ATTACHMENT A

A RESOLUTION ACCEPTING THE STAFF REPORT ON GREENWAYS Resolution No. 56/2003-04

WHEREAS, the Carrboro Board of Aldermen seeks to ensure that its existing and proposed policies and regulations are appropriate;

NOW, THEREFORE BE IT RESOLVED by the Carrboro Board of Aldermen that the Aldermen accepts this report.

This is the 28th day of October in the year 2003.



TOWN OF CARRBORO

NORTH CAROLINA

STAFF REPORT

PLANNING DEPARTMENT

To:

Steven Stewart, Town Manager

Mayor and Board of Aldermen

From:

Patricia J. McGuire, Planning Administrator

Date:

October 23, 2003

Subject:

Greenways

Introduction.

Edward McMahon, of The Conservation Fund in the foreword to *Greenways: A Guide to Physical Planning and Development* (1993) describes greenways in the following way [emphasis added]:

Less expensive, more expansive and flexible than traditional parks, greenways provide a trail system for the everyday outdoor activities that Americans are pursuing close to home...They can also provide pathways for people commuting to and from work by providing an alternative to the automobile...Greenways can also serve as movement corridors for wildlife and can be established on private land, with an understanding that they are limited to protecting a scenic vista or historic site...are really links in a chain of opportunities that begin in our own backyards.

In many instances, greenways are a network of corridors that connect areas of open space. Each segment of the network serving at least one of several possible functions, including

- 1) Riparian buffer/water quality protection,
- 2) Wildlife/ecological corridor,
- 3) Linear park, with or without formal recreational facilities,
- 4) Alternative transportation route.

A map showing the boundaries of Carrboro's jurisdiction, of the major creek basins and of public and private open space and parks is attached (Attachment 1). This map

illustrates that there are numerous opportunities for greenway corridors that can achieve the functions noted above.

What is the regional context and the history of the Town's greenway planning?

The table below summarizes events and activities that provide the regional and local context for greenway planning in Carrboro.

Date	Action
1969	Development Guide. Research Triangle Regional Planning Commission. This Triangle-wide planning effort sought to identify development trends and opportunities for early action to develop appropriate public water and sewer services and a regional open space network.
1970	Land Use Study. Brief description of Bolin Creek basin. Emphasis on Morgan Creek due to water and sewer facilities located in that watershed.
1970	Community Facilities and Land Development Plan. "Stream valleys have great value as protection areas between residential areas Carrboro should adopt a policy of stream valley open space preservation and acquisition." The report did not include any proposals for corridor preservation along Bolin Creek.
1980	Neighborhood Parks and Greenways System Plan (NPGSP). Greenway along Bolin Creek is proposed from Estes Drive to Seawell School Road, with acquisition options provided (in association with development applications) in a corresponding land use ordinance provision. Two purposes for developing a greenway are noted: 1) preserving natural ecological processes, and 2) providing low cost recreation areas. Due to community concerns noted in a public hearing on May 10, 1983, the Board of Aldermen
1980-1989	removed the Greenways Plan from the NPGSP. Bolin Forest, Phases I-IV approved for development along Bolin Creek. Stream buffers established and public pedestrian easements dedicated along creek in association with Phases III and IV.
1983-1987	Fox Meadow subdivision approved for development along Bolin Creek. Dedication of public open space/greenway along Bolin Creek to Orange County.
1984	Spring Valley approved for development along Bolin Creek. A pedestrian easement was dedicated for public use within approximately 1.3 acres of private open space along the project's Bolin Creek frontage.
1985	Cobblestone subdivision approved for development along tributary of Bolin Creek. Private open space established along tributary.
1985	Wilson Park I, II condominiums approved along tributary of Bolin Creek. Fairoaks, Sudbury and Waverly Forest also approved along tributaries of Bolin Creeks.
1987	Highlands I-IV approved for development along tributary of Bolin Creek
1987	Buffer requirements for streams located outside of the University Lake watershed enacted.
1987	Joint Planning Area Land Use Plan establishes Town planning jurisdictions and Rural Buffer. Bolin Creek basin defines Carrboro's additional planning jurisdiction not already included in extra-territorial jurisdiction established in 1950s.
1985-1991	Sewer line extended north to serve the Highlands and Camden subdivisions.
1988	Quarterpath Trace subdivision approved along a tributary of Bolin Creek.
1989	Inventory of the Natural Areas and Wildlife Habitats of Orange County, North Carolina. Narrow, upland stream valley, along the Bolin Creek stream corridor, from Estes Drive to Homestead Road, is included in the inventory as it represents on the "few remaining wooded stream corridors in the vicinity of Chapel Hill and Carrboro." Recommendations for management or protections state: "This site might be best

