

**Winston-Salem / Forsyth County Tree Ordinance Committee
Final Report**

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INTRODUCTION

For democratic politics to operate as it should, the public has to act. It is more than just voting, more than understanding or supporting elected officials, more than merely having opinions or keeping up with public affairs. Before people can act, they have to decide. Public deliberation is a means of deciding. By deliberating, together we weigh the costs and benefits of various approaches to solving problems. People become aware of the differences in the way others view those costs and benefits. This enables us to find courses of action that are consistent with what is valuable to the community as a whole¹.

The citizens of Winston-Salem and Forsyth County chose to engage in a public deliberation process as a means to find a course of action for ensuring that trees remain a part of the landscape, and for capturing the benefits of the tree canopy in a way that is consistent with the values of the community.

In the last ten years or so, communities across the U.S. and in North Carolina have been revamping existing ordinances or developing new ones, to ensure that the benefits of healthy trees and tree stands are not lost as communities grow and change. This has been particularly true of communities experiencing rapid growth such as those in the NC piedmont, mountains and coast.

Until recently, most municipalities' tree ordinances, if they had one at all, dealt with trees in the public domain – street trees, and landscape standards in commercial areas. They may have required shade trees in parking lots, decorative trees surrounding commercial developments, and vegetative buffers separating land uses.

We are now seeing a change in the way communities are taking stock of, and protecting the values that trees provide:

- Maintaining water quality by taking up nutrients and reducing sediment runoff to our streams and rivers;
- Providing shade to keep our buildings and houses cool in the summertime;
- Providing habitat for birds and other wildlife;
- Enhancing the aesthetic qualities of our urban landscapes.

Economic growth, expanding incomes, and low interest rates the late 1990's and early 2000s fueled a housing boom in North Carolina's metropolitan areas. In many North Carolina Piedmont communities, the flat expanses of buildable land had already been built up. To maintain economies of scale so that homes could remain affordable to the many new buyers

¹ David Mathews and Noelle McAfee, "Making Choices Together. The Case for Public Deliberation." The Kettering Foundation, located at http://www.kettering.org/programs/article_detail.aspx?progID=24&workID=68&catID=68&itemID=1057

moving to our cities, developers relied more and more on grading practices to level large tracts upon which to lay out their housing and mixed use developments. Seeing once forested lands being cleared for development, citizens called upon their city councils and county commissions to do something to keep mature trees in the landscape. Communities began to address the issue of clearing trees for large residential and commercial developments by approaching tree protection and conservation more comprehensively. Since 2000, seven large municipalities have rewritten their tree ordinances.

In Winston-Salem, an attempt was made in 2004-05 to amend the City-County Unified Development Ordinance (UDO) to include a tree ordinance. An initial proposal, developed with support from the Community Appearance Commission, the Winston-Salem Association of Homebuilders and Realtors, and others, was brought before the Winston-Salem City Council and Forsyth County Board of Commissioners in early 2005. Other interest groups in Winston-Salem and Forsyth County, having limited opportunity to participate in and comment on the proposed tree ordinance, chose not to support it. In response to the lack of participation by a broad group of stakeholders, the two governing bodies voted to send the ordinance proposal back to the Planning Department for further study.

WINSTON-SALEM/FORSYTH COUNTY TREE ORDINANCE STAKEHOLDER COMMITTEE

Following this first attempt to create a tree conservation ordinance, the City-County Planning Department was tasked to convene a group of stakeholders to work collaboratively toward the development of tree ordinance that can be supported by all interest groups. With a grant from the Winston-Salem Foundation, the Winston-Salem Neighborhood Alliance served as a co-convenor, funding the facilitation of this process.

Purpose

The purpose of the stakeholder process was to enable the Winston-Salem/Forsyth County Tree Ordinance Stakeholder Committee to work in collaboration toward the development of tree conservation and maintenance standards within the City-County Unified Development Ordinances (hereinafter referred to as a 'tree ordinance.').

The two major goals of the stakeholder process were to: 1) provide the committee with a process of discovery, information sharing and education; 2) provide the committee with a direct role in negotiating agreements that resolve the issues and balance the interests relative to a tree ordinance in Winston-Salem and Forsyth County.

Agreements resulting from the stakeholder process will form the basis of tree preservation standards within the City-County Unified Development Ordinances.

Stakeholder Groups and Participants

The committee consisted of a broad range of stakeholders who represent various interests related

to tree conservation in Winston-Salem and Forsyth County. Also participating in the committee's discussions were staff members of the City-County Planning Board, City-County Inspections, Winston-Salem Stormwater, and Winston-Salem Vegetation Management. These staff provided support to the committee. Participating on the committee were:

