELATED ITEMS, AND/OR RESOURCES NEEDED

- **Utility Outreach.** Conduct informal outreach to utility companies to inform them of any code and/or policies changes related to their operations.
- **Resources Needed**

- Adequate funding will be needed for increasing staff to implement comprehensive street tree management programs and projects.
- Adequate funding will also be needed for operational expenses of street tree planting and proactive, cyclical young tree and mature tree maintenance.
- **Education.** Consider an outreach and education program to engage the public in the management of street trees and increase their appreciation and understanding of tree benefits.
- **Partnerships.** Foster existing and create new partnerships with local, regional, and state agencies, such as NC DOT, utilities companies, as well as schools, places of worship, and nonprofits, to enhance the quality and quantity of the street tree resource.

Policy 8. Make Room for Public Street Trees

Reason for Policy. Connectivity, pedestrian and bike mobility are priorities for the City. This fact, combined with high urban heat levels and a warming climate, means that large canopy trees along usage routes that provide consistent shade should be required infrastructure for any successful mobility system, particularly for sidewalk systems.

The data shows that Charlotte has lost about 1,200 acres of tree cover along roads in the last decade. Some of this loss could be from trees being unnecessarily removed during public realm infrastructure construction and repair. It is possible that the City could reverse some of this loss and/or make gains in tree canopy coverage if more tree planting is done (in accordance with city right-of-way policy) where there is no sidewalk, and if new street and sidewalk construction makes accommodations and more room for trees by using alternative, innovative hardscape design and material selection.

Relationship to 2040 Comprehensive Plan: Derived From And Supports Goals 1, 4, 5, 6, 7, and 9

Stakeholders and Citizen Input: The public's comments overwhelmingly support the desire for more street trees and better care of those trees. People want more sidewalks and want them to be tree covered, particularly with large shade tree species. Citizens report that trees make them feel safer, provide much needed shade, and beautify the neighborhood.

NOTE: Though the Tree Canopy Action Plan will not be adopted by City Council as a standalone policy, the Plan recommends the following policy statement that is aligned with the Charlotte Future 2040 Comprehensive Plan, Urban Forest Master Plan, and community input and values.

POLICY STATEMENT RECOMMENDATION

Any public street and pedestrian and bike routes in the City of Charlotte should be tree shaded for comfort, safety, and ease of use to promote these mobility options. City-maintained streets and sidewalks will be built with designated space for trees to provide tree canopy and shade, and these spaces will be designed and built to support long-term growth of large canopied trees.

Charlotte supports using innovative design concepts and construction elements and techniques. Particularly in densely developed areas, the City will exercise flexibility in land development requirements to accommodate public trees. The City will further promote greater interdepartmental communication and coordination to develop and protect healthy street trees and their critical root zones as a component of building and maintaining high quality streets and sidewalks.

RELATED CODE CONCEPTS

- **Protections.** Public trees are protected, and no removal, disturbance, or planting may occur without a permit.
- **Fines.** Penalties for violations include remediation of damage, cost of tree replacement, compensatory payment, and/or fines.
- **National Standards.** Require adherence to arboricultural industry best practices and City standards as specified in City's tree manual.
- **Sidewalks Make Space for Trees.** If sidewalks are included in any land development project (residential home building, infill, commercial or subdivision), they are designed to provide adequate space for shade trees.
- **Material Flexibility & Options.** Flexibility for the design and use of alternative materials for new sidewalks, bike routes, and streets will be considered.
- **Trees Without Sidewalks.** The Code should specify that trees may be planted on public property and rights-of-way where no sidewalks exist and behind sidewalks if right-of-way extends of sufficient width.

PROCEDURAL ISSUES/NEEDS

- **Data.** Maintain an up-to-date street tree and vacant planting site inventory and map database
- **Permit Data.** Require city departments and private contractors to submit information about existing trees within the project area with plans and permit applications
- **Manual Updating.** Update and consolidate the existing standards/manuals to create unified guidelines that describe and/or prescribe:
 - Recommended street tree species and minimum planting size
 - Appropriate minimum tree planting space dimensions
 - Minimum soil volumes
 - Minimum planting strip width per mature tree size
 - Alternative sidewalk construction methods

- Tree protection requirements and solutions during sidewalk/street construction or repair
- **Interdepartmental Coordination.** Strengthen inter-departmental collaboration between engineers and arborists early in the process of infrastructure maintenance and construction projects on issues related to healthy existing public and private trees.
- **When Priorities Compete.** Create a decision process for specifying when and how trees are preserved in instances of competing infrastructure demands.