Date	Action
	protected by assigning it a status of a "natural area" within the greenway system." Inclusion of approximately 150 acres in this category is noted, as the minimum needed to protect the area's natural and aesthetic qualities. The report recommends that the Morgan Creek stream corridor be designated as part of a network of wildlife corridors.
1989	Year 2000 Task Force Report. "The town should encourage and contribute to the development of greenways or parklands along streams and easements dedicated to public use. These areas should be preserved as much as possible in their natural state."
1990	Meadow Run subdivision approved along a tributary of Bolin Creek.
1990s	Water quality monitoring of Bolin Creek initiated in a joint effort with the Town of Chapel Hill.
1991	Wexford subdivision approved along a tributary of Bolin Creek.
1992	Cates Farm subdivision approved along a tributary of Bolin Creek. Greenway/open space along tributary of Bolin Creek dedicated to the Town.
1993	Arcadia subdivision approved along a tributary of Bolin Creek. No public greenway dedication.
1994	Lake Hogan Farms subdivision approved along Bolin Creek. Extensive stream buffers and greenways established for public dedication along creek and lake. William's Woods at Cates Farm and Tupelo Ridge approved along tributaries of Bolin Creek, without dedication.
1994	Recreation and Parks Comprehensive Master Plan. Proposal for the "Bolin Creek Greenway," a seven-mile, off-street trail to extend from Estes Drive, up Bolin Creek around Hogan Lake and connecting with a proposed park on Union Grove Church Road. Acquisition of property along greenway corridors was identified as a priority for development throughout the 20-year planning horizon of the document. The Morgan Creek greenway is envisioned to be approximately three miles of off-street greenway from Smith Level Road to University Lake, with connections along a Morgan Creek tributary to the proposed South Community Park. The greenway is also to connect to Charal Hills along a Morgan Creek and quentually connect University
	Chapel Hill's planned greenway along Morgan Creek and eventually connect University Lake with the North Carolina Botanical Garden.
1995	Sunset Creek subdivision approved along a tributary of Bolin Creek.
1996	Tupelo Ridge II and Highlands North subdivisions approved along tributaries of Bolir Creek.
1997	The Cedars at Bolin Forest subdivision approved along a tributary of Bolin Forest.
1997	A Landscape with Wildlife for Orange County. Recommends preservation of prime forest areas and wildlife corridor connections between these areas. 500-foot buffers are recommended around prime forest areas located in the northwest corner of Carrboro's planning jurisdiction.
1998	Chapel Hill Greenways: Comprehensive Master Plan. Effort to formalize greenway planning activities that begun with the 1985 Greenways Task Force Report, the comprehensive master plan evaluates existing conditions identifies needs and specifies an action plan to create a system of greenways in Chapel Hill. The plan recommends the construction of an improved woodland trail from the east side of Estes Drive, where the creek enters Chapel Hill's jurisdiction, to Village Drive off Umstead Road.
1999	Facilitated Small Area Plan for Carrboro's Northern Study Area. Bolin Creel floodplain is included among the northern study area's unique, natural areas. Aside from descriptive information related to park sites/greenways that are planned along the creek, the plan includes references to Bolin Creek within a number of its goals including: identifying strategies for acquisition/dedication to protect the creek, and including as a long-term goal, the connection of Homestead Road at Lake Hogan Farm to the Bolin Creek greenway via drainage channel or stream bed.
1999	Report of the Master Recreation and Parks Works Group. As stated in the Executive Summary, the report was prepared by a group of citizens and staff from throughout the