Committee Members

Melynda Dunigan*	<i>Winston-Salem Neighborhood Alliance</i>
Kaila Hires	<i>Winston-Salem Neighborhood Alliance</i>
Robert Vorsteg	<i>Winston-Salem Neighborhood Alliance</i>
Keith Rogers*	<i>Keith Rogers Homes, Homebuilders Association of Winston-Salem</i>
Elizabeth O'Meara*	<i>Sierra Club</i>
Malcom Brown	<i>Sierra Club</i>
Glenn Cobb*	<i>Winston-Salem Regional Association of Realtors</i>
Nancy Gould	<i>Winston-Salem Regional Association of Realtors</i>
Jamie Moore*	<i>Winston-Salem Community Appearance Commission</i>
Bob Ragland*	<i>Forsyth County Environmental Affairs</i>
Gayle Anderson*	<i>Winston-Salem Chamber of Commerce</i>
Evie Katsoudas	<i>Winston-Salem Chamber of Commerce</i>
Paul McGill*	<i>McGill Realty</i>
Tamieka White*	<i>Neighbors for Better Neighborhoods</i>

City/County Staff

Glynis Jordan	<i>City-County Planning Board</i>
Linda Schwan	<i>City-County Planning Board</i>
James Mitchell	<i>City of Winston-Salem, Vegetation Management</i>
Keith Huff	<i>City of Winston-Salem, Stormwater Management</i>
Fred Holbrook	<i>City-County Inspections</i>

*Primary (voting) members

A formal charter that was drafted and approved by committee members governed the committee. The charter specified the purpose and scope of the committee, responsibilities of committee members, and decision processes.

Facilitator

Deliberations of the Tree Ordinance Committee were facilitated by Steve Smutko, Director of the Natural Resources Leadership Institute and North Carolina State University, under contract with the Winston-Salem Neighborhood Alliance. The primary tasks of the facilitator were to guide the meetings to stay within the bounds set by the committee's charter. Responsibilities included managing the committee's agenda, keeping written records of meetings, helping the group stay on task and on process, and helping members reach consensus. The facilitator did not express his views on any substantive issues and was solely concerned with the process of the

group.

Decision Process

The committee operated by consensus, and committee decisions were made only with concurrence of all members represented at the meeting. Consensus is the methodology that allows collaborative problem solving to work. Consensus requires sharing of information, which leads to mutual education, which, in turn, provides the basis for crafting workable and acceptable alternatives. Committee members may be asked to “live with” something that is not their preferred ideal (consensus does not mean everyone gets everything they want), but recognize that it is a fair decision considering the many participating interests. The goal is to make decisions based on open discussions and use an approach that is flexible, specific to the situation, and does not usually require a formal voting mechanism. The facilitator was responsible for closing a discussion, identifying consensus, and moving forward in a timely manner.

In making decisions, each committee member indicated his/her concurrence on a specific proposal using a five-point scale. The scale allows committee members to clearly communicate their intentions, assess the degree of agreement that exists, and register their dissatisfaction without holding up the rest of the committee. The five-point scale is as follows:

- 1 – Endorsement (i.e. Member likes it).
- 2 – Endorsement with Minor Point of Contention (i.e. Basically, member likes it).
- 3 – Agreement with Minor Reservations (i.e. Member can live with it).
- 4 – Stand Aside with Major Reservations
- 5 – Block Member will not support proposal, support a final agreement, or work with stakeholder process. Blocking means that the member may work outside the committee process to meet his interests.

The facilitator measured the committee’s consensus on a given proposal by open polling of the committee members present. Ratings were not be considered from any alternates or interested parties present when determining the committee’s level of consensus. The levels of consensus are:

- Consensus - All committee members present rate the proposal as a 1, 2 or 3.
- Consensus with Major Reservations – All committee members present rate the proposal as a 1, 2 or 3, except at least one committee member rates it as a 4.

ISSUES, VISION, AND INTERESTS OF THE COMMITTEE

Pre-deliberation Assessment

Prior to convening meetings of the Tree Ordinance Committee, the facilitator interviewed committee members to gather information about stakeholders and their interests, the issues to be addressed, and issues related to collaboration and consensus. Fourteen committee members were interviewed by telephone between May and July 2006. A primary objective of the interviews was to identify and assess the issues that stakeholders viewed as relevant and important to their task.

The overall assessment based on the interviews was that committee members were willing to work together to discuss issues related to tree conservation, were open to other opinions, and were willing to explore options for mutual gain.

Views of Participants' Organization about Tree Preservation/Conservation. The Tree Ordinance Committee members represent specific constituencies. As such, they are bound by the mission and goals of the organizations they represent. Most committee members' organizations aspire to one of two principal missions: protection of environmental quality and quality of life, and safeguarding economic opportunity. Most committee members recognized both as worthy and attainable goals for Winston-Salem and Forsyth County. However, the committee members' organizations emphasize one over the other. Working through these differences in a positive way required committee members to be open and honest about where their organizations stand with respect to the issues under deliberation, and deal directly and empathetically with one another.

Committee Members' Goals Regarding Tree Preservation/Conservation. Committee members were asked about their own goals and aspirations with respect to working toward tree protection standards. Responses reflected committee members' perceptions of potential outcomes of the committee's work. Respondent's goals were equally divided among substantive (including locational) and procedural outcomes. The presence of procedural goals implied that committee members were generally ready and willing to engage in the work ahead and would be open to a number of potential solutions.

