

ACKNOWLEDGEMENTS

MANATEE COUNTY BOARD OF COMMISSIONERS

- | | |
|-----------------|------------------|
| District 1 | Amy Stein |
| District 2 | Gwen Brown |
| District 3 | Jane von Hahmann |
| District 4 | Ron Getman |
| District 5 | Donna Hayes |
| At Large Seat 6 | Patricia Glass |
| At Large Seat 7 | Joe McClash |

COUNTY ADMINISTRATOR

Ernie Padgett

DIRECTOR OF TRANSPORTATION

Larry R. Mau, P.E.

URBAN FORESTRY CITIZENS ADVISORY COMMITTEE

- | | |
|------------------|--------------------------------------------------------------|
| Beverly Burdette | Burdette & Associates, Inc. |
| Bob Simons | Lakewood Ranch |
| Dantia Gould | City of Holmes Beach / Keep Manatee Beautiful |
| Harry Mendenhall | Manatee County Transportation Dept. / Keep Manatee Beautiful |
| Jacki Dezelski | Manatee Chamber of Commerce |
| John Osborne | Manatee County Planning Dept. |
| Karen Fraley | Florida Native Plant Society |
| Lee Bosserman | Manatee County CRA |
| Mike Keegan | State Division of Forestry |
| Michael Wood | Manatee County Planning Dept. |
| Mike Burton | Environmental Affairs Consultants |
| Michael Kenton | Manatee County Transportation Dept. |
| Patrick Roff | City of Bradenton Tree Board |
| Peggy Dessaint | Manatee County Extension Service |
| Scott Gasaway | Centex Rooney Construction / Keep Manatee Beautiful |

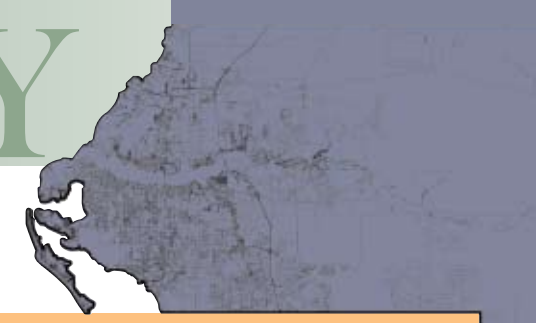


Urban Forestry *Master Plan*

2005

Reprinting in 2009 made possible by Keep Manatee Beautiful and an Urban and Community Forestry grant from the US Forest Service through the Florida Department of Agriculture and Consumer Services, Division of Forestry.

Printed on Recycled Paper



SECTION I	INTRODUCTION	1
	Synopsis of Original Urban Forestry Master Plan	2
	Manatee County Urban Forest Progress	3
	Imagine Manatee Collaboration	4
SECTION II	GOALS & OBJECTIVES	5
	Objectives	6
	Short Term and Long Term Goals	7
	Implementation Strategy	8
SECTION III	DESIGN PROTOTYPES & STANDARDS	9
	Interstate Gateways	10
	Major Thoroughfares	11
	Urban Streetscapes	12
SUPPLEMENT	MAINTENANCE & POLICIES	13
	Tree Establishment Maintenance	14
	Mature Tree Maintenance	16
	Tree Maintenance Reference Materials	16
	Florida Department Of Transportation Offset Requirements.....	17

FLORIDA DEPARTMENT OF TRANSPORTATION

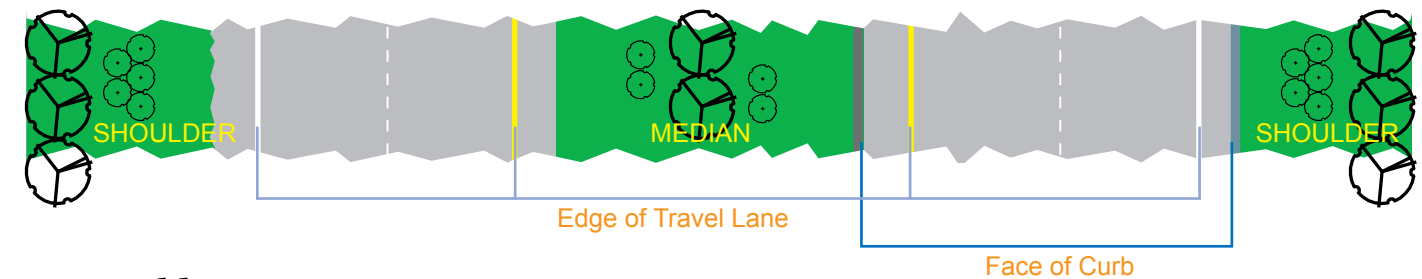
MINIMUM REQUIRED OFFSETS FOR TREE PLANTINGS

DEFINITIONS

Two categories of trees are identified in the FDOT requirements:

- **FRANGIBLE TREES** - Trees with 4" or less diameter at maturity measured at 6" above the ground.
- **NON-FRANGIBLE TREES** - Trees with 4" or greater diameter at maturity measured at 6" above the ground. (includes most palms)