OTHER NOTES, PROGRAMMATIC RELATED ITEMS, AND/OR RESOURCES NEEDED

- **Critical to Livability & Mobility.** This policy is important in all areas of Charlotte, but is even more critical for the success of livability and mobility in the denser Place Types of Neighborhood 2 and the Centers; as well as in under-canopied areas and neighborhoods.
- **Engage the Community.** Consider a program to engage abutting property owners, businesses, groups such as walking, running, and biking clubs, and allied nonprofits to provide funding and/or volunteer labor to plant street trees, and then to assist in maintaining the new trees.
- **Resources Needed**
 - Adequate funding will be needed for the increased staff responsibilities of plan review and construction project inspections related to sidewalk construction, tree protection, and new tree planting
 - Adequate funding will also be needed for proactive young tree care, mature tree maintenance, and replacement tree planting.

Policy 9. Trees and Land Development

Reason for the Policy. Charlotte currently has an estimated 45% of tree canopy cover within the city limits, and in 2011 City Council adopted a goal of achieving 50% tree canopy by 2050. There has been a documented loss in canopy over the last 6 years of 8%. The data indicates that the greatest loss of trees is on residential lands, and that tree removal and insufficient tree planting during development is a significant contributor to this loss. Current codes and guidelines do not provide sufficient incentives, flexibility, nor alternative methods for greater protection of trees and tree planting during development.

Relationship to 2040 Comprehensive Plan: Derived from and supports Goals 1, 2, 4, 5, 7, and 9

Stakeholders and Citizen Input: The citizens and stakeholders equally acknowledged the loss of trees and lack of canopy expansion due to land development, particularly in the residential areas of Charlotte. However, there was no consensus or majority opinion on how to address the issue which has a strong basis in property rights. Input ranged from imposing very strict regulations for tree protection to simply providing education and incentives to developers and property owners to protect trees.

NOTE: Though the Tree Canopy Action Plan will not be adopted by City Council as a standalone policy, the Plan recommends the following policy statement that is aligned with the Charlotte Future 2040 Comprehensive Plan, Urban Forest Master Plan, and community input and values.

POLICY STATEMENT RECOMMENDATION

Trees are integral and vital parts of Charlotte's ecosystem: they provide essential and desirable benefits to citizens and promote the health and general welfare of its citizenry. Therefore, it is the policy of the City of Charlotte to strive to protect and/or enhance the tree cover within the city, on public and private lands, and that through these efforts the overall tree canopy will grow.

It is the City's policy to promote land development, building, and site planning practices that respect the city's natural topographic and vegetation features while recognizing that certain factors such as condition (e.g., disease, danger of falling, etc.), proximity to existing and proposed structures and improvements, interference with utility services, and the realization of a reasonable enjoyment of property may require the removal of trees. In support of this policy, the City will be more innovative and ambitious for protecting trees and tree canopy in the places created with new development and redevelopment.

During both private and public land development projects, the City will encourage increased forest quality and quantity through the preservation of existing native trees and forests, by having healthy, well-maintained trees and other vegetation. The goal of tree preservation activities and the tree planting will be to reach and sustain an average of 50% tree canopy cover citywide over a phased period of time and with guidance from the Comprehensive Plan and the Urban Forest Master Plan.

Further, codes and administrative regulations resulting from this policy will provide flexibility and allow for the use of innovative building and tree preservation techniques as new science and technologies are developed and made available. All guidelines and regulations will be administered equitably and in a manner that does not put undue burden on any citizen. Equally, the City shall be fair and proactive in its enforcement of violations of the tree and landscape codes.

RELATED CODE CONCEPTS

Plan Submittal & Process

- Refine ordinance language that requires the limits of disturbance be identified on-site prior to plan submittal and construction.
- Explore increased tracking of tree canopy in building permits to determine if trees are to be removed and/or replaced with the permitted construction. Species, size and health are all important measures for assessing tree canopy change and health at a neighborhood scale.
- Require submittal of CAD for all tree requirements ("tree as-builts")and clarify city authority to inspect for compliance at the completion of projects

Inspection, Enforcement, & Appeal

- Adopt ordinance or guidance manual language that requires City inspection of tree protection areas before and after marking tree removal on permitted construction sites.
- Determine the legality of City staff to have 'stop work' authority

Tree Preservation and Protection

- Code language should indicate that development sites and projects, whether private or public, must be designed and constructed in a manner that: limits the extent of land disturbance to the minimum area needed to construct the proposed use; minimizes the negative impacts of permissible construction activities and practices on trees and forested areas; places staging and temporary storage areas, buildings, utility connections, roads, parking areas, recreational amenities, stormwater management facilities and all other land development in a manner that minimizes direct physiological damage to root systems and above ground portions of on-site and off-site trees and forested areas; and minimizes changes to environmental conditions that trees and forested areas are dependent on to survive.
- Consider expanding protections for trees in character overlay districts based on community support.
- Revise off-site mitigation options and requirements to allow for greater use of this mitigation avenue.
- Consider adopting ordinance language that requires protective measures for native soils, hydric soils, natural vegetation, or steep slopes at development sites.
- Allow natural resources to be protected in perpetuity by a binding conservation easement, deed restriction or similar legal instrument.
- In regard to open space development, there are several best practices that are recommended. Consider adding language to the proposed zoning category to address recommended practices such as:
 - determining open space through a stepwise design process where open space is identified first
 - allowing density bonuses and/or penalties to encourage use of open space design
 - specifying if land trusts or other qualified public or private land conservation organizations can manage open space
 - detailing how funding for the long-term management and maintenance of open space will be done,
 - specifying the allowable and unallowable uses for open space
 - Set open space requirements so that only a portion can be allocated to recreational use and protect the highest quality natural resources.
- To allow cluster development through the zoning regulations, include an increased tree save requirement
- Consider lowering the number of acres that can be disturbed in a project phase from 20 acres to a lower number to better protect tree resources during construction.
- Eliminate or revise tree save exemptions.
- Add tree planting requirements for development of network-required private streets.