Important Issues and Concerns. For the most part, committee members were not at cross purposes with respect to the issues they view as important, and didn't see deliberations resulting in a zero-sum outcome. Most members were generally upbeat with respect to the view that there exists significant latitude for a wide range of potential solutions to most issues, and discussion and deliberation would likely remain positive. However, one issue proved to be a challenge for the committee, the view by some that a new ordinance was not necessary or desirable. An important condition for successful negotiation of a regulatory standard is that all parties agree that there is a problem and a need for an ordinance, or are at least compelled to find a solution. Some members wanted to explore alternatives to negotiating new protection standards prior to engaging in a discussion of the language that such an ordinance should contain.

Key Issues

Committee members were asked to identify the issues they believed needed to be considered by the committee as they worked toward their goal. After later discussion of the range of issues identified by individual committee members, the whole committee was tasked with identifying the issues that it would address. The key issues identified by committee were:

1. Protecting the canopy and woodlands
2. Establishing and maintaining tree cover
3. Promoting conservation of tree resources
4. Specifying trees, tree type, & species

5. Maintaining age and species diversity
6. Selecting, situating, and maintaining street trees
7. Replanting trees
8. Pruning trees
9. Maintaining trees in a healthy condition
10. Developing lots
11. Providing incentives
12. Identifying location and scope
13. Specifying implementation and enforcement
14. Enforcing tree standards
15. Reviewing and approving site plans
16. Identifying the value and benefits of trees

Vision Statements

Committee members were given the opportunity to express their own vision of the future with respect to the development of a tree conservation ordinance. They were instructed to keep the opportunities for long-term benefits in sight and think about the possibilities that could become real if negotiations are successful. The resulting vision statements provided a basis from which committee members could find common ground on the development of recommendations for tree conservation. The vision statements of individual committee members were:

- A. Develop an ordinance that provide for sustainable development, while preserving the community's existing natural resources.
- B. Retention and development of a healthy percentage of tree canopy in the city and county.
- C. Attractive, healthy trees that are preserved through proper planning, design, protection and maintenance.
- D. A healthy, beautiful community with healthy, beautiful trees.
- E. Do things that are good for my community.
- F. Winston-Salem will balance "wants" with "realities" and keep requirements from unduly burdening any one group.
- G. Conserving urban canopy to protect quality of life we presently enjoy in Winston-Salem and Forsyth County.
- H. Work out a mutually beneficial ordinance that protects private property rights and does not compromise affordable housing, but enables planting areas to be preserved when possible.
- I. A community where diverse interests working collaboratively create win-win solutions that are better than can be achieved otherwise.

- J. An adopted, fully implemented, enforced and maintained tree and woodlot ordinance that conserves an abundance of existing trees including significant and heritage trees, adds to the tree population through systematic planting, and educating the public about the importance of both urban and rural woodlands for the health, diversity, and beauty of our plant, animal, water, air and human environments.
- K. Forsyth County protects its air and water resources using trees and vegetation to the maximum extent possible both for economic stability and the aesthetics of a natural environment and provide to its resident critic.
- L. The group will come together to create an ordinance that meets most of “our” needs, most of the time.
- M. Winston-Salem continues to be blessed with trees, just as it has been with minimal intrusion from government processes.

Interests

Interests are the needs, concerns, aspirations, and motivations that lead people to take a particular stance on an issue. Committee members were asked to clearly articulate their interests vis-à-vis a tree conservation ordinance. The resulting list of interests served as the focal point for providing and evaluating potential recommendations for specific ordinance provisions. Committee members were mindful of attempting to generate options that would serve to meet the interests of other members as well as their own. The interests identified by the committee members are below.

- A. Reduce costs to citizens and industry of protecting air and water quality.
- B. Increase the value of commercial property.
- C. Provide attractive incentives for property owners to meet and go beyond our minimum requirements.
- D. Develop in a planned way.
- E. Promote community interaction through sound tree care and preservation.
- F. Preserve structurally sound native species.
- G. Define and conserve significant and heritage trees.
- H. Protect community appearance.
- I. Maintain Winston-Salem’s “green-ness”.
- J. Create solutions that promote social interaction.
- K. Create solutions that educate.
- L. Keep regulations simple, easy to enforce, and low cost to enforce.
- M. Keep housing affordable for low and moderate income families.
- N. Find an equitable balance between private and public interests.
- O. Encourage development with conservation or replanting if conservation cannot be done.
- P. Protect cities and towns from avoidable storm water run off.
- Q. Protect air quality.
- R. Preserve wildlife corridors.

- S. Protect water quality.
- T. Lower energy costs.
- U. Ensure proper tree preservation.
- V. Support the healthy maintenance and growth of urban and rural trees.

Deliberation Process

In formulating their consensus recommendations, committee members worked to develop specific proposals to address tree conservation and economic development issues. Proposals were developed from a comprehensive list of options generated by the committee. These options were refined and categorized into a “Discussion Agenda” that formed the foundation for the committee’s recommendations.