ALL TREES ALONG ALL INTERSTATES AT ALL SPEEDS ARE REQUIRED TO BE OFFSET A MINIMUM OF 36' FROM TRAVEL LANES



Frangible Trees

	Minimum Offset (in feet)	
	Median	Outside Edge
Flush Shoulders (No Curbs) Measured from edge of Travel Lane	12'	12'
Curbed Shoulders	6' Measured from edge of travel lane	4' Measured from face of curb

Non-Frangible Trees - minimum offsets (in feet)

Speed (MPH)	From Edge of Inside Travel Lane	From Edge of Outside Travel Lane	From Face of Outside Curb
WITH VERTICAL CURB PRESENT			
≤45	6'	-	4'
50	24'	24'	-
55	30'	30'	-
≥55	36'	36'	-
WITHOUT CURB			
≤45	18'	18'	-
45	24'	24'	-
50	24'	24'	-
55	30'	30'	-
≥55	36'	36'	-

*Information accurate as of June, 2005

MATURE TREE MAINTENANCE

In three to five years a tree should be well established. Weak trees will have died or be in a stressed condition that merits reevaluating their usefulness. The majority of street trees will be growing vigorously and the need for applied water and mulch will have passed. Weed control will be reduced with the shade from the tree canopy and fertilizer can be applied once a year in any place where the trees are in hot and restricted planting areas. Regular inspection for general health, pests and disease is necessary to note and take appropriate action on. Vehicular damage will normally not uproot a large tree, but branches may need to be pruned. Pruning will be primarily for safety. During inspections, hazardous conditions should be noted and scheduled for pruning. Refer to "Tree Hazards: 13 Questions" brochure by Shigo.

A planted street tree grouping will reach maturity and begin declining in twenty to one hundred years. The next generation will be removing and replanting for future generations.

TREE MAINTENANCE REFERENCE MATERIALS

Grades and Standards for Nursery Plants, 2nd Edition, Florida Department of Agriculture and Consumer Services, February 1998, PI# 97T-05.

Selecting and Planting Trees and Shrubs, Ingram, Black and Gilman, University of Florida Cooperative Extension,

Fertilization Recommendations for Trees and Shrubs in Home and Commercial Landscapes, Yeager and Gilman, University of Florida Cooperative Extension

Modern Arboriculture: A Systems Approach to the Care of Trees and Their Associates, Alex Shigo

Pruning Landscape Trees and Shrubs, Gilman and Black, University of Florida Cooperative Extension.

Tree, Shrub, and Other Woody Plant Maintenance Standard Practices (A300), American National Standards Institute, Inc.

Tree Hazards: 13 Questions, Alex Shigo

SECTION I: INTRODUCTION

Trees have always played a crucial role in the long-term health, beauty, and vitality of any thriving community. More than a decade ago, many people in Manatee County became increasingly aware of the important contribution a tree makes to a desirable community and responded in 1995 by creating The Urban Forestry Master Plan.

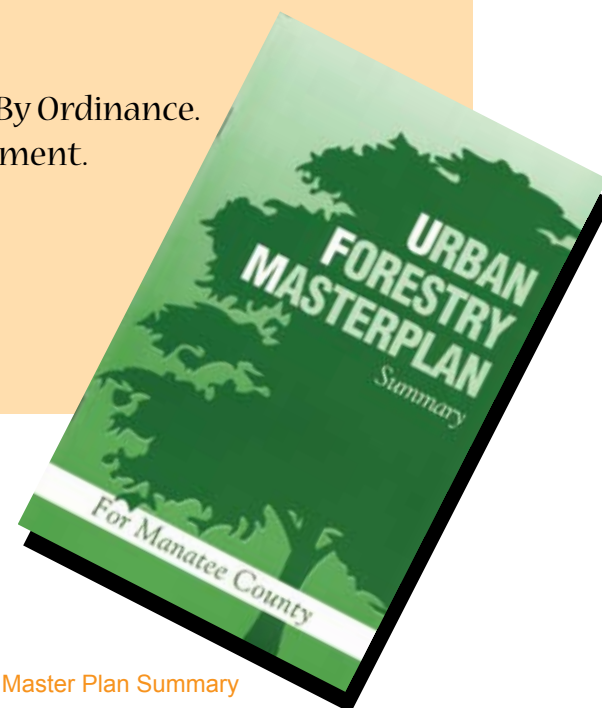
The plan was developed with participation by numerous individuals, civic groups, and government agencies. The plan is a comprehensive document that includes all of Manatee County. It was designed to educate people on the importance of trees, list priority areas for planting, provide charts with appropriate trees for these locations, and present an implementation strategy with funding sources.



SYNOPSIS:

ORIGINAL URBAN FORESTRY MASTER PLAN

- Developed in 1994-1995.
- Noted the importance of trees in an urban environment.
- Provided charts denoting tree planting zones and street tree palettes.
- Listed possible funding sources.
- Identified areas for future tree plantings as determined by the Citizens Advisory Committee. Top Priority Sites were:
 - Palma Sola Causeway
 - I-75 and US 301 Interchange
 - State Road 64 (medians and I-75 interchange)
 - Cortez Road
- Included digital images and conceptual landscape plans for the Top Priority Sites.
- Incorporated steps for implementation:
 - Establish a Tree Advisory Board By Ordinance.
 - Designate a Lead County Department.
 - Retain an Urban Forester.
 - Provide Ongoing Maintenance.