PROCEDURAL ISSUES/NEEDS

- **Standards Manual Needed.** Create a Tree Policy and Standards Manual to provide and consolidate existing and new standards for property owners and developers that will:
 - Reference ANSI and other national, regional, and local standards
 - Optimize the preservation of structurally sound, healthy and functional trees and forested areas;
 - Minimize the retention of high-risk tree conditions that have potential to cause personal injury or property damage; and
 - Minimize harmful practices and conditions that can degrade the long-term health, structure, functionality and regenerative capacity of forested areas.
- **Pilot Project.** Conduct a pilot project(s) to test various tree protection code models, i.e. Heritage Trees, diameter limits, Place Type considerations
- **Explore Options in Working Group.** Explore administrative, legal, and management needs for modified or expanded creation or use of off-site tree mitigation areas/banks. Convene a working group to discuss and make recommendations for:
 - City or 3rd party property owner/easement holder
 - Easement, land donation, and land purchase criteria
 - Fee/compensation formula
 - Planting/stewardship/management duties (inspections, enforcement, land management)

OTHER NOTES, PROGRAMMATIC RELATED ITEMS, AND/OR RESOURCES NEEDED

- **Resources Needed.** Additional staff will be needed for plan review, site inspections, and enforcement.
- **Communications Improvements.** Interdepartmental coordination and communication will need to be formalized.
- **Targeted Education.** Educational outreach about the value of trees, land development impacts on the tree canopy, City Code and policies, permitting procedures, and tree protection measures will need to be provided every year; the programs should be developed for two separate audiences: land developers and the general public.
- **Schedule Regular Reviews.** Every five to seven years, and/or after new UTC mapping is completed and change analysis performed, the City should review, and amend as applicable, land development regulations and guidelines applying to tree protection and planting to reverse negative trends noted in the analysis and to promote the use of innovative and scientifically sound practices and technologies.
- **Peer City Study.** Staff should continue to review land development practices and landscape/tree ordinances from other communities and determine if peer city tree protection/preservation initiatives would benefit the City. Based upon these reviews, revisions to the tree protection and landscape code may be implemented.
- **Build Incentives.** The City should develop and utilize a menu of incentives, potentially based on Place Type, for developers/builders to protect high quality trees, trees in

environmentally sensitive areas, and plant the appropriate quality and species of trees when trees are removed and/or a lot is cleared for development.

- Consider Heritage Trees. Model and review the concept of expanding code requirements and land development incentives that protect Heritage Trees (to be defined) on private property and set higher limits of mitigation payment.
- Overlays for Private Tree Protection. Explore creating guidance for community driven - character overlays/conservation districts that will protect private property trees, and that will also receive enforcement support and program support.
- Additional Green Options for Mitigation. Further promote and incorporate green roofs and green walls as acceptable mitigation solutions.

Policy 10. Tree Canopy Goal

Reason for the Policy. Charlotte currently has an estimated 45% tree canopy cover within the city limits. There has been a documented loss in canopy over the last 6 years of 8%. Since tree canopy provides many tangible and intangible benefits to the City, citizens, and businesses, a tree canopy goal, citywide and for each Place Type, is needed to gauge success in urban forest management projects, policies, and regulations, and to serve as inspiration for action.

Relationship to 2040 Comprehensive Plan: Derived from and supports Goals 1, 6, 7, and 9

Stakeholders and Citizen Input: Both citizens and stakeholders equally acknowledged the benefits of tree canopy and recognized the current trend of canopy loss. There was not consensus on setting a specific tree canopy percentage goal. Stakeholders suggested that a target percentage is needed if only to inspire action and be a metric of success, but that the percentage should be based on sound, current data, be customized for each Place Type, and address achieving canopy cover equity as a first priority.

NOTE: Though the Tree Canopy Action Plan will not be adopted by City Council as a standalone policy, the Plan recommends the following policy statement that is aligned with the Charlotte Future 2040 Comprehensive Plan, Urban Forest Master Plan, and community input and values.