As a way of prioritizing the items for discussion, each committee member scored the options on the Discussion Agenda on an 11-point scale based on whether that option worked for or against their interests and to what degree. The scores of all voting committee members were totaled and the options were categorized as green light, yellow light, and red light options. A green light means that all committee members regarded a particular option favorably. A yellow light means that individual scores ranged from moderately positive to moderately negative. A red light means that one or more committee members scored that option as highly positive while one or more members scored it as highly negative, that is, there was significant disagreement among committee members about that option. The green light options did not merit further discussion since all committee members ranked them positively. Those options would be integrated into the committee’s final recommendations. The committee decided to spend its time discussing options that merited yellow lights and red lights. The objective was to find ways to refine the options so that all could agree on them. A list of the options and their scores is contained in Appendix A.

As the committee worked through the red light and yellow light options on the Discussion Agenda, options were combined, dropped, or adopted as is and the Discussion Agenda was continually redrafted. Toward the end of the committee’s deliberations, the format of the Discussion Agenda was changed and labeled “Decision Points” as a way to focus the committee’s deliberations on the key remaining issues, as well as to document changes in content and language as the committee refined its recommendations.

The committee attempted to reach a consensus on each provision using the 5-point consensus scale defined above. According to the committee charter, agreement was reached on any provision that all committee members rated as a 1, 2, or 3 on the consensus scale. Consensus at this level means that every committee member endorsed the provision, endorsed it with a minor point of contention, or endorsed it with a minor reservation. The committee could also be in consensus on any provision that a member rated as a 4. This was considered “consensus with major reservations”. Consensus was not reached on any provision that a member rated a 5 on the consensus scale. During discussions of each draft of Discussion Agenda the facilitator took informal polls to determine where members stood on each proposal. If a member rated a proposal as a 4 or 5, the facilitator worked with the group to find a way to change the proposal so that all members could at least endorse it with a minor reservation (3 on the consensus scale).

The committee worked to first define a basic set of provisions that would apply to single family residential development (major subdivisions and planned residential developments). They then worked to adjust these provisions to fit other types of development including multi-family residential, commercial, industrial, and institutional.

RECOMMENDATIONS

The committee worked diligently in an attempt to develop tree conservation proposals that met the interests of all stakeholders. However, consensus was not possible on all proposals. Also, in attempting to meet its deadline, the committee was not able to fully discuss all of the yellow light and red light topics on the Discussion Agenda. Some items were referred to the City-County Planning Board staff to work out details. Proposals are identified as either “consensus” or “no consensus.” Those proposals in which the committee could not reach consensus or were not fully discussed are presented here in *italics*, and specific issues raised by committee members are provided.

Five Objectives

Using the issues the committee identified earlier in the process, together with the interests of the committee members and their constituents, the committee identified five objectives that their recommendations should address:

1. Maintain Trees in a Healthy Condition
2. Conserve Trees to Reduce Loss or Depletion
3. Establish and Maintain Age and Species Diversity
4. Secure Sufficient Staffing and Funding
5. Gain Community Support

The committee worked to develop recommendations for all five objectives. Two recommendations pertain to tree conservation generally and are categorized as “Overall Recommendations. Because of time limitations, the committee was unable to develop recommendations under Objectives 4 and 5.

Overall Recommendations

1. Gather Baseline Data on Tree Cover

The committee was hindered somewhat by a lack of data on the amount and extent of existing tree cover in Winston-Salem and Forsyth County. One of their first recommendations was for the city and county to gather baseline data so that tree conservation/loss can be monitored over time. The committee reached consensus on the following recommendation:

We recommend that the elected body should allocate reasonable resources in order to gather accurate information about the current tree cover in Forsyth County so that a tree cover base line can be established.

2. Establish a Tree Advisory Council

The committee agreed to recommend that the City-County Planning Board establish a Tree Advisory Council to monitor the success and impacts of its tree conservation recommendations and make changes where necessary as conditions warrant.

OBJECTIVE 1: MAINTAIN TREES IN A HEALTHY CONDITION

The committee agreed by consensus that ANSI A300 standards must be followed for planting and maintaining trees required by ordinance. This includes protecting growth areas of trees, thinning trees properly and prohibiting tree topping. The committee also agreed that adequate and effective tree protection fencing should be provided during construction. To ensure best practices for long term tree maintenance, the committee recommends voluntary incentives and education. The specific actions recommended by the committee are:

1. Establish goals and standards for maintaining and planting trees

Consensus

- a. Use ANSI A300 standards for planting and maintaining trees
- b. Applicability: all trees required by ordinance

2. Protect trees during construction

Consensus

- a. Protect root system during development and landscaping
- b. Protect drip zone areas during grading in Tree Save Areas
- c. Ensure adequate and effective tree protection fencing

No Consensus

- a. *Provide sufficient staffing and funding to enforce existing standards*

The issue of inadequate enforcement of existing standards was discussed by the committee but not brought to conclusion.

