TENNESSEE

URBAN FORESTRY PROGRAM

PLAN

for

2003 to 2008

Introduction and History of Urban Forestry in Tennessee.

Approximately 27% of Tennessee's 5.7 million people live in its 4 largest cities. 41% live in the 25 largest cities, and 52% of its people live in incorporated communities 5000 population and larger. Urban Forestry impacts people where they live.

Anecdotal information indicates that urban forestry has been practiced in Tennessee cities and towns for over 100 years. Within the last 25 years, the Federal Government, the State of Tennessee, and cities and communities have initiated urban forestry programs. In the late 70's, Norris became Tennessee's first Tree City USA, and the USDA Forest Service began limited funding for states to establish urban forestry programs. In the 80's, over a dozen communities followed Norris' lead and became Tree City USA's, and the State of Tennessee launched its urban forestry program. In the 90's, the USDA Forest Service greatly expanded its funding of urban forestry, the Tennessee Urban Council was formed, the state expanded its role and programs, and more cities became Tree City USA and began to hire urban or city foresters.

Today, urban forestry seeks to emphasize the important role trees play in communities: from the many intangible benefits to the economic benefits of air pollution abatement, heat island mitigation, and storm water runoff reduction. To attain these benefits, urban foresters, tree boards, and non-profit organizations at local, state and federal levels seek to influence and educate leaders and the general public.

Process for Plan Development

In March 2002, a 4 page questionnaire was developed and sent to 840 participants in the urban forestry program. These participants included all tree board members from Tree City USA cities, past participants in urban forestry conferences, past and present grant participants, and others. By April 12, 2002 79 questionnaires were returned. The response rate was 9.4%.

The questionnaire asked respondents to describe what they thought the main issues of urban forestry were, what the roles of federal, state and local government agencies should be, and what barriers and successes have been experienced in urban forestry programs. A complete questionnaire is attached as Appendix A.

The plan will focus on the efforts the Tennessee Department of Agriculture, Forestry Division will undertake in the next 6 years. However, because urban forestry is not just a state undertaking, this plan includes a discussion of the roles of other organizations and partners involved in urban forestry. By providing this discussion, these other agencies and organizations may adopt their own plan to address issues and fulfill appropriate roles.

Mission and Vision Statement

Tennessee Department of Agriculture, Division of Forestry Mission: Serving the people of Tennessee by promoting the wise use of our forest resources

Urban & Community Forestry Vision: Improve the quality of life for citizens of Tennessee's communities by providing assistance and information about trees and urban forests.

Definition: Urban Forestry is the integration and interaction of trees with people to make communities more livable. It includes
- the management of trees in our communities
- the incorporation of tree management into the infrastructure of the city
- the protection of trees in remnant forests in development and land use conversion

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Goal 1: Establish Urban & Community Forestry programs in communities in Tennessee and assist existing programs in becoming sustainable.

Goal 2: Increase awareness and understanding of the benefits, values, and management of urban forest resources.

Goal 3: Improve technical knowledge and skills of forestry division personnel and planners, managers and maintenance workers who affect urban forests and green spaces.

Goal 4: Improve the coordination and cooperation of people and organizations who influence urban forests

Goal 5: Implement a process for assessing urban forests in Tennessee

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Goal 1: Establish Urban & Community Forestry programs in communities in Tennessee and assist existing programs in becoming sustainable.

Objectives:

A. Effectively administer the urban forestry grants by promoting the grants program, cooperating with the Council for proposal review, establishing grant agreements, monitoring projects as they are completed, and reviewing final reports and invoices and approving payments.

        Completion by: Urban forestry staff and TN Urban Forestry Council
        Completion date: yearly

B. Establish priority for funding grants in the 3 categories identified by questionnaire respondents, which are:
   - local educational programs.
   - local urban forestry personnel.
   - tree planting.

    Completion by: Urban forestry staff
    Completion date: yearly

C. Expand the Tree City USA participation in Tennessee by assisting communities in:
   - establishing tree boards.
   - developing and passing ordinances.
   - developing there municipal tree programs.
   - celebrating arbor day.