Original Urban Forestry Master Plan Summary

WEED CONTROL

Keeping a weed free zone around a tree serves many valuable purposes. It reduces competition for water, prevents damage by keeping the mowers away from the trunks, and it is more attractive. Adding three to four inches of mulch will aid in weed control. Using a pre-emergent herbicide in the spring and fall will help control weed seed germination growth and minimize the need to use a contact herbicide.

PEST CONTROL/DISEASE

The urban forester or county arborist should regularly (monthly) inspect the street trees for insects, disease, water stress, and general health. Environmental pest management procedures as recommended by the Manatee County Cooperative Extension Service should be followed including the least toxic method of control.

FERTILIZER

A light, but frequent application of fertilizer will supply the tree roots with continuous nutrients during the early root forming years. Fertilizer content and frequency depend upon soil conditions (refer to the soil test) and installed species. Palm trees have special fertilizer requirements. Refer to the Cooperative Extension bulletin "Fertilization Recommendations for Trees and Shrubs in Home and Commercial Landscapes" by Yeager and Gilman.

PRUNING

Training Pruning

Young trees will have to be pruned to develop strong branching patterns and to raise the canopy fifteen feet above the street level. Each tree species has a different level of pruning intensity. In its first five to ten years a live oak will take considerable training pruning to raise the canopy above the height of trucks on the road. Once this strong, broad-reaching tree is up over the road, it will take very little care for many years. Conversely, a more upright species like red maple would only need to have the lower branches removed for site clearance requirements, and a little work on developing an early strong branching pattern.

Aesthetic Pruning

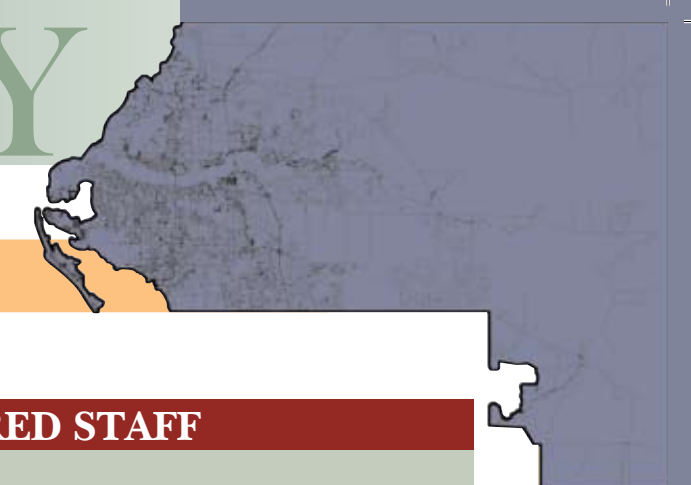
Some urban trees are pruned to look good. Palms need a yearly pruning (don't remove green fronds) or they can self-prune, with frond clean up after windy storms. Suckers at the base of crape myrtles are pruned once or twice a year to keep a clean appearance.

Unacceptable Pruning

Examples of topping, hat-racking, lion-tailing, and hurricane cutting can be viewed throughout the county. These pruning practices are unacceptable and in violation of Manatee County Ordinances. Refer to Alex Shigo's books and Cooperative Extension's bulletin "Pruning Landscape Trees and Shrubs" by Gilman and Black for correct pruning procedures.

VEHICULAR DAMAGE/DEAD TREES

Unfortunately vehicles will be hitting the trees on occasion. Once the damaged tree is reported, it is important that the tree be replanted or removed as soon as possible. Prompt action will promote a healthy urban tree program image. The need for replacement can be evaluated by the impact the individual tree makes on the overall design.



TREE ESTABLISHMENT MAINTENANCE

PURCHASING

It is important to select the best quality tree, a Florida Fancy grade or Florida Grade #1, per Florida Department of Agricultural and Consumer Services Grades and Standards, 2nd Edition.

In selecting trees, look for a central leader and symmetrical branching. The crown should not be pruned so that it forms a lollipop shaped tree and the canopy should have healthy, vigorous leaves. The root ball should be firm and without evidence of physical damage, circulating roots, or be rootbound in its container. Be sure to have the nursery "harden off" (dig, ball and burlap, and hold the trees under a mist irrigation) all field grown trees three to four weeks prior to installation.

SOILS

In most cases, trees should be planted in existing native soils. Prior to planting, the soil should be tested for pH, organic matter and nutrients - at a minimum. Amendments should be added as necessary, and the soil tilled to a two-foot minimum depth. Remove and replace the soil only as a last resort when existing materials are completely incompatible (compacted roadway sub-base material). In these instances, existing soil should be removed a minimum depth of two feet and replaced with clean fill topsoil (tested and amended as required).

PLANTING

Trees should be planted at the same grade or up to two inches above the grade they were grown at in the nursery. Do not plant the trees deeper. The Division of Forestry reports that more trees are killed by deep planting than by any other cause. Supervision and inspection of tree installations are recommended. Many problems due to poor planting practices are not visible until years later.

