Planning the Community Forest: Did You Get What You Wanted☺ or What You Asked For☹?

Urban Forestry Institute
Nashville, Tennessee
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Jim Self Center on the Future
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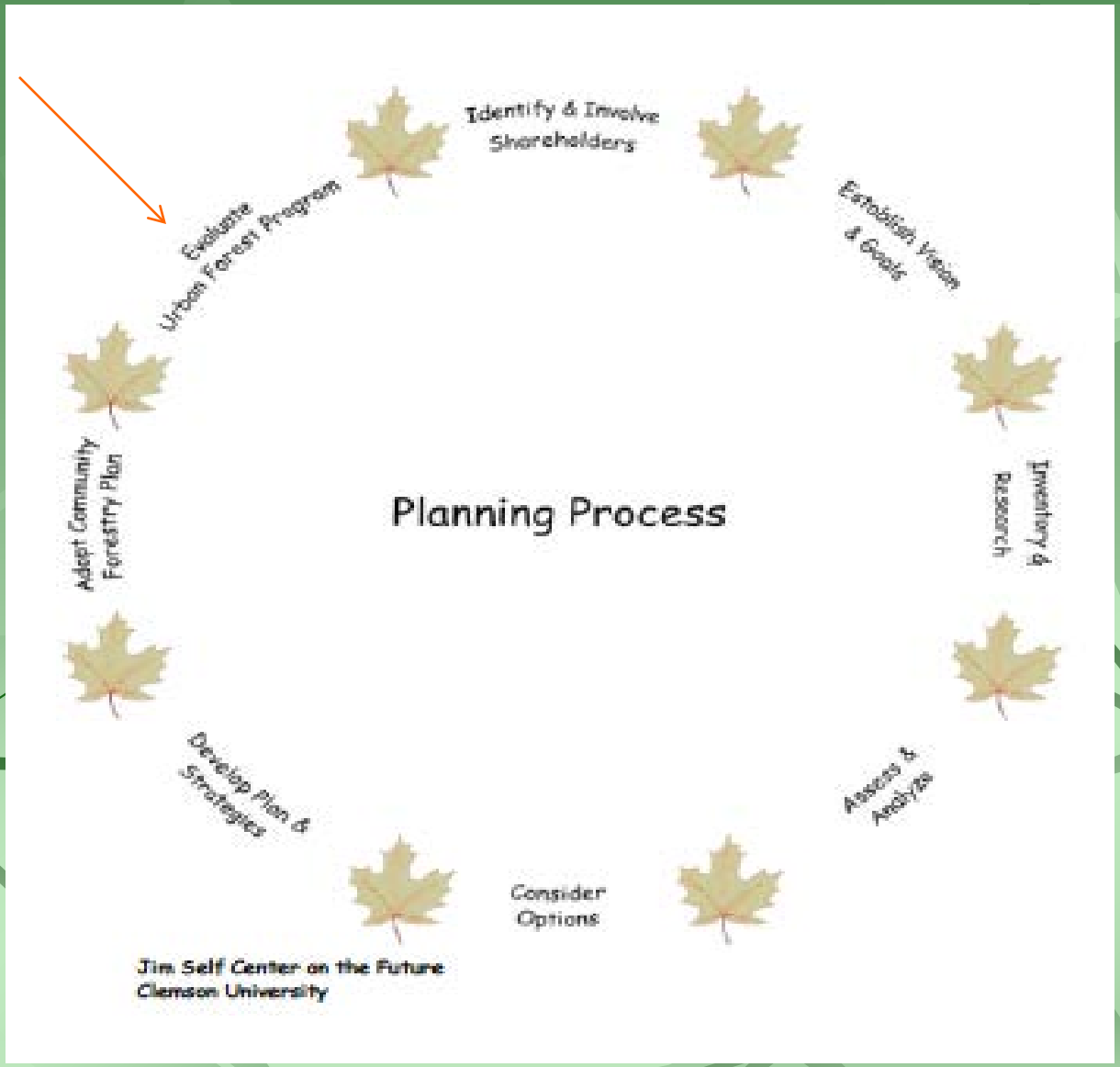
Planning Process