3. Maintain trees protected under the ordinance

Consensus

- a. Prohibit tree topping (standards exist for street trees). Topping definition and standards are included in ANSI A300
- b. Define hazard trees that should be removed
- c. Protect growth areas of trees and provide adequate space for root system growth

- d. Thin tree stand properly

No Consensus

- a. *The committee discussed options for time duration of continued maintenance and protection for trees in Tree Save Areas. No agreement was reached.*

4. Provide education to homeowners and tree maintenance providers to encourage proper maintenance

Consensus

- a. Conduct annual planting and maintenance workshops
- b. Produce a maintenance guidebook

5. Plant and replant trees properly

Consensus

- a. Select the right tree for the location
- b. Provide education programs about what to plant and how

OBJECTIVE 2: CONSERVE TREES TO REDUCE LOSS OR DEPLETION

The bulk of the committee's recommendations pertain to Objective 2. This objective describes the activities that developers and landowners should undertake to conserve trees during the land development process. The key element in conserving trees is the establishment of Tree Save Areas (TSAs) in areas of new development. General provisions agreed to by the committee were to provide incentives for protecting high quality trees and tree stands in order to preserve benefits such as water quality protection, wildlife habitat, and other values that healthy trees and tree stands provide. This entails conserving trees along existing streams and floodplains and increasing contiguous stands of trees. The committee reached agreement on most of the key provisions regarding establishment and maintenance of Tree Save Areas in residential developments.

1. Target Critical Areas

Consensus

- a. Conserve trees along streams, in floodplains and in headwaters, and encourage tree planting along streams and in riparian buffers. Incentives will be granted for protecting existing trees along the outward boundary of forested riparian buffers protected under the City/County Stormwater Management Requirements.

The committee agreed that protecting trees in riparian buffers should be a priority, and to use incentives for protecting trees in these areas. The objective is to extend coverage of a contiguous stand of trees outward from the stream. This is designed to provide additional water quality protection and expand the extent of contiguous tree coverage on the site.

- b. Increase contiguous tree stands.

The committee agreed that protecting contiguous tree stands should be a goal of the ordinance. Incentives for protecting high quality trees and contiguous tree stands will be provided such that allowances may be granted for going below the minimum TSA standard.

2. Target Municipal and County Properties for Woodland and Forest Conservation.

Targeting municipal and county properties for tree conservation was a concept that was favorable to most committee members. The three options listed below were given a 'green light' and very little discussion was devoted to the topic

Consensus

- a. Require government units to be leaders in tree conservation as a good example
- b. Increase tree plantings in city parks and public/corporate lands. Schools were specifically targeted for tree conservation: increase tree planting at public schools; require public schools to incorporate tree conservation in designs; and encourage the school system to plant, maintain and protect trees on school sites
- c. Require tree protection plans for public projects (e.g., sewer line installation)

No Consensus

- d. *Share the obligation to save trees between local government and builders (e.g., local government commits to add x percent of tree cover each year).*

One member objective to this provision.

3. Establish Tree Save Area (TSA) standards in new development as a means of protecting the existing tree canopy

The committee agreed to use a Tree Save Area concept, that is, to maintain a portion of development in trees. They also agreed to exclude selected types of land cover from the TSA coverage area calculation. The committee debated without reaching agreement whether the definition of a TSA should include the phrase, "TSA requirements must be met by preserving existing trees on the site..." They agreed to the definition contained in 3.a., below, as a way to keep the discussion moving.

It must be noted that the percentage figures contained here represent a compromise among the committee members. During discussion, TSA figures ranged from as high as 40% of a development tract to as low as 5%. The 12% figure cited below was the median value among all values offered by the committee members.

Consensus

- a. A Tree Save Area (TSA) shall be defined as one or more areas on a development tract where existing trees will be preserved and maintained. The TSA is defined by the square footage encompassed by the exterior boundary of the drip line plus five feet of a tree or contiguous stand of trees.

- b. TSA coverage is expressed as a percentage of the total area of the development tract. For the purpose of calculating tree coverage requirements, the water surface area of ponds, lakes and other water bodies, roads, dedicated rights of way, and utility easements shall be excluded from the total land area of the development tract.
- c. Minimum TSA coverage applies to each of the following major land uses:
 - i. Planned residential developments (PRD): 12%
 - ii. Single family residential major subdivision: 12%
 - iii. Multi-family residential major subdivision: 12%
 - iv. Commercial: 10%
 - v. Industrial: 10%
 - vi. Transit-Oriented Development areas and Metro Activity Centers – to be reviewed individually
- d. To be credited toward a TSA, a tree:
 - i. Cannot be an exotic, invasive species. An invasive exotic species is defined as any non-native plant species that adversely affect the habitats they invade economically, environmentally or ecologically. (staff will define);
 - ii. Must be sufficiently healthy such that it will continue to grow for at least five years.
 - iii. May not be located within a utility right of way, a construction easement, within 50 ft of the centerline of any overhead electrical transmission line, or within 20 ft of the centerline of any overhead electrical distribution line.
- e. Stream buffer credits: Properties falling under the City/County Stormwater Management Requirements may use some or all the buffer to satisfy the required TSA if that stream buffer contains trees as defined above.