WATER

The tree root ball needs to be kept moist during establishment to encourage vigorous root growth. The first 3 months are critical. Daily water is slowly weaned away from a transplanted tree as it becomes acclimated. The amount of water varies with the site location, temperature, season of the year (trees are mostly dormant in the winter - needing less water), amount of rain, type of soil, drainage patterns, and water table depth.

There is no absolute schedule, but the one suggested below covers the worst conditions.

Week 1-2	5 times/week	10 gal./day
Week 3-4	3 times/week	10 gal./day
Week 5-12	2 times/week	10 gal./day
Month 3-Year 3	1 time/week	10gal./(dry & stressful periods)

All urban trees should be on a watering system (either installed underground irrigation system or water truck). Automatic irrigation systems should be observed and maintained on a regular basis.

MULCH

A 4' diameter ring of organic mulch (it can be recycled mulch) will cool the soil, conserve water, look attractive, and retard weed growth. The mulch ring should be replenished and maintained at a three to four inch depth for the first 3 years, but always pulled back a minimum of six inches from the tree's trunk. The mulch should not be compacted in order to allow proper circulation of air and water. Over and improper use of mulch can be damaging to the tree.

URBAN FOREST PROGRESS

TREE INVENTORY DATABASE

(Location, Size, Species, Health, Irrigation)

- County maintained projects only
- Updated yearly
- 16.5% tree increase in from 2003 to 2004
- Currently not connected to GIS

HIRED STAFF

- Urban Forester
- Arborist
- Horticulturist
- Full-Time Irrigation Technician

MAINTENANCE

- 80% of maintenance is mowing (contracted out)
- Prison road crews perform weeding and trash collection (May teach pruning techniques)
- Currently 83% of installed trees are irrigated. Irrigation to be turned off once tree is established. Due to poor planting conditions, watering has been extended.
- No past yearly budget information for tree maintenance (in process for this year)

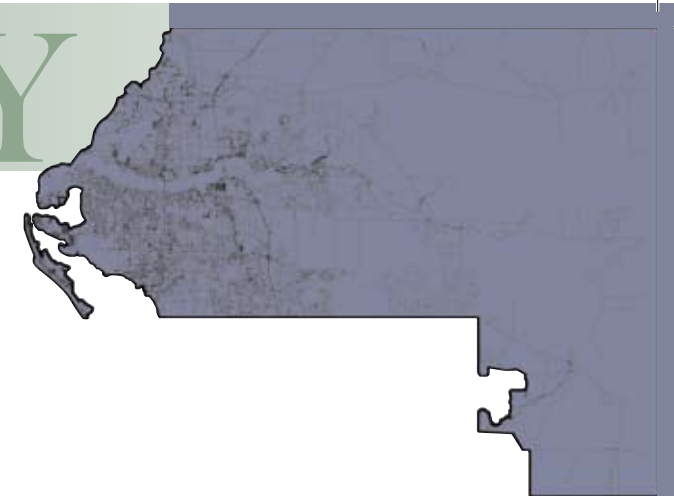
CURRENT FUNDING OPTIONS

(Funding for planting **not** maintaining.)

- Manatee County Tree Trust Fund - money contributed by developers who do not meet tree replacement requirements.
- Capital Improvements Program - All CIP projects include landscape installation costs.
- Joint Ventures with Local Municipalities.
- Private Sources.
- Grants:
 - FDOT Highway Beautification (\$300,000 max - funds not always available)
 - Scenic Highway
 - Florida Division of Forestry (\$10,000 max)
 - Redevelopment Agencies

PROJECT UPDATE

- | | |
|-----------------------------------------------|--------------|
| ➤ Palma Sola Causeway - Phase I | Completed |
| ➤ Cortez Road - 75th St. West to Intercoastal | Completed |
| ➤ Lockwood Ridge Road | Completed |
| ➤ State Road 64 - Phase I | Completed |
| ➤ I-75 at US 301 | Design Phase |



IMAGINE MANATEE COLLABORATION

In 2002-2003, a series of thirteen public brainstorming meetings involving over seven hundred diverse Manatee County residents resulted in a concrete vision for the direction, appearance, and future of Manatee County. Throughout the meetings, the residents' ideas converged resulting in a unanimous desire for a healthier, greener, and more beautiful county. The Urban Forestry Master Plan seeks to meet the residents' needs for the beautification of the county by taking direction from the core plans and principles derived from the Imagine Manatee Final Report in 2004.

The following excerpt from chapter six of the Imagine Manatee Final Report illustrates the citizens' longing for a vibrant, lush community which is achievable and sustainable as detailed in this Master Plan.

"New and redeveloped existing neighborhoods and transportation corridors should be visually appealing to promote pride and sense of place.