Identify & Involve Shareholders
Establish Vision & Goals
Inventory & Research
Assess & Analyze
Consider Options
Develop Plan & Strategies
Adopt Community Forestry Plan
Evaluate Urban Forest Program
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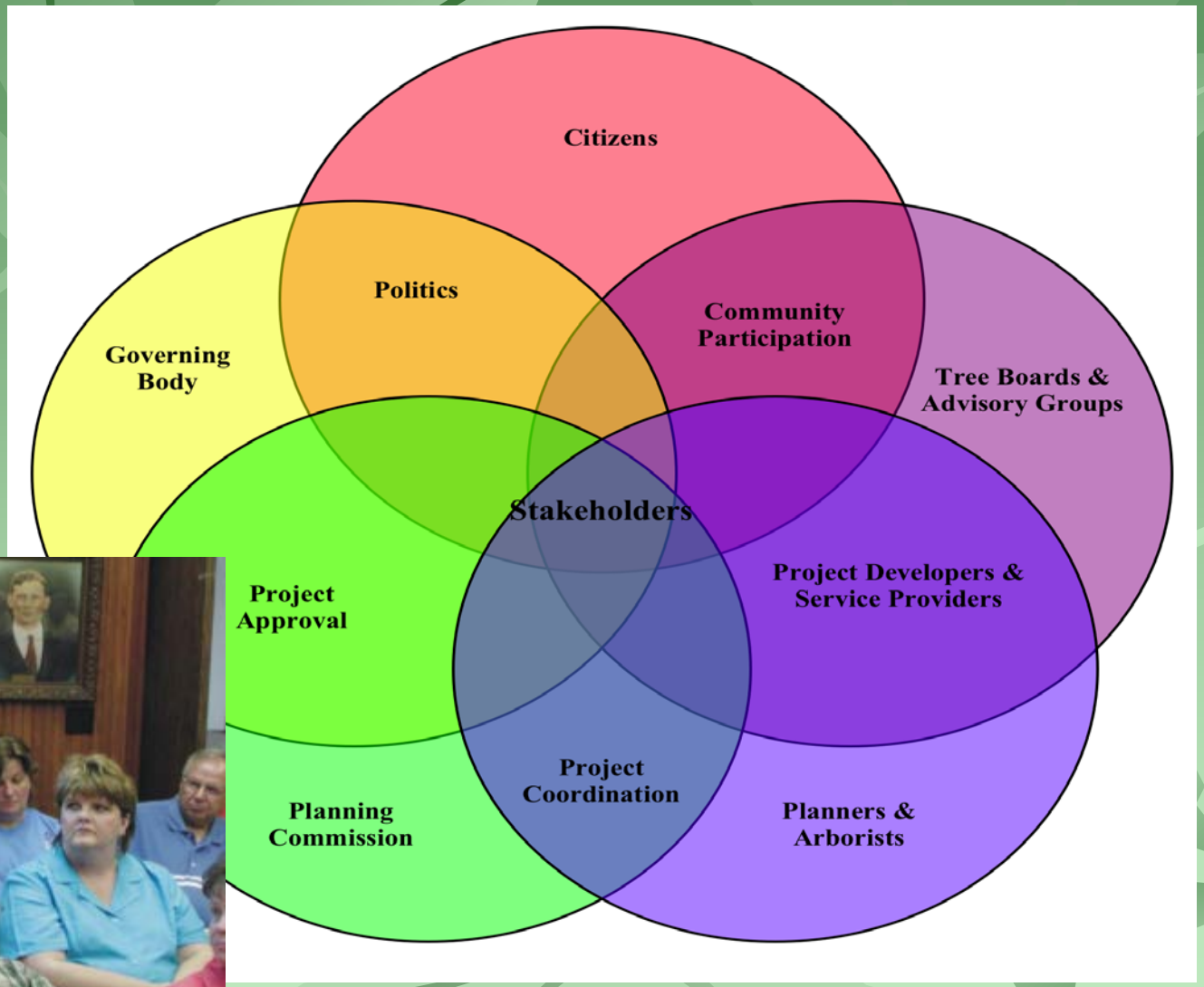
Roles of Staff, Boards, Policymakers & Citizens