        Completion by: Urban forestry staff
        Completion date: yearly

D. Expand the Tree Line USA participation in Tennessee by:
    providing information to utilities about the program and its standards.
    presenting Tree Line awards at the Tennessee Municipal Public Power Association meetings.

        Completion by: Urban forestry staff
        Completion date: yearly

E. Address ordinance issues and assist communities with development of street tree, landscape, and timber harvesting ordinances.

        Completion by: Urban forestry staff
        Completion date: yearly

F. Find more effective and efficient ways of delivering urban forestry assistance to cities and towns, public officials and the general public.

        Completion by: Urban forestry staff
        Completion date: yearly

G. Address the emerging issues of heat island effect, air pollution, storm water and how the canopy cover of urban forests impact these in a positive manner.
Completion by: Urban forestry staff
Completion date: ongoing

Goal 2: Increase awareness and understanding of the benefits, values, and management of urban forest resources.

Objectives:
A. Establish Regional Urban Forestry Councils
1. Identify local individuals and community leaders in the regional area with an interest in urban forestry and assist them in developing a regional organization (Council).
Completion by: Urban forestry staff and district personnel
Completion date: 2004
2. Set up an organizational meeting of interested individuals and organizations
Completion by: Urban forester and staff
Completion date: 2005

B. Maintain Champion Tree records and revised the list as appropriate.
Completion by: Urban forestry staff
Completion date: yearly

C. Administer Tennessee ReLeaf through current agreement, and if partners are willing, develop a new agreement and continue ReLeaf for the remainder of this plan.
Completion by: Urban forestry staff
Completion date: yearly

D. Administer and expand participation in the State-wide Arbor Day Poster Contest.
Completion by: Urban forestry staff
Completion date: yearly

E. Provide education to a variety of audiences, i.e. tree boards, local officials, arborists, grounds managers, and others on the both arboriculture and urban forestry.
1. Set up display at annual TN Municipal League conference and other venues and write an article for Town & City magazine annually.
Completion by: Urban forestry staff
Completion date: yearly
2. Provide information and assistance to communities on the importance of proper tree pruning versus topping, and other tree maintenance procedures.
Completion by: Urban forestry staff
Completion date: yearly

3. Provide information and assistance on the importance of proper tree selection and proper planting practices, including public schools and other publicly owned property.
    Completion by: Urban forestry staff
    Completion date: yearly

4. Develop a plan to find ways that will address the issue of tree loss during developments. Increase the knowledge of tree that will enable builders and developers to be more successful when attempting to save trees.
    Completion by: Urban forestry staff
    Completion date: yearly

F. Administer the Arboretum Certification program
  1. receive applications, inspect, and certify qualifying arboretums
    Completion by: Urban Forestry staff, UF Council, and Garden Clubs
    Completion date: yearly
  2. Establish a part time position and hire a state-wide arboretum coordinator.
    Completion by: Contract with urban forester oversight
    Completion date: 2006

Goal 3: Improve technical knowledge and skills of forestry division personnel and planners, managers and maintenance workers who affect urban forests and green spaces

Objectives:
  A. Develop and implement a training program for field foresters and field forestry personnel.
    Completion by: Urban forester and staff
    Completion date: 2005

  B. Develop appropriate classes, workshops, and conferences targeted to various groups and individuals when need arises.
    Completion by: Urban forestry staff, Council members & others
    Completion date: 2005

UF Goal 4: Improve the coordination and cooperation of people and organizations who influence urban forests

Objectives:
Identify and contact U&CF leaders in communities and make regular follow-up contacts with leaders in communities with established programs.
        Completion by: Urban forestry staff
        Completion date: yearly

UF Goal 5: Implement a process for assessing urban forests in Tennessee

Objectives:
A. Complete an urban forest assessment using actual plots and aerial imagery.
    1. complete one of the four large Tennessee cities.
    2. complete four medium size cities (population of 15,000 to 50,000 size).
        Completion by: Contracted, with oversight by urban forestry staff
        Completion date: 2005 for item 1, 2007 for item 2.