There was an overwhelming consensus that a commitment should be made to make Manatee County a beautiful place. Participants cited the beneficial effects of beautification can have on creating a positive image of the community, supporting tourism, promoting ecological health of environment, and positively affecting residents and visitors"

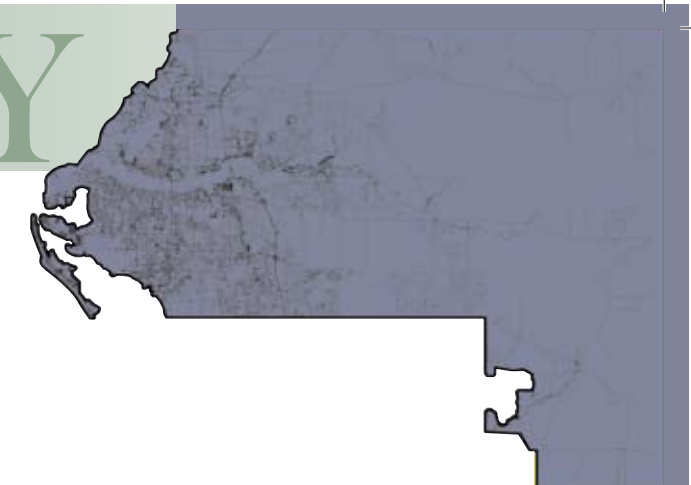


SUPPLEMENT: MAINTENANCE & POLICIES

Trees are an investment in the future health, environmental quality, economy, and beauty of Manatee County. Simply planting a tree is not enough to insure it will grow and mature into a safe and valuable asset.

Regular planned maintenance is crucial for a healthy urban forest. The most intense care comes in the first few years after the tree is planted. Establishment maintenance, a critical step, aids the tree's transition from the nursery to its new location. After the three year establishment period, the long-term maintenance schedule begins emphasizing tree health and public safety.

Trees planted close to the roadside and in medians will need more care during their lifetime. They are under more environmental stress, can cause more damage, and are under more public scrutiny than trees in informal, rural locations. Urban trees also have greater community benefits through cooling and cleaning the air and the beauty and value they accrue.



URBAN STREETSCAPES

Urban streetscape areas are roadways through densely populated areas of the county. Sidewalks and bike paths are used with regularity and posted speed limits are usually 35 MPH or less. These roadways may consist of two to six lanes - with or without medians.



US 41 - Before



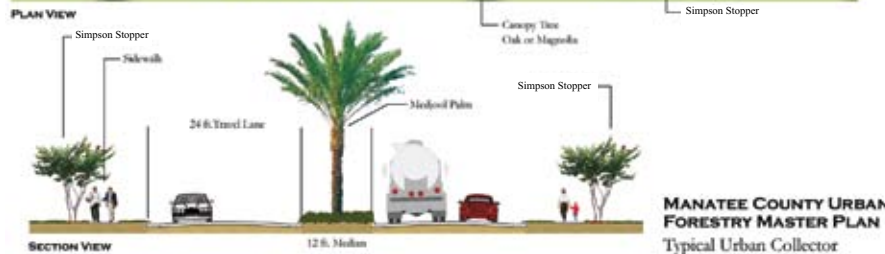
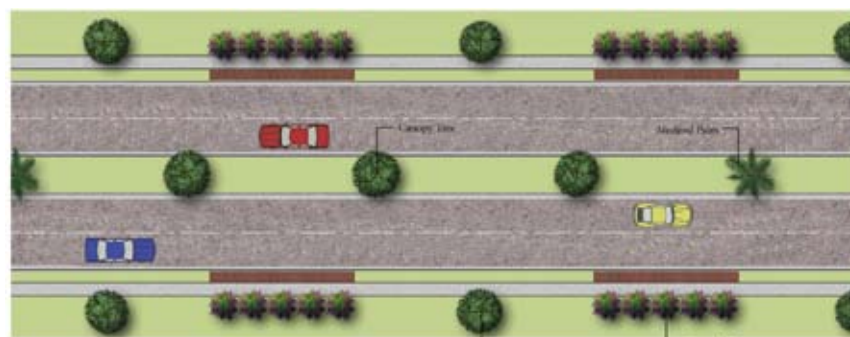
US 41 - After

PROJECT DESIGN GUIDELINES

- Regularized street tree plantings spaced to reflect the design speed of the road.
- Emphasize native indigenous plant material with flowering tree accents
- Color trees for accents. Planting areas in urban streetscapes are usually very limited in size and number. Larger or specimen plant material should be considered for greater impact.
- Hardscape material accents

PRIORITY PROJECTS

- US 41**
 - Cortez Road north to 26th Avenue
- Main route through Holmes Beach**
- Approach to downtown Anna Maria**
 - Gulf Drive to Magnolia Avenue



MANATEE COUNTY URBAN FORESTRY MASTER PLAN
Typical Urban Collector

SECTION II: GOALS & OBJECTIVES

Goals and objectives are established as action steps towards implementing the Urban Forestry Master Plan. These include specific tasks which cover the establishment and maintenance of a viable urban forest. Goals and objectives include implementation strategies which include both the public and private sector.

Our Primary Goal:

*Increase and Improve
the Quality of Manatee County's
Urban Forest*



OBJECTIVES

ESTABLISH A MANATEE COUNTY TREE BOARD

- Create a Tree Care Ordinance.
- Establish a Community Forestry Program with a minimum annual budget of \$2 per capita for tree maintenance.
- Establish and Arbor Day observance and proclamation.