Monitoring and Analysis

- Research, analysis & inventories
- Trends (+/-) & benchmarks
- Appeals (BZA, BAR, Land Development) or ordinance revision requests
- Observations – *“sidewalk is cracking?!?”*
- Complaints -*“People can’t see my business sign.”*
- Suggestions – *“why does it take a week before you can inspect my landscaping?*”
- Surveys & other input

Sample Data Needs for Evaluation of the Community Forest

Vision: The city is abundant with tree cover, consequent tree benefits & healthy natural resources which are managed in an equitable & sustainable manner.

		Year 1	Year 2	Year 3	Year 4	Year 5
Planting	# Of Trees Planted					
	# Of Each Species Planted					
	Size at Planting					
	Location Planted					
Maintenance	# of Trees In Care Of Jurisdiction					
	# Survival Rate					
	# Trees Pruned					
	# Trees Repaired					
	# Trees Removed					
Financial Investments	Staff					
	Other Service					
	Materials					
	Grants or Other Funding Secured					
Hours Invested	Staff					
	Volunteers					
Decisions Affecting Trees	Council					
	BAR					
	BZA					
	PC					
	Staff					

Continuation - Sample Data Needs for Evaluation of the Community Forest Plan & Program

Vision: The city is abundant with tree cover, consequent tree benefits & healthy natural resource which are managed in an equitable & sustainable manner.

		Year 1	Year 2	Year 3	Year 4	Year 5
Citizen Communication	Requests					
	Compliments					
	Complaints					
Education Events						
Awards						

Are implementation tools adequate?

Year 1:
Year 2:
Year 3:
Year 4:
Year 5:

What is the public perception of implementation?

Year 1:
Year 2:
Year 3:
Year 4:
Year 5:

How have implementation tools affected the community?

Year 1:
Year 2:
Year 3:
Year 4:
Year 5:

Surveys

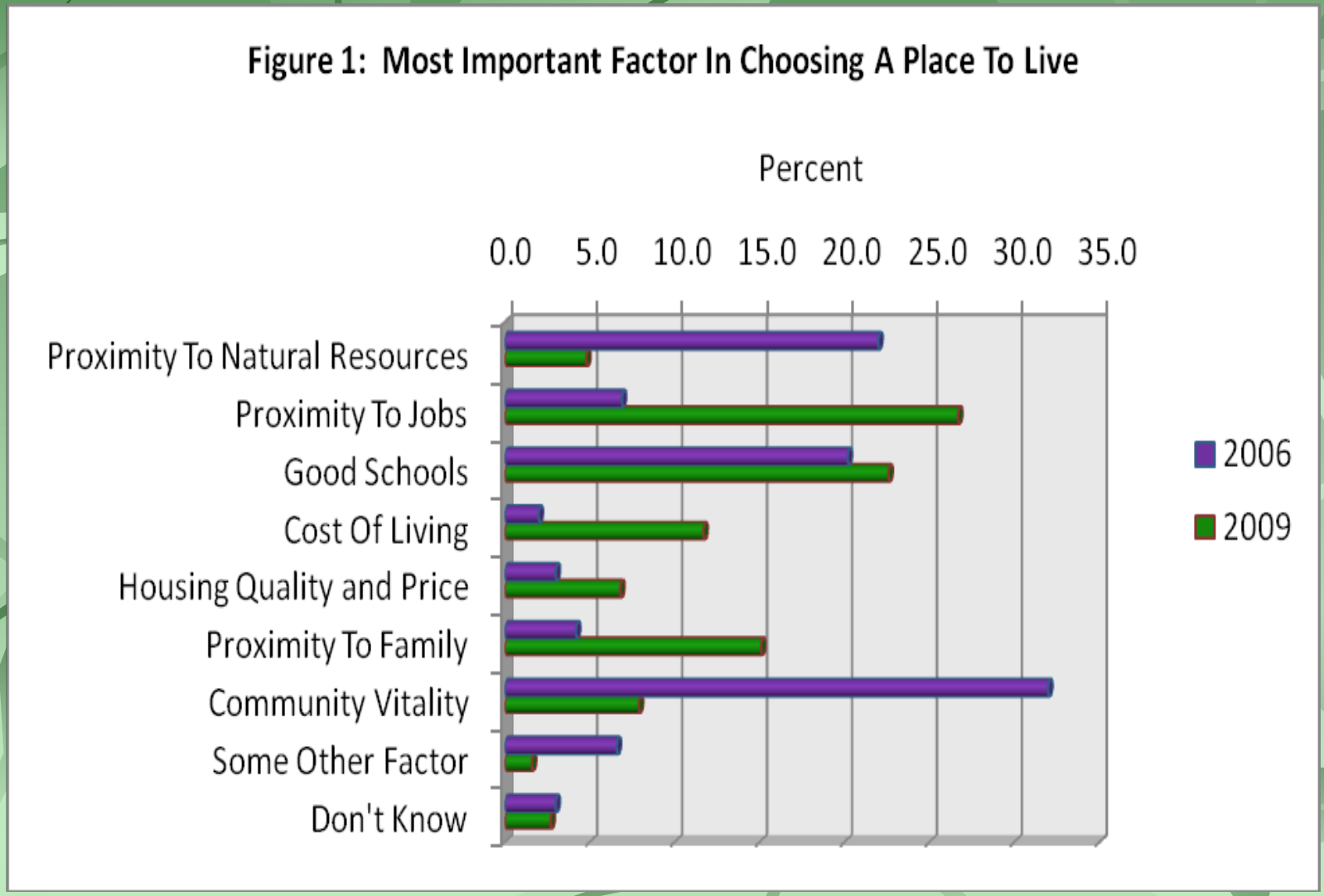


Figure 1: Most Important Factor In Choosing A Place To Live
Percent
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
Proximity To Natural Resources
Proximity To Jobs
Good Schools
Cost Of Living
Housing Quality and Price
Proximity To Family
Community Vitality
Some Other Factor
Don't Know
2006
2009

Natural Connections

Information	Description	Resource
Air quality	Air pollution comes from many different sources such as factories and power plants and from mobile sources such as planes and trucks. Additionally, naturally occurring sources such as dust and volcanic eruptions contribute to air pollution. Air Quality can be affected in many ways by the pollution emitted from these sources.	SC DHEC Bureau of Air Quality: http://www.scdhec.net/baq/ http://www.epa.gov/air/regional/where.html http://www.epa.gov/region4/air/naaqs/naaqs.htm
Climate		http://www.noaa.gov/satellites.html
Drainage		Basin boundaries – http://www.usgs.gov Water body locations - http://oaspub.epa.gov/waters/state_rept.control?p_state=SC
Flood plains	The channel and the relatively flat area adjoining the channel of a natural stream or river that has been or may be covered by floodwater.	http://www.state.sc.us/epd/ http://www.fema.gov/fhm/tsdindex.shtm,
Habitat	Total of all environmental factors of a specific place occupied by an organism, population, or community.	Animal Habitat http://water.dnr.state.sc.us/water/nrima/gisdata/gap/tables.htm DNR Forest Boundaries http://water.dnr.state.sc.us/water/nrima/gisdata/forstatus.html , USDA, NRCS. 2004. The PLANTS Database, Version 3.5 http://plants.usda.gov
Hydrography	Properties, distribution and circulation of water	http://water.dnr.state.sc.us/water/nrima/gisdata/hydstatus.html
Land Cover	Vegetation on the earth surface. Aerial photos and satellite imagery used to classify by type. Generally prepared at the local level, though US Forest Service has National forests. Provides information about habitats, agriculture and forestry, wetlands, and some about development impacts.	http://water.dnr.state.sc.us/water/nrima/gisdata/gap/tables.htm