B. Develop a natural disaster response plan for urban forests that will address actions to take on state and local public lands.
        Completion by: Urban forester and staff
        Completion date: 2004

Assessment

Issues

The questionnaire asked respondents to identify what they though were the current issues facing urban forestry today. the question was open ended so that individuals could respond with their ideas. The 79 respondents stated 291 issues important to urban forestry. Several issues are related and have similar meaning. Compiling the results meant interpreting and classifying the responses. The complete summarized list of issues given by respondents appears in Appendix B.

EDUCATION - The issue most often mentioned was the need for education. This issue took several forms, the most common being to inform and education adults about trees and urban forests. Within the category were education of local officials, education in K - 12 schools, education of arborists and other professions dealing with trees, and urban forestry education at college forestry schools.

TREE MAINTENANCE - Tree maintenance along with tree topping and proper pruning was the second most common issue stated in the survey. This was stated in general terms and is interpreted to mean any aspect of tree related work between planting and removal. Usually this issue means pruning, but can also include insect and disease control, watering, fertilization, cabling and bracing, lightning protection, soil aeration and drainage, and other maintenance issues.

Related to tree maintenance is the issue of tree topping (improper pruning). This continues to be a significant issue in many communities throughout the state. Tree topping continues to be a long term problem that needs to be addressed.

PLANTING AND SELECTION - Tree planting and selection continues to be an issue in urban forestry in Tennessee. Issues specifically mentioned in the survey are the need for more planting in general, more tree planting and landscaping around schools, the lack of diversity of tree species being planted, selection of proper trees to assure the right tree is planted in the right place, and proper planting practices.

TREE LOSS IN DEVELOPMENTS - As a single issue this ranked very high in the survey. Simply stated, when land use changes from forest (or agriculture land), trees are lost. In addition, attempts to save trees often fail because of a lack of understanding of the roots of trees and the space that is needed to retain trees.

ORDINANCES - Ordinance issues are related to the tree loss issue. This issue was expressed in several ways, including passing ordinances in communities that don't have them, and strengthening and enforcing ordinances in communities that do.

URBAN FORESTRY ASSISTANCE - The need for more urban forestry assistance is mentioned in about one sixth of the surveys. While not a significant number per se, it is important to recognize this need, because it implies the need for more education, information about care and maintenance, planting and selection, and assistance in ordinance development.

EMERGING ISSUES - Although these issues received minority mention, they are ones that will become very important to urban areas and urban forestry in the near future. These issues are:
- Heat island effects and energy saving abilities of trees
- Air pollution reduction capacities of trees and urban forests
- Storm water mitigations by urban trees
- Impacts of canopy cover percentages on these and other urban problems

Roles in Urban Forestry by Agencies and Organizations

The questionnaire asked a series of questions about what role various agencies and organizations should play in urban forestry. Below are summaries of the responses.

ROLE OF THE TENNESSEE URBAN FORESTRY COUNCIL - The 154 responses were sorted into 6 primary categories. They are:
- Education, 50 responses. This included a broad range of target audiences for education, including legislators, local government leaders, school children and teachers, tree boards, and the general public.
- Advocacy, 23 responses. Advocacy included things like lobbying lawmakers, encouraging the development of local programs and tree boards, influencing and forming public opinion, and more planting.
- Assistance, 21 responses. Assistance included general technical assistance, and assistance with tree inventory, species selection, providing speakers, local planning and development, and assistance to communities without an urban forester.
- Partnering, Networking and Leadership - 13 responses. Respondents seemed to be identifying a need for tying communities together. They appeared to be looking for a clearinghouse of what is happening in other communities and in other areas of the state. Some of the specific responses include: facilitate the union of people and information, coordinate activities and information dispersal between cities and urban foresters, and network nationally with other tree groups.
- Grants and Funding - 9 responses. Most of the responses were general grant items. Two specific responses of note were to create funding sources and to develop joint funded programs with schools and/or utility companies.
- Ordinances and local regulation - 8 responses. These responses were mainly directed toward getting ordinances established and enforcing them, the latter being a more appropriate role of local government. About half the responses specifically mention the loss of trees in development as the need to establish and enforce ordinances.