POLICY STATEMENT RECOMMENDATION

Since tree canopy is an integral part of Charlotte's identity and contributes to the City's livability and the health and safety of its current and future citizens, the City will set a goal to have a healthy, high quality, and sustainable tree canopy that equitably benefits all citizens. The goal is needed to reflect and express the value the community places on the tree canopy as an important element of the quality of life in Charlotte. The City will achieve this goal by preserving as much of the existing canopy as is feasible, replanting when public trees are removed, and creating new canopy by planting trees in suitable areas that lack tree cover.

The citywide tree canopy goal and goals by Place Type will be data-driven ecological thresholds derived from analysis inextricably joined with community input and priorities. Any goals set will

reflect and express the value the community places on the tree canopy; align with the Comprehensive Plan, provide inspiration and simple metrics so Charlotte can chart its success in improving the valuable canopy resource; and be the centerpiece of a communication effort to encourage citizens, neighborhoods, community groups, and nonprofits to take action by planting trees and maintaining our city's shared urban forest.

Reaching the goals set will be a challenge, especially considering the levels and types of growth anticipated in the city, but the City is confident that it is achievable. The City understands that the goals will require not only more protection and better management of Charlotte's existing tree canopy, but also bold public and private actions to expand it.

RELATED CODE CONCEPTS

It is not recommended to put any canopy goal percentages into future ordinance amendments. The goals should remain in policy statements so that they may be modified as data, citizen input, environmental conditions, site characteristics, and City priorities change.

However, the existence of a goal(s) can be alluded to in appropriate code sections, such as Purpose and Intent, if desired.

PROCEDURAL ISSUES/NEEDS

- **Regular Canopy Assessments.** Conduct a UTC mapping and change analysis project every five to ten years.
- **Maintain Complete Inventory.** Complete and maintain a 100% street and public tree/vacant planting site inventory.
- **Additional Data Collection.** Consider supplementing the tree canopy database with mapping and other information on other natural resources such as: vegetation species composition and condition within forested lands and riparian corridors, rare, threatened and endangered species locations, green infrastructure devices/projects, environmentally sensitive areas, etc.
- **Update the UFMP.** Review and update the Charlotte Urban Forest Master Plan to incorporate tree canopy sustainability and Place Type goals.
- **Additional Funding.** Provide increased funding for:
 - Accelerated public tree planting along streets and in parks
 - Proactive, cyclical maintenance for public trees
 - Staff to provide and oversee public tree planting and maintenance, review plans and monitor private property tree protection and replacement planting, and perform public education and outreach.
- **Interdepartmental Coordination.** Increase and formalize coordination and decision-making across departments to discuss and manage projects that either support or detract from achieving the tree canopy goal(s).
- **Partnerships.**

- Work with NCDOT to allow expanded tree canopy and greening along state roads and possibly interstates within the city.
- Work with City departments and outside partners to develop an approach to greening without gentrification.
- Working directly with neighborhood groups, consider creating neighborhood-level/neighborhood-specific urban forest management plans that address and prioritize tree planting, tree maintenance and education.

OTHER NOTES, PROGRAMMATIC RELATED ITEMS, AND/OR RESOURCES NEEDED

- **Consider Multiple Targets.** Consider having more than one tree canopy percentage target; i.e. for the short-, mid-, and long-terms; for under-canopied areas, and/or Place Types, etc.
- **Boost Engagement.** Intensify outreach and engagement with neighborhoods through consistent collaboration and dynamic messaging.
- **Partnerships.** Empower citizen science projects, in partnership with local nonprofits, schools, and government agencies, to obtain information on citywide or neighborhood urban forest projects and management activities, and that can serve as a public relations and education tool.
- **Provide Online Access to Data.** Consider investing in interactive software that allows citizens access to public tree and tree canopy data.

Tree Canopy Policy Incorporated within the Comprehensive Plan's Policy Framework

The Charlotte Future 2040 Comprehensive Plan's Policy Framework provides long-term guidance to achieve the City's vision of a healthy and sustainable community, with the specific objectives of improving the quality of city tree canopy as well as improving the quality of creeks and watersheds, and reducing surface runoff and erosion. The urban tree canopy in Charlotte is both a resource and a solution that can contribute to achieving many of the goals and objectives of the Comprehensive Plan.

Therefore, the TCAP project contributed to the development of the Comprehensive Plan's Goals, Objectives, and Policies so that the importance and value of the citywide tree canopy was recognized within each goal as appropriate (*TCAP contributions are indicated in **bold** below*).

CLT Future 2040 Comprehensive Plan Goals

Goal 1: 10-Minute Neighborhoods

Goal: All Charlotte households will have access to essential amenities, goods, and services within a **comfortable, tree-shaded** 10-minute walk, bike, or transit trip by 2040.