4. Plant Trees To Increase Tree Coverage

The committee spent considerable time discussing tree planting requirements. One key issue was whether trees could be removed and then replanted to meet TSA goals. The committee agreed that keeping trees on the site should be the guiding principle behind a TSA, and that planting should be used to bring non-forested development parcels up to a minimum TSA threshold. They recommended that a mix of overstory and understory trees as well as a mix of species should be planted to meet TSA requirements, and that only trees contained on an approved list are eligible to be planted. The committee could not reach consensus on planting density. Values ranged from 16 to 35 trees per acre.

Consensus

- a. On parcels containing less than the minimum tree coverage as described by the TSA for each of the major land uses, planting will be required at the following rates:

- i. On land uses with a minimum TSA of 12%: If less than 6% coverage, plant 6%; If more than 6%, but less than 12%, plant up to 12%
 - ii. On land uses with a minimum TSA of 10%: If less than 5% coverage, plant 5%; If more than 5%, but less than 10%, plant up to 10%
- b. Species planted to meet TSA requirements must be on the “Approved Species List”.
- c. Trees planted to meet TSA requirements must contain a mix of species determined in the following way:
 - i. 85% of trees must be canopy trees of species contained in List A and List B
 - ii. 15% of trees must be understory trees of species contained in List C
 - iii. No single species shall constitute more than 50% of total planting.
- d. Size of replanted trees will be determined generally by species as listed on the “Approved Species List.”
- e. Density of planting:

No Consensus

The committee could not reach consensus on planting density. Values ranged from 16 to 35 trees per acre

5. Require Tree Protection Plans

The committee agreed that a “generic” tree protection plan should be required for all developments where a TSA is applied (the City of Charlotte’s “Tree Protection Plan Requirements” document was identified by the committee as an example of a generic plan).

Consensus

- a. All applications for new development where Tree Save Areas are required shall include a tree protection plan.

6. Demarcation and Certification of Tree Save Areas

The committee discussed how TSAs were to be identified on a site plan. The desire of the committee was to recommend a method that is both accurate and low cost. Key issues in the deliberations were whether a tree survey and a site visit should be required on every pre-development site.

Consensus

- a. Tree Save Areas may be demarcated on drawings and aerial photos submitted

- with site plans or through a tree survey
- b. Tree surveys shall be undertaken in the following instances:
 - i. To qualify for tree and stand quality incentives
- c. A tree survey conducted for purposes of obtaining quality incentives shall be conducted and certified by a registered forester or certified arborist.

No Consensus

The committee could not reach consensus on the requirements for tree surveys. Not resolved were issues regarding the circumstances when a tree survey would be required (except in instances where quality incentives were to be applied), and whether a city official, registered forester, or certified arborist would be required to carry out a site visit to inspect the parcel.

7. Definition of Maintenance Period for Trees Saved and Planted in a TSA

The committee discussed options for ensuring that trees comprising a TSA remain on the site for some period of time after development (maintenance period). They agreed that a maintenance period is needed but did not reach agreement on duration and replacement requirements.

Consensus/No Consensus

- a. Trees planted under this ordinance shall be done according to ANSI 300 and ISA standards.
- b. Dead or dying trees shall be replaced by the developer for up to xx months for trees planted under this ordinance, and xx for existing trees protected under this ordinance or until conveyance of the title

8. Applicability of Tree Save Area Requirements

The committee discussed the types of development and geographic scope which would fall under the recommended TSA requirements. The committee considered whether to apply TSA requirements differentially by Growth Management Area and by land use.

Consensus

- a. Tree Save Area standards are applicable to:
 - i. New development on land uses as described in Objective 2, Section 3.c.
- b. Tree Save Area standards shall not be required in Growth Management Area 1 – City/Town Centers.

No Consensus

The committee could not reach consensus on whether TSA requirements should be applied to minor subdivisions and significant additions to existing construction.

OBJECTIVE 3 – ESTABLISH AND MAINTAIN AGE AND SPECIES DIVERSITY

The committee made it clear in their discussions that a tree conservation ordinance should attempt to capture as much as possible, the benefits and values that trees provide. Moreover, it recognized that not all trees and tree stands are of equal value, and that tree conservation standards should focus on protecting high value trees and tree stands. After considerable discussion around options for protecting high quality trees and tree stands, they agreed to use an incentive-based approach to achieve this objective. They also agreed to recommendations governing protection of specimen and heritage trees.

1. Ensure tree and stand quality in tree save areas (TSA) by providing incentives to improve tree and stand quality

The committee agreed that standards for tree and stand quality beyond being noninvasive, non-exotic, and healthy would be obtained through incentives. The incentive approach allows developers to go below the minimum TSA provided that the trees that are preserved meet certain quality criteria. The committee reached agreement that incentive thresholds cannot go below 10% coverage on single family residential developments. Because of time limitations, they did not specify minimum thresholds for quality incentives on other land uses.