Some of the other category responses include speaking to groups, help people get trees and plant trees, research, conduct pilot projects, licensing of tree care companies, supply

seedlings to the public, and coordinate with TN Dept. of Transportation on standards for road designs.

ROLE OF THE USDA FOREST SERVICE - In analyzing the responses to roles of the USDA forest Service, one hundred thirty nine suggestions were given. Most of them could be summarized into 4 categories. They are:

- Provide grant money and financial support - 40 responses
- Provide education about trees and urban forests - 25 responses
- Provide partnering, networking and national leadership in urban forestry - 16 responses
- Provide and support research - 9 responses
- Provide guidelines for a variety of items, such as setting guidelines for proper planting - 8 responses

Additional suggestions for roles were additional advocacy for urban forestry, coordination of activities (at the National or multi-state level), interface issues, and increased technical assistance (to state and local governments and other partners).

There was a broad range of responses that were not categorized. Some of these include provide incentives for becoming a Tree City USA, global warming, or promote native trees. There were 20 responses that dealt with land management issues, including conservation of federal forest lands, oversight and management of non-game wildlife and recreation, protection of National Parks and Forestry from air pollution, and others.

ROLE OF THE TENNESSEE DEPARTMENT OF AGRIUCLTURE, FORESTRY DIVISION - 149 responses were given offered for the urban forestry role of the TDA-FD. A summary of these responses are:

- Education - 37 responses. Most of the responses given were general, such as "provide education." Some gave specifics as to what to do, including sponsor workshops and print bulletins. Other responses suggested target audiences, such as school children, builders & developers, tree care companies, city governments, and state government officials. Still others expressed ideas of messages to pursue including selection, planting, maintenance, value of trees and importance of trees.
- Technical Assistance & Resource assistance - 34 responses. Suggestions as to needed technical assistance include tree planting and maintenance programs, ordinance development, general assistance to tree boards, tree inventory, assessments and planning, implementation of a pest/disease warning system, Arbor Day, and tree studies. One valuable suggestion was to establish an urban tree monitoring program.
- Partnering, networking, liaison and leadership - 13 responses. Most of these responses indicated the importance of the state as a link between local governments and the Federal Forest Service, and as a link between communities within the state.
- Advocacy - 9 responses. The Advocacy role identified by respondents include encouraging municipalities to form tree programs, continuing to raise awareness of tree and forestry issues, and establishing an urban forestry slot on the forestry commission.
- Other - 39 responses. Some of the notable responses include promoting and advocating native trees, propagating and distributing exceptional tree species for

Tennessee, licensing tree care companies, planting trees along the interstates, and providing seedlings and trees for pilot projects.

ROLE OF TREE BOARDS AND LOCAL GOVERNMENTS - The responses to the role of tree boards and local governments were classified as either education (42)or implementation (123). Within implementation were a significant number (32) which mentioned ordinances. Some of the implementation items mentioned besides ordinances include:

- stop tree topping
- form tree boards
- conduct tree inventories and develop plans
- secure Tree City USA status
- review landscape plans for schools and other areas
- secure funding and grants
- implement arbor day events
- set local policy
- plant trees
- develop memorial tree plantings
- work with local developers
- advocacy for trees

Educational roles most frequently mentioned were:

- local tree care workshops
- educate homeowners on selection, proper planting & maintenance
- tree and urban forestry education for schools
- distribute tree literature

ROLE OF THE UNIVERSITIES AND COLLEGES - As expected, the major roles of universities and colleges included education (80 responses) and research (26 responses). Technical support was also mentioned as a significant role (24 responses).

Education responses identified potential audiences beyond the traditional campus student. These include master gardeners, arborists, tree boards, citizen forester & master gardeners, pest control applicators, nurseries, foresters, public utility workers, and others in the green industry.