Objectives where tree canopy items were incorporated:

- Increase the percentage of households, both new and existing, within a comfortable, **tree-shaded** 10-minute walk, bike, or transit trip of the following services and amenities:

Policies where tree canopy items were incorporated:

- 1.2 Support the evolution of existing underserved neighborhoods which are not proximate to services or lack facilities **such as sidewalks and street trees**, into complete neighborhoods by implementing...
- 1.9 **Ensure adequate structures, systems (large tree wells or planting strips, structural soil or suspended pavement systems, etc.) and resources for maintenance are provided to support large healthy tree canopy along streets that will shade pedestrians and provide community benefit.**
- 1.19 Increase and expand **tree-shaded** pedestrian and bicycle network density and connectivity.
- 1.21 Implement new community green spaces, **including tree plantings** and surface water and stormwater facilities, on vacant and underutilized parcels, especially in neighborhoods with deficient access to parks and open space.
- 1.23 Continue to implement and evaluate development standards for block length, **street trees**, street connectivity requirements, and required connections to existing on-street and off-street pedestrian and bicycle facilities and trails.

Goal 2: Neighborhood Diversity and Inclusion

Goal: Charlotte will strive for all neighborhoods to have a diversity of housing options by increasing the presence of middle density housing (e.g. duplexes, triplexes, fourplexes, townhomes, accessory dwelling units (ADUs), and other small lot housing types) and ensuring land use regulations allow for flexibility in creation of housing within existing neighborhoods.

Objectives where tree canopy items were incorporated: n/a

Policies where tree canopy items were incorporated:

- 2.8 Ensure that housing access incentives provide adequate infrastructure **and do not contribute to poor environmental quality or significant loss of tree canopy.**

Goal 3: Housing Access for All

Goal: Charlotte will ensure opportunities for residents of all incomes to access affordable housing through the preservation of naturally occurring affordable and workforce housing and increasing the number of affordable and workforce housing units through new construction.

Objectives where tree canopy items were incorporated: n/a

Policies where tree canopy items were incorporated: n/a

Goal 4: Transit- and Trail Oriented Development

Goal: Charlotte will promote moderate to high-intensity, compact, mixed-use urban development along high-performance transit lines and near separated shared-use paths or trails.

Objectives where tree canopy items were incorporated:

- 4c. Increase the share of commercial (mixed use, entertainment, and employment) development within a 10-minute **tree-shaded** walk or bike trip of trail access points and high-performance transit stations.

Policies where tree canopy items were incorporated: n/a

Goal 5: Safe and Equitable Mobility

Goal: Charlotte will provide safe and equitable mobility options for all travelers regardless of age, income, ability, race, where they live, or how they choose to travel. An integrated system of transit, bikeways, sidewalks, shared-use paths, and streets will support a sustainable, connected, prosperous, and innovative network that connects all Charlotteans to each other, jobs, housing, amenities, goods, services, and the region.

Objectives where tree canopy items were incorporated:

- **5g) Increase the number of pedestrian and bike routes that are shaded by trees for safety, health and aesthetic value.**

Policies where tree canopy items were incorporated:

- 5.3 Increase access to zero carbon transportation options for first- and last-mile trips and provide new and adapt existing transportation infrastructure **to support a range of tree-shaded sustainable transportation choices.** (cross-reference: Goal 6)
- 5.6 Expand street network connectivity, **street tree canopy and protect right-of-way in growing and redeveloping areas** to provide efficient access, route choices, and complete streets for all travel modes. (cross-reference: Goal 4)
- 5.20 Complete Streets Program: Build out new streets where right-of-way has been reserved by development and address needs identified by the regional CTP, and retrofit existing streets **to include facilities for all modes, sidewalks, and street trees.** (cross-reference: Goal 4)

Goal 6: Healthy, Safe, and Active Mobility

Goal: All Charlotteans will live and work in safe and resilient neighborhoods that enable healthy and active lifestyles by reducing exposure to harmful environmental contaminants, **expanding and improving the quality of tree canopy cover**, encouraging investment in walking, cycling, and recreation facilities, and providing access to healthy food options and health care services.

Objectives where tree canopy items were incorporated:

- 6a) Increase percentage of households within **a comfortable, tree-shaded** 10-minute access to primary care health care services.

Policies where tree canopy items were incorporated:

- 6.8 Work with the County to identify the appropriate roles the City should undertake in **supporting urban parks and open spaces** (e.g., programming, maintenance / management, funding, etc.).
- 6.9 Prioritize construction of a complete active transportation network that includes connections to parks and health care facilities and reduces motor vehicle emissions **by increasing public investment in tree-shaded sidewalks, bikeways, and shared-use paths**, prioritizing in parts of the City that lack facilities. (cross-reference: Goal 4, Goal 5)
- 6.13 **Adequately fund proactive tree care and planting for public trees to boost tree canopy in all neighborhoods to reduce exposure to air pollution and reduce chronic health issues.**
- 6.25 **Incorporate tree canopy expansion and improvement efforts into existing and new public health initiatives across the city.**
- 6.28 **Examine existing and new ordinances to identify mechanisms to encourage or require tree-shaded streets and more publicly accessible open spaces and street trees in a variety of development types.**

Goal 7: Integrated Natural and Built Environments

Goal: Charlotte will protect and enhance its surface water quality, tree canopy, and natural areas with a variety of trees, plantings, green infrastructure, green building practices, and open space at different scales throughout the entire community as a component of sustainable city infrastructure.