Consensus

- a. Incentives for protecting high quality trees and contiguous tree stands will be provided such that allowances may be granted for going below the minimum TSA standard. The quality coefficients described in below may be applied in cases where extra measures are taken to ensure tree and stand quality on the development tract. In no cases shall the minimum TSA be less than 2% below the established minimum coverage for single family residential uses (PRDs and major subdivisions).
- b. Quality coefficients will be applied to the measure of tree cover in the following ways:
 - i. **Species:** If stand composition is mixed hardwood and coniferous, TSA may be reduced by 0.25%. If stand composition is completely hardwood, TSA may be reduced by 0.5%
 - ii. **Cluster characteristics:** If the entire TSA is contained in one tract the TSA may be reduced by 2%
 - iii. **Stand diversity:** TSA may be reduced by 0.1% for each different species found in TSA if 10 or more separate species are documented within the TSA
 - iv. **Specimen trees:** If specimen trees, as defined below, are within TSA, the TSA may be reduced by 0.1% for each specimen tree.

- c. Incentives will be granted for protecting existing trees along the outward boundary of forested riparian buffers protected under the City/County Stormwater Management Requirements.
 - i. A density bonus of 1 housing unit per developed acre will be granted for every 4,000 square feet of existing tree cover adjacent to the 30-foot riparian buffer with the following qualifications: the undisturbed area must have a minimal horizontal width of 10 feet and be 100 linear feet or more lateral to the existing 30-foot buffer area. Bonuses will be limited to no more than 2 housing units per developed acre.
- d. To qualify for incentives, the development tract and associated tree protection plan must be reviewed and certified by a registered forester or certified arborist.

Because of time limitations, the committee did not define quality incentive thresholds for multifamily and non-residential uses.

2. Preserve and Protect High Value Trees (Heritage and Specimen Trees)

The committee agreed that certain individual trees deserve special status by virtue of their size and species, historic value, or other unique feature. These trees were defined as heritage trees and specimen trees and afforded additional protection measures.

a. Heritage Trees

Consensus

- i. **Defined:** A Heritage Tree is any tree that is listed on the North Carolina Big Trees List, the American Forest Association Champion Tree list, or any tree that would measure 80% of the points of a tree on the North Carolina Big Trees List.
- ii. **Mitigation:** Heritage trees certified by a registered arborist or certified forester to be expected to live for at least five years beyond the time of inspection, and not deemed to be a hazardous tree, must be retained on the development tract. In cases where keeping the tree on the development tract is not feasible then the TSA on the tract must be increased by three times the coverage area of the removed heritage tree.

b. Specimen Trees

Consensus

- i. **Defined:** A Specimen Tree is a tree or group of trees considered to be an important community asset due to its unique or noteworthy characteristics or values. A tree may be considered a specimen tree based on its size, age, rarity or special historical or ecological significance as determined by the

city arborist or urban forestry specialist. Examples include large hardwoods (e.g., oaks, poplars, maples, etc.) and softwoods (e.g., pine species) in good or better condition with a dbh of 24 inches or greater, and smaller understory trees (e.g., dogwoods, redbuds, sourwoods, persimmons, etc.) in good or better condition with a dbh of ten inches or greater.

- ii. **Protection:** Protection of specimen trees on the development tract is encouraged through incentives.

3. Items given a “green light”, but not fully discussed by committee

These items were contained in the latest version of the Discussion Agenda, received all positive scores on the option evaluation, but were not addressed by the committee.

- a. Walk site prior to site plan to preserve valuable trees
- b. Encourage homeowners to replace dead or other removed trees with trees of similar growth potential (e.g., an oak for an oak, not dogwood for an oak)
- c. Give tax credits for any mature tree preserved outside of what is required by regulation using a model such as cityGreen to assign credit value