Natural Connections

Information	Description	Resource
Soils	Includes the names and spatial distribution of soil types. May include slope, depth to seasonal high water, depth to bedrock, permeability, natural drainage class, stoniness and flood and stream overflow hazard. County soil reports printed on aerial photographs. Allows identification of prime lands, flooding, erosion. Digitized maps available for some areas.	Natural Resources Conservation Service. Information about SC Soils - http://www.sc.nrcs.usda.gov/soils_x.html and http://water.dnr.state.sc.us/water/nrima/gisdata/slsstatus.html , Soil Conservation Service of the US Department of Agriculture. http://soils.usda.gov/survey/printed_surveys/south_carolina.html
Topography/Geology	Height of the ground surface above a designated baseline elevation. Aids understanding of drainage, slope, and solar characteristics. Local gov'ts purchase maps at larger scales with smaller contour intervals. Aerial photography is printed on planimetric or on orthophoto base map. The slope and the watershed maps can be generated from the topography map.	U.S. Geological Survey http://www.usgs.gov
Water Quality	Level of pollutants that affect water suitability for a given purpose. Complexity of water issues requires variety of information sources included water resource maps and state agency water quality designations based on water samples.	http://oaspub.epa.gov/waters/w305b_report.state?p_state=SC
Wetlands	Coastal – area inundated by tides ranging from twice daily to twice monthly. Freshwater – area inundated or saturated by surface or ground water at a frequency and duration sufficient to support vegetation. Characterized by soil types, hydrology, and/or aquatic vegetation Aerial photography, hydrology and vegetation mapped and field checked.	National Wetland Inventory of the US Fish and Wildlife Service http://www.epa.gov/owow/wetlands/regions.html Wetlands to visit - http://www.epa.gov/region4/water/wetlands/states/sccenters.html

Guiding Principles for Green Infrastructure

- Whole system, sustainable & strategic planning.
- Sound science & multidisciplinary approach.
- Create natural, social & economic linkages.
- Understand that infrastructure must be maintained & restored.
- Invest in natural resource components and in the process.
- Provide sense of certainty: education, alliances, plan, budget, management, evaluation.
- Voluntary, incentive & regulatory measures.
- Engage community in planning, implementation, management & monitoring.

Education & Public Relations

- Communications strategy
- Citizen group formation
- Handouts & other materials
- Website
- Arbor Day & other celebrations
- Tree id signage
- Coordinate w/ gov't, business, residents & conservation groups

Typical Planning Projects Benefiting From Scientific Expertise

- Increase community forested areas
- Tree City USA
- Street beautification
- Heritage tree project
- Restoration of brown or grey field areas
- Urban infill
- Energy savings
- Air quality
- Water quality
- Soil conservation/quality
- Stormwater runoff
- Heat island mitigation
- Wildlife protection

Typical Policy & Regulation Benefiting From Scientific Expertise

- Preservation
- Street tree
- Scenic vista
- Bufferyard
- Landscaping
- Parking lots
- Timber harvesting ordinances
- Transportation plans should include alternative transportation options that incorporate trees
- Cluster development
- Overlay zones
- Incentive policies, priority funding areas
- Environmental Review Process
- Conservation oriented land development ordinances
- Conservation easements
- Open space preservation
- Transfer of Development rights
- Purchase of development rights
- Land trust program

Typical Research

- Inventory
- Tree canopy goals or other evaluation methods
- Data should be developed to support claims of trees' infrastructure benefits

Funding Tools

- Budget
- Fundraising Programs
- Grants
- Special Assessment Districts
- Tax Increment Financing Districts
- Loans & Bonds
- Taxes

Operations
Benefiting From Scientific Expertise

- Staff Arborist
- Employee training
- Contractor certification
- Pruning/maintenance training programs
- Understanding & calculating urban forestry program costs

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Getting The Results Out

- Out of the trees and into the dirt
- Council & board presentations (3-5 minutes).
- Invite council & board members to participate in walking or mobile workshops to show results or issue areas
- Website, blog, twitter, facebook, newsletter, cable tv, newspaper & water bills
- Movable visual display of results

Table 13. Sample Implementation Strategy for Goal

Vision: The city is abundant with tree cover, consequent tree benefits, and healthy natural resources which are managed in an equitable and sustainable manner.