PLANT MORE TREES

- Develop active volunteer and community business support of the Urban Forestry Program to help with volunteer tree plantings, fund raising, and tree donations.
- Apply for grants and other outside funding.
- Plant native trees to reflect the natural ecosystems within Manatee County.
- Establishment of Canopy Roadways:
 - New Roadways will allot areas large enough to plant trees either at time of roadway construction or in the future.
 - Buffer planting strips protect pedestrians from roadway traffic. Typically, the roadways and sidewalks that scored low in the Imagine Manatee Future Vision Assessment Survey provided no canopy or pedestrian protection from the roadway. (Imagine Manatee Design Principles 6.11)

PERFORM BEST MANAGEMENT PRACTICES

- Follow current best practices for water conservation.
- Realizing healthy young trees grow into strong, valuable, mature trees, the Care of trees during the establishment period (approximately three(3) years) shall be diligently implemented.
- Incorporate use of recycled water into watering street trees as new lines are installed on major roadways.
- Plant trees on all new road construction projects where feasible.
- Design new roadway projects with sufficient room for canopy trees.
- Encourage new roadway designs to incorporate space for street trees.
 - No street lights and/or utilities in medians.
 - Design median width to accommodate trees.
 - Provide adequate space for roadside plantings.

ENCOURAGE REMOVAL OF INVASIVE EXOTIC SPECIES

- Work with FDOT to remove invasive exotic species within their ROW
- Coordinate removal of invasive exotic species within Manatee County ROW.

MAJOR THOROUGHFARES

Major thoroughfares can be defined as highly traveled roadways throughout our community; usually consisting of four or more traffic lanes traveling at or in excess of 40 MPH. Bike paths and sidewalks are typically provided.

US 301 - Before

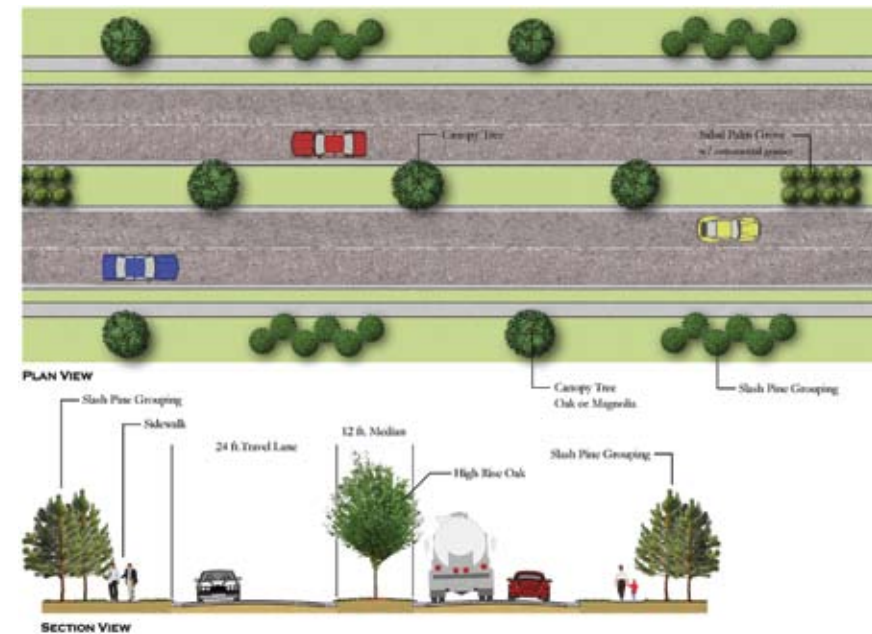


US 301 - After



PROJECT DESIGN GUIDELINES

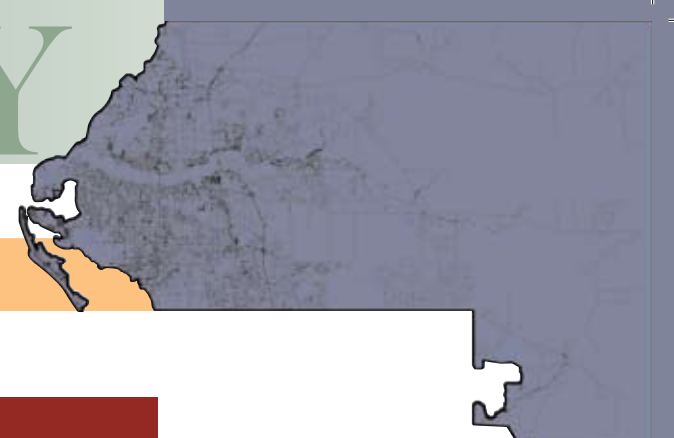
- Relaxed informal plantings becoming more ordered at intersections.
- Emphasize native, indigenous plant material with flowering tree accents



Typical Major Thoroughfare - Illustrative Plan and Section View

PRIORITY PROJECTS

- Lakewood Ranch Blvd.**
 - SR 70 North to SR 64
- Honore Ave.**
 - Cooper Creek Road to Natalie Way
- US 41**
 - Experimental Farm Rd. to I-275 (plantings behind guardrail)
 - Sarasota County Line north to Hillsborough County Line
- SR 64**
 - Morgan Johnson Rd. east to I-75
- Cortez Rd.**
 - US 41 west to 75th St. West
- 75th St. West**
 - 27th Ave. north to 17th Ave.
- US 301**
 - 9th St. East south to University



INTERSTATE GATEWAYS

For many people, their first impression of Manatee County comes from their ride along the interstates. The interchanges become their "gateways" into our community.