Objectives where tree canopy items were incorporated:

- 7a) Increase the number of small parks within or near neighborhoods that contain community amenities such as recreation facilities, **tree canopy**, retrofit stormwater facilities, and water quality/natural resource education.
- 7b) Increase the **acreage of protected (including public and private) natural lands (such as forests and natural areas)** within the City.
- 7d) Increase the acreage of amenitized open space **and forested or tree-shaded** open space within private developments that are open to the public.
- 7h) **Decrease the acreage of tree canopy loss on residential property and maintain a high level of citywide tree canopy across all neighborhoods**
- 7i) **Achieve the ideal age, species, size, and composition of the urban forest to ensure a resilient, sustainable tree canopy that provides the greatest benefit to the community.**

Policies where tree canopy items were incorporated:

- **7.2 Improve support of tree canopy maintenance and expansion** in City regulations. **Remove tree save exemptions and provide for innovative and flexible mitigation measures for dense urban areas** (i.e. fee-in-lieu option to support the acquisition, protection, and management of green spaces in developing areas).
- **7.7 Prioritize heritage trees and existing contiguous forests in tree preservation regulations.**
- **7.8 Expand and enhance non-regulatory and regulatory solutions to control or eliminate invasive plant species on public lands and in tree preservation areas during development.**
- **7.10 Fully fund a proactive care program and strategic tree planting program for all public trees and for private development in underserved areas or for affordable housing projects.**
- **7.12 Continue to preserve and protect tree canopy on City-owned properties and consider a tree planting program on City-owned properties available for public use, such as the Urban Arboretum Trail.**
- **7.15 Using the Tree Conservation Fund and potentially new sources of funding, increase investment in green space and tree canopy initiatives to support housing and neighborhood policies and ensure residents are connected to nature and environmental justice issues are avoided. (cross-reference: Goal 1, Goal 2, Goal 3)**

- 7.16 Develop community partnerships, funding, and regulatory concepts to facilitate the removal of invasive species on private property and **increase the quality of our tree canopy.**
- 7.17 Establish new partnerships and expand existing partnerships with stakeholders that may include Mecklenburg County, other governmental organizations, community organizations, and nonprofits to secure private **funding and support to develop new and existing parks, tree canopy and shared-use paths, and the protection of open spaces.**
- 7.23 When there are perceived or real conflicts between trees and other city priorities, economic development projects, and infrastructure improvement projects, **the City will support creative and innovative solutions that protect the tree canopy.**
- 7.37 Explore tools to ensure streams and steep slopes have **sufficient buffers of high-quality trees** and associated vegetation to control erosion, nutrient loads and other pollution.
- 7.38 Conduct a study of existing wildlife habitat/ migration patterns to identify gaps in the ecological system. Map these locations and compare with sites identified for new park and recreation facilities, shared-use paths, **enhanced tree canopy**, riparian corridors, and areas targeted for green stormwater infrastructure facilities to identify overlapping open space priorities.
- 7.41 **Using the Tree Conservation Fund** and potentially new funding sources, develop a program for **land acquisition or conservation easements** to support protection of prime conservation lands.
- 7.43 Evaluate **opportunities to use trees and other vegetation on existing vacant parcels to provide ecosystem services** (e.g. erosion control, stormwater and water quality services) to address surface water quality in the City.
- 7.44 Promote **conservation easements to protect undisturbed forest patches and/or reforested areas**, especially on vacant or industrial parcels.
- 7.45 **Promote a healthy and diverse tree canopy, including:**
 - Uneven-aged, predominantly overstory broadleaf and coniferous trees with a native/ ornamental mixed species understory;
 - Street trees of diverse species and a sustainable age distribution; and
 - Ornamental trees used for visual interest and aesthetics, especially where utilities, signs, lights, and other constraints exist.
- 7.46 **Support tree maintenance on private land in lower income neighborhoods and review recommendations provided in the Urban Forest Master Plan and draft Management Plan.**
- 7.49 Develop a comprehensive education and stewardship initiative to teach and **equip residents to sustain our natural systems and tree canopy**

Goal 8: Diverse and Resilient Economic Opportunity

Goal: Charlotteans will have opportunity for upward economic mobility through access to a diverse mix of jobs and careers that align with education and skill levels of residents and the economic strengths of the region.

Objectives where tree canopy items were incorporated: n/a

Policies where tree canopy items were incorporated: n/a

Goal 9: Retain Our Identity and Charm

Goal: Charlotte will retain the identity of existing neighborhoods by intentionally directing redevelopment, limiting displacement and cultivating community-driven placemaking that elevates the importance, quality and design of places.