Goal 1: A public tree population that is attractive, safe, and healthy.

	Action	Action Detail/Comments	Assigned To:[2]	Schedule[1]	Budget
1.1.1	Inspect trees and remove hazards	Determine if staff resources are adequate to complete this project over the next few years. If not, have staff research other avenues of getting assistance and provide cost estimate.	Arborist (L) Public Works Planner	O	General Funds
1.1.2	Assess species diversity and plant for a diverse population	Ensure that Arborist is trained for these assessment purposes. If not, secure training.	Arborist (L)	S	General Funds
1.1.3	Research hardy tree specimens and planting locations for lower maintenance requirements or higher benefit	Consult with urban forestry program contacts and the SC Forestry Commission.	Arborist (L)	S	General Funds
1.1.4	Propose a computerized street and public tree inventory	Contact other nearby local governments to determine what inventory tools they are using. SC Forestry Commission, consulting arborists, or websites may provide. Weigh advantages/ disadvantages of computerized system and determine full costs for implementation.	Arborist (L) Internet Services Director (L)	M	Increased funding will be needed for startup costs. Consider grant opportunities for start up.
1.1.5	Plant trees to replace trees lost to storm damage	Use information gleaned from Strategy 1.1.3 to determine the proper tree for the proper location.	Arborist (L) Public Works	O	Mitigation Funds: $8,000

[1] Time Frame Key: S=High Priority/Short Term Actions (0-2 Years)
M=Mid-term Actions (2-5 Years)
L=Long-term Actions (5-7 Years)
O=Ongoing/Continuing Actions

[2] (L)= Primary contact/assignment

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Revising the Plan

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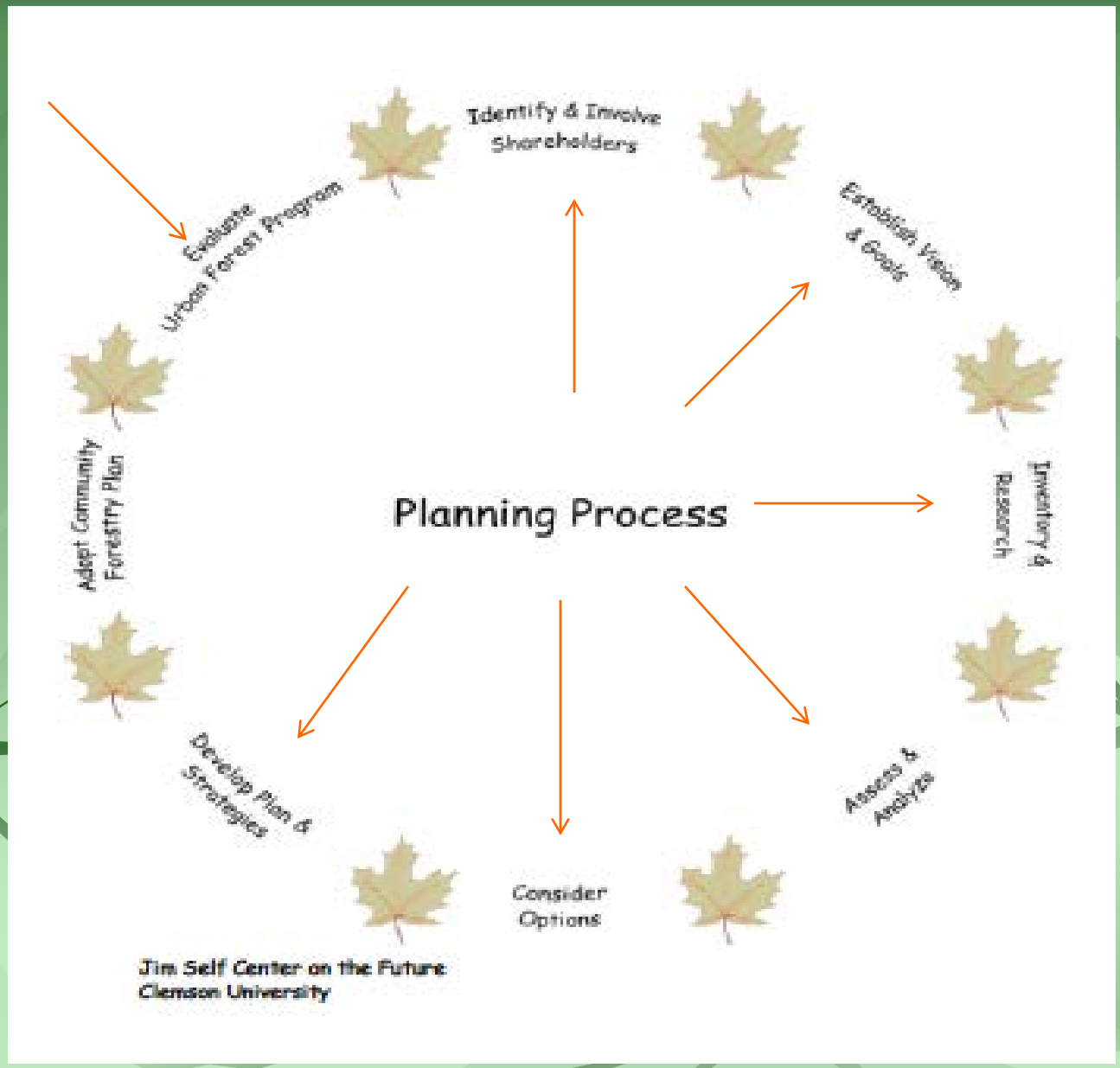
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Making Progress? How Do We Know?