OBJECTIVE 4 -- SECURE SUFFICIENT STAFFING AND FUNDING

Objective 4 was not taken up by the committee

OBJECTIVE 5 -- GAIN COMMUNITY SUPPORT

































Promote Conservation of Tree Resources





























Identify the Values and Benefits of Trees

Objective 5 was not taken up by the committee

APPENDIX A – Option Evaluation “Scores” for Objectives 2 and 3


WINSTON-SALEM / FORSYTH COUNTY TREE ORDINANCE COMMITTEE EVALUATION OF OBJECTIVE 2








2.1	TARGET CRITICAL AREAS	
2.1.1	Conserve trees along existing streams, in floodplains, and in headwaters	
2.1.1.1	Establish riparian buffers along streams	
2.1.1.2	Divert development away from streams (buffers)	
2.1.1.3	Preserve all trees within 50 feet of any stream	
2.1.1.4	Increase percentage of flood plain to remain undeveloped	
2.1.1.5	Encourage tree planting along streams and in riparian buffers	
2.1.2	Improve/enhance buffer yards	
2.1.2.1	Increase present buffer-yard widths	
2.1.2.2	Require preservation of existing tree canopy within buffer yards	
2.1.3	Increase contiguous tree stands	
2.1.3.1	Disallow clearing of any treed areas if comparable, already cleared land is available [for development]	
2.1.4	Protect wildlife corridors and green-space areas	
2.2	TARGET MUNICIPAL AND COUNTY PROPERTIES	
2.2.1	Require government units to be leaders in tree conservation as a good example	
2.2.2	Share the obligation to save trees between local government and builders (e.g., local government commits to add x percent of tree cover each year)	
2.2.3	Increase tree plantings in city parks and public/corporate lands	
2.2.3.1	Increase tree planting at public schools	
2.2.3.2	Require public schools to incorporate tree conservation in designs	
2.2.3.3	Encourage the school system to plant, maintain and protect trees on school sites	
2.2.4	Require tree protection plans for public projects (e.g., sewer line installation)	
2.3	SPECIFY PLANTING AND REPLANTING REQUIREMENTS	
2.3.1	Plant trees to replace trees that cannot be conserved	
2.3.2	Plant street trees	
2.3.2.1	Allow trees to be planted in portions of street right-of-way	
2.3.3	Plant new trees in flood plains	
2.3.4	Increase the number of shade tree replanting	
2.4	PROTECT AND RESTORE THE TREE CANOPY	
2.4.1	Establish city and county tree canopy policy and goals	
2.4.2	Establish standards for woodland and forest conservation	
2.4.3	Require tree protection plans for all property permitted for development	
2.4.4	Incorporate selective grading practices as opposed to mass grading	










- 2.4.5 **Preserve a percentage of trees in new development (both commercial and residential)** 
- 2.4.5.1 Establish a tree save area (TSA) percentage baseline for all new development 
- 2.4.5.2 Preserve a percentage of areas to be left undisturbed 
- 2.4.5.3 Establish a percentage baselines of tree cover to be preserved for each major land use category [zoning district?] 
- 2.4.6 **Develop incentives to increase tree save areas (TSA)** 
- 2.4.6.1 Set up a tree bank in which developers can deposit trees if they exceed (save more than) the minimum TSA baseline, and sell to other developers who can't meet the TSA baseline 
- 2.4.6.2 If builder meets a specific TSA target (in the site plan), then streamline the approval process and provide additional flexibility on the remainder of the site 
- 2.4.7 **Minimize rules that result in tree loss** 
- 2.4.7.1 Require development regulations to recognize need for tree conservation (street standards, retention ponds, detention ponds, etc) 
- 2.4.7.2 Change street design standards 
- 2.4.7.2.1 Reduce minimum radius requirements 
- 2.4.7.2.2 Increase maximum slopes 
- 2.4.7.2.3 Increase cul de sac lengths 
- 2.4.7.2.4 Review street connection requirements for impact on trees 
- 2.4.8 **Establish a moratorium for 1 year on removing trees after property changes hands** 
- 2.4.9 **Where a significant number of trees are taken by development, require replanting or protection of trees elsewhere** 
- 2.4.9.1 Replace trees by caliper: diameter-inch replaced for each diameter-inch removed 
- 2.4.10 **Increase parking lot shading to 40 percent** 
- 2.4.11 **Allow flexibility with utility rights-of-way (e.g., behind houses) to provide more area adjacent to street for trees** 
- 2.4.12 **Encourage creativity with use of landscape architecture input into site development** 
- 2.4.13 **Provide tax credits to developers exceeding minimum requirements** 
- 2.4.14 **Encourage minimizing of impervious areas** 
- 2.4.14.1 **Cluster residential development** 
- 2.4.15 **Allow transfer of development rights to preserve large areas of trees** 
- 2.4.16 **Reestablish the County Farm Preservation Program** 
- 2.4.17 **Educate developers as to the value of trees, i.e., increased property value** 
- 2.4.18 **Provide educational programs in schools (K-12) that provide information on the value of trees** 
- 2.4.19 **Encourage private property owners to put forested land into conservation easements** 

**WINSTON-SALEM / FORSYTH COUNTY TREE ORDINANCE COMMITTEE
EVALUATION OF OBJECTIVE 3**

Options

- 3.1.  Create a Plan for Species and Age Diversity

- 3.2.  Establish Goals and Standards
 - 3.2.1.  Require a tree protection plan for all development based on a tree survey
 - 3.2.2.  Select proper species for the site
 - 3.2.3.  Create an "okay to remove" list
 - 3.2.4.  Encourage planting of several species of trees
 - 3.2.5.  Encourage planting of native species
 - 3.2.5.1.  Recognize that native trees may not do as well on a 'non-native' site as introduced species

- 3.3.  Preserve and Protect High Value Trees
 - 3.3.1.  Develop specific requirements for savings trees by size, type, diversity
 - 3.3.2.  Protect shade trees (large canopy)
 - 3.3.3.  Establish criteria similar to those used in "Champion Tree Programs" to increase value for mature trees
 - 3.3.4.  Inventory significant and heritage trees
 - 3.3.5.  Require that heritage trees be saved if at all practicable
 - 3.3.6.  Walk site prior to site plan to preserve valuable trees
 - 3.3.7.  Encourage homeowners to replace dead or other removed trees with trees of similar growth potential (e.g., an oak for an oak, not dogwood for an oak)
 - 3.3.8.  Give tax credits for any mature tree preserved outside of what is required by regulation using a model such as cityGreen to assign credit value