Objectives where tree canopy items were incorporated:

- 9f) **Preserve and improve the tree canopy in Charlotte** (cited as one of the primary aspects of the city that has attracted residents).
-

Policies where tree canopy items were incorporated:

- 9.2 **Protect trees throughout the city during all levels of development** (including infill projects) via revisions to Unified Development Ordinance
- 9.12 **Fully fund a proactive tree care program for public trees.**
- 9.13 In CIP, **continue to invest in the installation of planting strips that support large trees for the long term.**
- 9.39 Develop and support a **low-income assistance program that would aid in tree preservation and care for trees on private property**

Goal 10: Fiscally Responsible

Goal: Charlotte will align capital investments with the adopted growth strategy and ensure the benefits of public and private sector investments benefit all residents equitably and limit the public costs of accommodating growth.

Objectives where tree canopy items were incorporated: n/a

Policies where tree canopy items were incorporated: n/a

Urban Forest Characteristics by Place Types

Place Types represent the types of development and land uses that currently exist in Charlotte, as well as the aspirational character for those types. Charlotte's Place Types can generally be organized into the categories of the neighborhoods where we live (Neighborhood 1, Neighborhood 2, and Parks and Preserves), the employment areas where we work (Commercial, Campus, Manufacturing & Logistics, and Innovation Mixed-use), and centers where we shop, dine, and play (Neighborhood Center, Community Activity Center, and Regional Activity Center).

As a component of the Charlotte Future 2040 Comprehensive Plan, Place Types serve as guiding policy for the City in its role as the authority over local land use and development decisions that shape our communities. Land development policies bear implications for both the built and natural environment. As trees are an integral component of both through the environmental, aesthetic and economic benefits they offer, Place Type policies guiding development carefully specify how trees are to be incorporated into each Place Type.

Each place in Charlotte is unique. Therefore the types of trees, their purpose and their location should vary by the needs and characteristics of each place. For example, trees in our yards and neighborhoods will provide different benefits to our community than a tree along Tryon Street that is so important for pedestrians walking around Uptown.

The statements below lay out a vision for the urban forest in each Place Type. They speak to the location, extent and role of trees, as well as how they will interact with the buildings and streets in each Place Type. They also contain a projection for the percentage of land area in each Place Type that should be covered by tree canopy. Taken together, the urban forest characteristics below establish the vision for the sustained health and integration of our urban forest into the places that make up our city.

Neighborhood 1

Neighborhood 1 places are the lower density housing areas across Charlotte, where most of the city's residents live, primarily in single-family or small multi-family homes or ADUs.

Urban Forest Characteristics in this Place Type:

- The majority of Charlotte's tree canopy is located here, primarily on private land, that is supplemented with a significant street and civic area tree population.
- All streets are designed for both car and pedestrian use, and are therefore significantly planted with trees (90% of all public and street planting sites will have trees.).
- Civic use properties within Neighborhood 1 - schools, passive-use parks and park areas - have significant canopy coverage.
- Preservation of private land for tree canopy is a priority.

- Areas not built upon will provide for sustainable tree canopy cover growth and preservation.
- Tree canopy cover ranges from 50% - 60%.

Neighborhood 2

Neighborhood 2 places are higher density housing areas that provide a variety of housing types such as townhomes and apartments alongside neighborhoods serving shops and services.

Urban Forest Characteristics in this Place Type:

- Due to more dense development, overall tree canopy cover in Neighborhood 2 depends heavily on street trees. Therefore, sidewalks and road medians support the growth and longevity of large stature, shade trees providing a pleasant pedestrian experience and environmental benefits.
- Supplemental canopy is provided through trees in small parks, yards and courtyards of multifamily and civic buildings.
- All streets are designed for both car and pedestrian use, and are therefore significantly planted with trees (90% of all public and street planting sites will have trees).
- Civic use properties within Neighborhood 2 - schools, passive-use parks and park areas - have significant canopy coverage.
- Trees are incorporated into any green infrastructure installations.
- Tree canopy cover ranges from 35% - 45%

Parks & Preserves

Parks & Preserves serve to protect public parks and open space while providing rest, recreation, and gathering places for Charlotteans.

Urban Forest Characteristics in this Place Type:

- Parks have very high canopy coverage (excluding cemeteries, sports and recreation fields, etc.).
- Corridors connecting people to this place type are forested or tree-lined.
- In active use areas, all non-use space is maximized with tree plantings, including line roadways, parking lots and walkways.
- Passive use areas of this place type are 90%+ canopy cover

Commercial

Commercial places are primarily car-oriented destinations for retail, services, hospitality, and dining, often along major streets or near interstates.

Urban Forest Characteristics in this Place Type:

- Tree canopy is made up of primarily street trees, trees in parking lot islands and along pedestrian paths. Where structured parking exists, trees are more integrated into courtyards, plazas and common areas.
- Newly constructed streets and sidewalks support the growth and longevity of large stature trees.
- In on-street and off-street parking areas, there is sufficient tree canopy cover to provide shade and more pleasant pedestrian experience.
- Tree canopy cover ranges from 25% - 35%.