Table 15. Example of Community Forestry Evaluation

Goal	Indicator or Benchmark	Action	Baseline Data	Year 1 Review	Action Status	Revised Action
Protect Scenic Significant Tree Stands	Tree inventory updated and criteria developed for determining significant tree stands.	Budget item approved to cover inventory costs and update inventory. Collect criteria information from other sources.	Inventory last completed in 2003. No criteria to determine significance.	Council did not approve budget for 2004-2005 inventory software upgrades.	On-going	Collect and disseminate data on tree stand benefit and potential cost savings in urban settings. Include an arborist in on 2005-2006 budget deliberations.
	Clustered development so that the option to preserve significant tree stands exists.	Investigate cluster development regulatory options and incentives.	Clustering of residential uses not allowed.	PC developed and Council adopted Ordinance #CC-05-03, §19-302 adopted on 2-7-05 allowing clustered, single –household detached dwellings as a special exception in R districts and as a use of right in RM districts.	Completed	To date, no developments have applied this option. Ensure that development community is aware of the authorizing legislation and find opportunities to relay benefits and case studies.

Other Elements of the Revision

1. What are issues that have surfaced on public land? Disease, drought, accidents, vandalism?
2. Trends surfacing from cases before PC, BZA, BAR?
3. Site plan reviews - Are staff & board decisions supportive of the goals? Is everyone well informed – really?
4. Enforcement – Are we serious? Complaint enforcement?
5. New information – New technology and case studies from other communities; concerns on the horizon & new opportunities for green infrastructure.
6. Is the community forestry element of the comprehensive plan adequately supported and funded?

Adopting Comprehensive Plan & Amendments (check your state & local ordinances)

- Resolution – PC adopts resolution referring to maps/text) with recommendation that Council adopt
- Copy must be sent to all legislative/administrative agencies affected by plan
- Public Hearing held by Council w/ minimum of 30 day notice
- Council adopts by ordinance after readings

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Case Study: Clemson University Parking Lot in Charleston, SC

Specifications

- A dozen trees saved; 6 additional trees and 20 native plant species added
- Parking spaces dropped from 36 to 27; these 27 parking spaces went from 9’wide to 8’wide to accommodate new vegetation
- Rain garden, bioswale, zero curbing, porous pavers & gravel
- All stormwater retained on sight