I-75 @ US 301 Interchange - Before

PROJECT DESIGN GUIDELINES

- Relaxed informal landscape
- Emphasized indigenous plant material with flowering tree accents
- Extended Sabal Palm groves with Fakahatchee Grass



I-75 @ US 301 Interchange - After

PRIORITY PROJECTS

Interstate 75

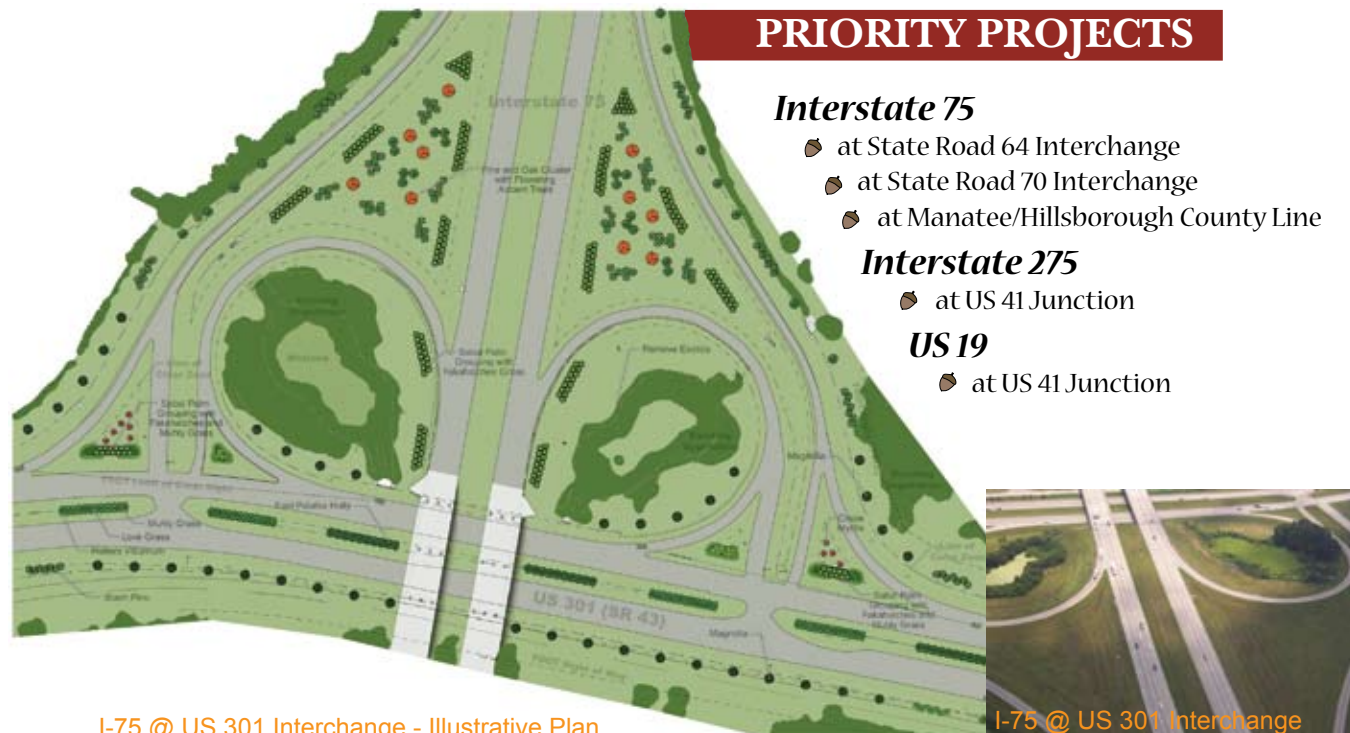
- at State Road 64 Interchange
- at State Road 70 Interchange
- at Manatee/Hillsborough County Line

Interstate 275

- at US 41 Junction

US 19

- at US 41 Junction



I-75 @ US 301 Interchange - Illustrative Plan



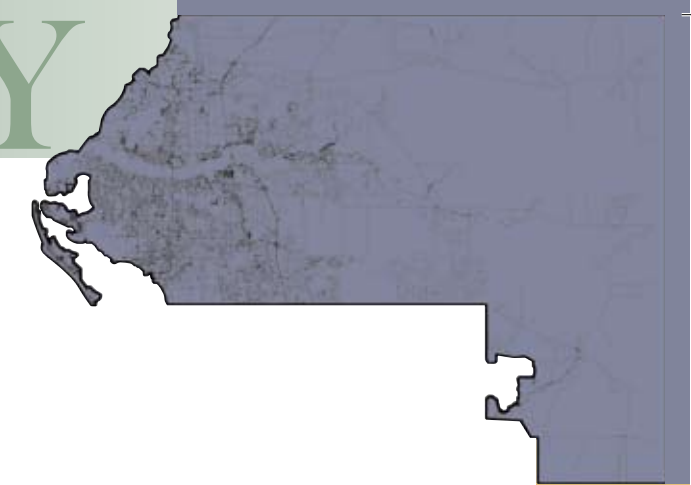
I-75 @ US 301 Interchange

SHORT TERM GOALS (5-10 YEARS)