Campus

Campuses are a relatively cohesive group of buildings and public spaces that are all serving one institution such as a university, hospital, or office park.

Urban Forest Characteristics in this Place Type:

- Trees on campuses are healthy and iconic, serving as both unique landmarks and environmental assets.
- Where there is surface parking, significant tree canopy to shade impervious surfaces is a priority.
- Sidewalks and road medians are designed and built to support the growth and longevity of large stature, shade trees.
- Areas of passive-use mowed lawn include canopy cover in urban open spaces. On less intensely developed campuses, and especially in environmentally sensitive areas, tree cover is composed of diverse species and mature sizes to create a more natural ecosystem.
- Tree canopy cover ranges from 40-50%.

Manufacturing & Logistics

Manufacturing & Logistics places are employment areas that provide a range of job types, services, and wage levels in sectors such as production, manufacturing, research, distribution, and logistics.

Urban Forest Characteristics in this Place Type:

- Much of tree canopy is located in buffer areas on privately-held land.

- Rights-of-way and private land adjacent to public streets are planted with trees appropriate for the space available and industrial use by large trucks.
- Where there are large open areas surrounding buildings, there are protected woodland areas and tree canopy.
- Newly constructed parking areas are designed and constructed to accommodate shade trees (options: increasing planter size, using linear planters, using structural soils, installing permeable pavement materials around trees, providing irrigation, and other innovative solutions).
- Tree canopy cover ranges from 25% - 35%.

Innovation Mixed-use

Innovation Mixed-Use places are vibrant areas of mixed-use and employment, typically in older urban areas, that capitalize on Charlotte's history and industry with uses such as light manufacturing, office, studios, research, retail, and dining.

Urban Forest Characteristics in this Place Type:

- Tree canopy cover is primarily provided by street trees, pocket parks, and buffer areas, supporting pleasant pedestrian experience and environmental benefits.
- Newly constructed, and redeveloped streets and sidewalks support large stature trees.
- In all parking areas, sufficient trees are planted to mitigate heat island effect and stormwater runoff.
- Greater use of innovative approaches to support tree planting and growth, such as pervious pavement and green infrastructure, are encouraged.
- Tree canopy cover ranges from 35% - 45%.

Neighborhood Center

Neighborhood Centers are small, walkable mixed-use areas, typically embedded within neighborhoods, that provide convenient access to goods, services, dining, and residential for nearby residents.

Urban Forest Characteristics in this Place Type:

- Tree canopy is made up of primarily street trees and along pedestrian paths to reduce heat stress.
- Tree canopy is accommodated on-site with internal trees located on lawns and urban open space. Newly constructed and rehabilitated streets, sidewalks, plazas, and pocket parks on public and private properties support the growth and longevity of large stature trees.
- Transitional buffers and screening provide an opportunity for increased canopy.
- In on-street and off-street parking areas, design and construction criteria are such that there are sufficient trees planted to screen surface parking and mitigate heat island effect

and stormwater runoff. Greater use of pervious pavement and green infrastructure will be encouraged.

- Tree canopy cover ranges from 25% - 35%. 90% of all public and street planting sites will have trees.

Community Activity Center

Community Activity Centers are mid-sized mixed-use areas, typically along transit corridors or major roadways, that provide access to goods, services, dining, entertainment, and residential for nearby and regional residents.

Urban Forest Characteristics in this Place Type:

- Tree canopy is made up of primarily street trees and along pedestrian paths to reduce heat stress.
- Tree canopy is accommodated on-site with internal trees located on lawns and urban open space. Newly constructed and rehabilitated streets, sidewalks, plazas, and pocket parks on public and private properties support the growth and longevity of large stature trees.
- In on-street and off-street parking areas, design and construction criteria are such that there are sufficient trees planted to mitigate heat island effect and stormwater runoff.
- Greater use of innovative approaches such as pervious pavement and green infrastructure will be encouraged.
- Tree canopy cover ranges from 20% - 30%. 90% of all public and street planting sites will have trees.

Regional Activity Center

Regional Activity Centers are large, high-density mixed-use areas, typically along transit corridors or major roadways, that provide access to goods, services, dining, offices, entertainment, and residential or regional residents and visitors.

Urban Forest Characteristics in this Place Type:

- Tree canopy is made up of primarily street trees and along pedestrian paths to reduce heat stress.
- Tree canopy will also be accommodated onsite with internal trees and urban open space. Newly constructed and rehabilitated streets, sidewalks, plazas, and pocket parks on public and private properties will support the growth and longevity of large stature trees.
- In on-street and off-street parking areas, design and construction criteria are such that there are sufficient trees planted to mitigate heat island effect and stormwater runoff. Greater use of innovative approaches such as pervious pavement and green infrastructure will be encouraged.

- Tree canopy cover ranges from 15-25%. 90% of all public and street planting sites will have trees.