Research needs mentioned include planting techniques, tree maintenance, tree selection, test plantings, "real site" testing (of trees), landscaping modeling, insect and disease response and resistance, drought tolerances, urban problems (compaction, topping, etc.), and other tree related issues.

Specific technical support items mentioned include problem diagnosis and laboratory services, development of arboretums, advice/help in planting & maintenance, and propagation of better resistant (to insects & diseases) varieties.

Mentioned a few times was the need to provide urban forestry and arboriculture education to traditional forestry students.

Funding Projects with Grant Money

This question received seventy eight responses. Since the question asked respondents to rank the types of projects to fund, the analysis was based on summing the ranks and dividing by the 78 responses. This process revealed the following 3 priorities that should be funded:

1. Local workshops, seminars, and training
2. Tree planting
3. Urban forestry personnel

Most respondents simply rated the items listed in the question while a few gave additional suggestions on how grant money should be spent. Some of the more notable projects suggested for funding include:

- ordinances and lobbying to pass laws for trees
- test planting of species/cultivars
- radio/TV advertising
- tree restoration in developments
- tree board development

Review of grant proposals within the timeframe of this plan will focus on the 3 priority types of projects. However, proposals for other types of projects will not be excluded.

Barriers & Successes

Successes to celebrate. Success stories are important to celebrate. A few of those mention in the questionnaires are listed here.

- other city departments' involvement, tree giveaways, the tree board, the ordinance and achieving Tree City USA status
- working with the Department of electricity to establish tree replacement and proper pruning programs
- ReLeaf Nashville was a big success
- my department is a success!
- achieving Tree City USA status, setting up an urban Forestry website, beginning a tree inventory, and having a 3 person full time tree crew
- the one million trees planting campaign for the 1996 State bicentennial
- citizen forestry classes and establishing an arboretum
- working with the local schools. The kids have great enthusiasm for trees.
- starting the Nashville Arborist forum, and teaching classes to help arborists get certified

Barriers to overcome. It was expected that the most common barrier to be cited would be funding. However, the most commonly mention barrier appeared to be the lack of informed public officials, either elected officials or local government departments. Typical of the responses were, "lack of education on citizen and local government level (city council, etc.)". Other interesting and thought provoking barriers include:

- people with authority within local government that do not realize the importance of a tree program. It's partly ignorance and lack of caring.
- lack of public knowledge concerning proper tree care - the #1 problem
- regulations that are often seen as prohibitive to development.
- resistance to change from staff and developers. indecisiveness of parks and recreation board.
  resistance from citizens to take advice from government
- tree and landscape ordinances that most people feel are punishment and government crap. Through education we should be able to explain the true reasons that we all believe in.
- lazy people (but) we step over them and move on.
- community organizations that are unable to pull in adults between the ages of 25 - 45. organizations have not been able to increase their membership with individuals that can provide new ideas, energy, and actual "work power".
- lack of knowledge and the traditional way of doing things
- time restraints on the "movers & shakers" that get things done

Appendix A - Urban and Community Forestry Questionnaire

Vision for Urban & Community Forestry: To improve the urban forests of Tennessee's cities and towns by delivering technical assistance, information and education, and financial assistance to communities, their leaders and citizens.

Purpose: The purpose of this questionnaire is to gather information to use in updating the Tennessee Urban and Community Forestry comprehensive plan. This plan will be the guiding influence for the Tennessee urban and community forestry program for the next 5 to 7 years. This plan will also guide how the federal grant funds will be awarded during this period.

Questionnaire recipients include Urban Forestry Council members, tree board members, professional arborists, city foresters, city horticulturists, TN Dept of Agriculture, Division of Forestry foresters, past grant recipients, participants in recent TN Urban forestry Conferences, and others.

Completed questionnaires should be mailed or faxed by April 12, 2002 to:

> Bruce Webster
> TN Dept. Agriculture, Forestry Division
> P.O. box 40627
> Nashville, TN 37204
> Phone 615-837-5436
> Fax No. 615-837-5003

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What are the main issues in Urban and Community Forestry that should be addressed in the next 5 to 7 years? (Some examples are: maintaining trees after planting, lack of landscaping at schools, tree loss in developments, general tree maintenance, global warming and tree mitigation, passing tree ordinances, lack of urban forestry assistance, setting up tree boards, education or communication regarding trees, etc.)