- Implement the Urban Forestry Master Plan
 - Coordinate training and scheduling of Manatee County arborists to maintain trees.
 - Purchase trees.
 - Coordinate tree planting (paid or volunteer).
 - Work with Urban Forestry Committee.
 - Coordinate future project planning with state and county transportation staff.
 - Identify county personnel to maintain street trees (water, fertilize, remove weeds, mulch, training pruning, and replanting or removing trees damaged by vehicles), or contract with an outside consultant for maintenance.
 - Certify proper pruning knowledge among maintenance personnel.
- Encourage cooperation between county departments to facilitate a comprehensive urban forestry program.
- Educate the Public, Civic Groups, and Elected Officials on the value of trees to the environment and on the importance of good maintenance for the urban forest.
 - Newspaper Articles (Quarterly minimum)
 - Develop a promotional brochure
 - Present an Arborist Training short course through Cooperative Extension each year to instruct proper tree pruning (young and old mature trees), and other tree maintenance operations.
 - Require that government employees and subcontractors demonstrate knowledge of proper pruning techniques before pruning trees on government properties and right-of-ways.
- Focus the Urban Forestry program on quality projects, implementing a limited number until a planning and maintenance system is in place.

LONG TERM GOALS (10+ YEARS)

- Allocate 5% of Manatee County Roadway Construction budgets for street tree plantings (Consistent with FDOT landscape budget of \$200,000 per centerline mile)
- Update and adopt the Urban Forestry Master Plan as necessary to stay current with county growth patterns and new technologies.
- Obtain Support of major committees and organizations which support a better urban environment.
- Increase the County Staff to Maintain the growing Urban Forest.
- Evaluate the success of the Urban Forestry Program by analyzing the street tree inventory database.
- Establish Manatee County as a "Tree County, USA"



PUBLIC PROPERTY: IMPLEMENTATION STRATEGY

- Increase allotted budget for maintenance of Manatee County's Urban Forest.
- Removal of invasive exotic species on public lands and right-of-way including FDOT row.
- Work with FDOT on their maintenance levels of roadway landscaping.
- Coordinate with design professionals to create a strong foundation for the Urban Forest.
 - Utilities shall be planned to allow adequate space for tree plantings.
Manatee County requires trees to be planted ten feet minimum from utilities. Traditionally, this allows for minimal to zero tree space.
 - Soil Samples shall be tested to aid in plant selection.
 - Planting and irrigation plans shall be designed in accordance with Manatee County specifications.
- Increase the accountability of installation contractors to reduce future maintenance.
 - On site soils shall be tested and amended as necessary prior to plant material installation.
 - Installed plant material and irrigation systems shall meet Manatee County Specifications.
 - Work not done per specifications will not be approved and will result in liquidated damages for installation contractor.
 - All trees planted in the county ROW shall be inspected and approved by the County Urban Forester or County Arborist prior to Manatee County acceptance of the project.
- Increase the accountability of maintenance contractors.
 - Award maintenance contract to lowest qualified bidder.
 - Bidder must have a strong economic history, positive references, a certified/trained staff, and must have completed projects of similar scope.
 - Structure contract to make contractor more accountable.
 - Revise landscape installation specifications to provide the "best possible conditions" for the plant material to grow.

PRIVATE PROPERTY: GOALS & OBJECTIVES

- Revisit the Manatee County Land Development Code to coordinate tree landscape issues with the Urban Forestry Master Plan.
- Enforce Manatee County Landscape maintenance ordinance.
 - Citations/Fines for improper trimming of trees (hat racking, topping, or lion-tailing, etc.)
 - Require replacement of poorly maintained plant material for sites requesting rezoning or redevelopment (submitted to planning/building departments).
- Establish residential street tree program.
- Encourage citizens to remove invasive exotic species by supplying donated replacement trees.
- Implement the land development code tree preservation/planting ordinances. Conduct annual surveys of off-street parking lots for compliance with the ordinances and enforce violations.

SECTION III:

DESIGN PROTOTYPES & STANDARDS

After reviewing the original Urban Forestry Master Plan, the CAC members determined that it would be more beneficial to provide typical design scenarios for several types of roadways, rather than focus on a few locations. These "typicals" would then serve as models for most of the future roadway landscaping in Manatee County. This design scheme would provide a sense of "connectivity" within the county.

CAC recommends utilizing indigenous plant material with "naturalistic" placements, (large clusters and grouping rather than single specimens) to reflect the unique characteristics of Manatee County. Tree canopy establishment is a priority and will require less maintenance than shrubs or ground covers.

The three typical designs include interstate gateways, major thoroughfares, and urban streetscapes. Please note that the following design schemes are general design typicals. Designs for individual sites will adhere to local, state, and federal regulations as necessary.