_____

_____

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_____

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_____

(Please put a number one by the issue that, in your opinion, is the most critical urban forestry issue to address in the next five to seven years.)

Local, State and Federal Governments, along with organizations and educational institutions have a role to play in urban and community forestry. Please help define those roles.

What role or activities should the TN Urban Forestry Council fill/sponsor?

_____

_____

_____

_____

What role or activities should the Federal Forest Service fill/sponsor?

_____

_____

_____

_____

What role or activities should the State Forestry agency fill/sponsor?

_____

_____

_____

_____

What role or activities should local governments and tree boards fill/sponsor?

_____

_____

_____

_____

What role or activities should universities & the UT Extension Service fill/sponsor?

_____

_____

_____

_____

What successes have you had in establishing new tree programs or in expanding existing programs.

_____

_____

_____

_____

What barriers exist that prevent the establishment of a local tree program, or what barriers exist that prevent the tree program from being more successful.

_____

_____

_____

_____

The TN Dept of Agriculture, Division of Forestry receives approximately $200,000 per year in grant money from the USDA Forest Service to fund projects by local governments, non-profit organizations, and educational institutions. Please rank the following projects that you think are most important to fund with this Federal money.(place a 1 for most important, 2 for second most important, etc.)

_____ Urban forestry personnel
_____ Tree inventories and assessments
_____ Street tree master plans
_____ Canopy cover/GIS studies
_____ Local workshops, seminars, and training
_____ Printed educational material (bulletins, flyers, posters, handouts, etc.)
_____ Street tree master plans
_____ Arboretum development (tree identification and labeling)
_____ Outdoor classrooms for schools (tree component only)
_____ Tree planting
_____ Tree maintenance
_____ (list) _____
_____ (list) _____
_____ (list) _____
_____ (list) _____

What is the population of your community?   _____ 1 to 20,000 population
_____ 20,001 to 100,000 population
_____ 100,001 and greater population

In the last 5 years, has the number of trees in your community:
    _____ increased
    _____ decreased

In the last 5 years, has tree maintenance, either quantity or quality, in your community:
    _____ improved
    _____ declined

In the last 5 years has the overall health of the trees in your community:
    _____ improved
    _____ declined

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_____ Check if you would like a copy of the completed plan

(Optional)   Name   _____
               Address _____
                           _____
         Phone &/or email _____

Appendix B - 2002 Issues

Issues	# Responses	Single Response Issues
	0	
Tree maintenance	38	Lack of woodland near/in municipalities
Tree topping	16	Contact the communities
Proper pruning	2	Lost canopy cover
total for group	56	Tree insects
Citizen education	37	Better pay for urban foresters
Education of local officials	8	Landscaping for homeowners
Education (tree, forestry) in schools	6	Energy conservation
College forestry school education	3	Coordinate care, preservation, conservation
Arborist, tree care worker education, quality	5	Botanical gardens
total for group	59	Develop details, tree lists for urban conditions
Tree loss in development, development issues	35	Defining urban forests
Ordinances	27	Planning for trees
		Environmental change/stress
Planting, maintenance around schools	14	Guest speakers for legislative body
Need for more planting	11	Hazard trees, tree removal
Selection, lack of diversity	6	Wildlife plantings
Species selection by designers	1	Road design standards that include trees
Proper planting practices	6	Residential landscaping
total for group	38	Urban forestry Best Management Practices
Need for more urban forestry assistance	13	Regulation of forestry practices
Establishing, strengthening tree boards	8	
Funding urban forestry, grants	7	
Awareness of benefits of trees	5	
Global warming/tree mitigation	5	
Utility tree issues	4	
Quality of trees from nurseries	3	
Air pollution reduction	3	
Native vs exotic species	2	
Increase paving, parking lots	2	
General urban tree management	2	
Planting, maintenance commercial, public areas	2	