Date	Action
	County to "follow up on two reports: a 1996 Assembly of Governments report "Recreation and Parks Issues in Orange County, NC", and a May 1997 report entitled "Coordination of Parks and Recreation Services for Carrboro, Chapel Hill and Orange County", developed by the area Managers." The report assessed needs, which, in Carrboro, included "begin acquiring property along Morgan Creek and Bolin Creek
	Greenway corridors and start developing facilities where possible. Accept all previous offers of dedication and easements." A map was prepared in association with the report recommendations that depicted existing and proposed greenways and rural wildlife
	corridors. The Town's proposed Bolin Creek greenway, as shown in the NSA plan, was shown as connecting with Duke Forest's Eubanks Road tract, a designated "rural wildlife corridor."
1999	Orange County Lands Legacy
	Includes criteria that are to be used for distribution of bond funds for public acquisition of open space, greenways, and riparian corridors. One of the acquisition criteria is "Promotes continuity of wildlife corridors, greenways and linear parks."
1999	Rating Land in Orange County by its Wildlife Value - A Landscape with Wildlife: Part
	II. Report presents a methodology for evaluating land as habitat for native wildlife in Orange County. Based on 1988 aerial photography, forested areas were assigned intrinsic (features of the tract only) and contextual (relationship of surrounding uses to
	the tract) ratings for wildlife value. The highest total ratings for forested areas within Carrboro's jurisdiction were assigned to areas in the Morgan Creek watershed upstream, and surrounding University Lake. Some forested areas along Bolin Creek were also included in the ratings.
2000	Carrboro Vision2020. Policy recommendations are as follows: 1) The town should encourage and support the development of greenways and parklands dedicated to public use along streams and easements. There should be a network of connected greenways throughout the town. These greenways should serve as nature trails, biking and walking trails, wildlife corridors. All should protect our natural environment. 2) The town should practice and encourage ecologically sound and sustainable maintenance of open space, including parks and greenways
2000	Cape Fear Basinwide Water Quality Plan. Identified condition of all creeks and waterways in Cape Fear basin, including Morgan and Bolin Creeks. Creek segments in Carrboro found to be supporting their expected uses. Report noted that NPDES requirements would come into effect in early 2003.
2001	Acceptance of Offers of Dedication for Public Access. In accordance with the possible bond for parks and greenways, 38 offers of dedication that had been made to the town for public access since 1981 were identified. The Board accepted these offers of dedication.
2002	Town of Chapel Hill Parks and Recreation Master Plan. Chapel Hill's first formal master plan for parks and recreation. Previously community facility reports contained within the Town's Comprehensive Plan provided this information
2003	Pacifica development approved. Public access easements designated along existing driveway and sewer easements to branch of Bolin Creek.
2003	Winmore development approved. Public greenway trail to be constructed and 27 acres of open space along Bolin Creek and tributary corridors designated for public dedication.
2003	Funds for Greenways Planning for Morgan Creek and Bolin Creek included in Durham Chapel Hill Carrboro Metropolitan Planning Organization list (DCHC MPO) for Surface Transportation- direct allocation in FY 04 and 06, with funds allocated for construction in FY 06 and 08, respectively.

Has the Town defined a greenway?

Of the policy and planning actions that have occurred to date, the Facilitated Small Area Plan for Carrboro's Northern Study Area (NSA plan) provides the most explicit descriptions of what greenways in Carrboro are expected to provide. It should be noted that the NSA plan greenway comments specifically relate only to the Bolin Creek basin. The NSA plan comments are excerpted as an attachment to this report (Attachment 2).

The policy statements included in the NSA plan principally emphasize the recreational aspects of greenways, although the transportation measures that call for coordinated planning, a multi-modal system, and exploring opportunities for landowner compacts for trail use are consistent with greenway purposes.

To date, the Town has not adopted a formal greenway plan, but greenway corridor locations have been designated in both the 1994 Recreation and Parks Master Plan and in the 1999 NSA Plan. Maps from these documents showing the corridor locations are attached (Attachment 3).

What other policies and regulations affect efforts to develop greenways in Carrboro?

As noted in the timeline included above, the Vision2020 policies clearly direct Town action towards the development of greenways, particularly along streams and easements. A number of regulatory mechanisms of the Land Use Ordinance emphasize the natural area management/conservation aspects of greenways and others recognize the recreational and wildlife corridor opportunities. The following table presents a summary of these regulatory mechanisms.

LUO Section	Description
Section 15- 50	Concept planning steers developers away from sensitive areas and promotes appropriate open space protection/natural areas preservation from the inception of a development's design. Caveat: currently only applies to major subdivisions not unified residential projects or non-residential projects.
Section 15- 182.3	Density reduction factors help create "appropriate density levels" on many properties in relation to the amount and types of sensitive lands present.
Section 15- 186 and 187	Cluster and AIS generally allow for greater preservation of open space and natural areas preservation.
Section 15- 198	Open space provisions, in their entirety, work to preserve properties that are developed for residential purposes, especially 15-198(e), which requires preservation of primary conservation areas that include stream corridors, steep slopes and wooded areas. Caveat: currently only apply to residential projects.
Section 15- 254, 265,	Floodplain construction restrictions, stream buffers, impervious surface limitations, etc, all limit the use of sensitive lands and result in the

266, 267, 268, and 269	preservation of these areas, many of which are linear corridors and highly suitable to support the multiple functions desired of greenways.
Section 15- 263	Stormwater treatment requirements work to encourage developers to put as little impervious surface on a site as is feasible
Section 15- 316	Retention of large trees, protection of trees during construction, requirements to replace trees that do not survive.

How are desired purposes for a greenway selected?

Development needs, including corridor width, trail construction, signage, other infrastructure (e.g. restrooms and water fountains) are linked to the community purpose that has been established for any greenway. Typically these choices occur in conjunction with an assessment of the conditions of the entirety of the proposed greenway location. The greenway planning process is illustrated in a chart from *Greenways: A Guide to Planning, Design and Development* (1993) that is attached (Attachment 4). A report on environmental issues associated with the multiple functions of greenways prepared by former Environmental Planner, Phil Prete, is attached. The trail design sections found within the Durham (2001) and Chapel Hill (1998) greenways plans illustrate the range of approaches that may be used in determining trail options. The report and plan excerpts are attached (Attachment 5). Please note that there are examples of projects where the construction costs for concrete trails have been lower than for asphalt.

Findings

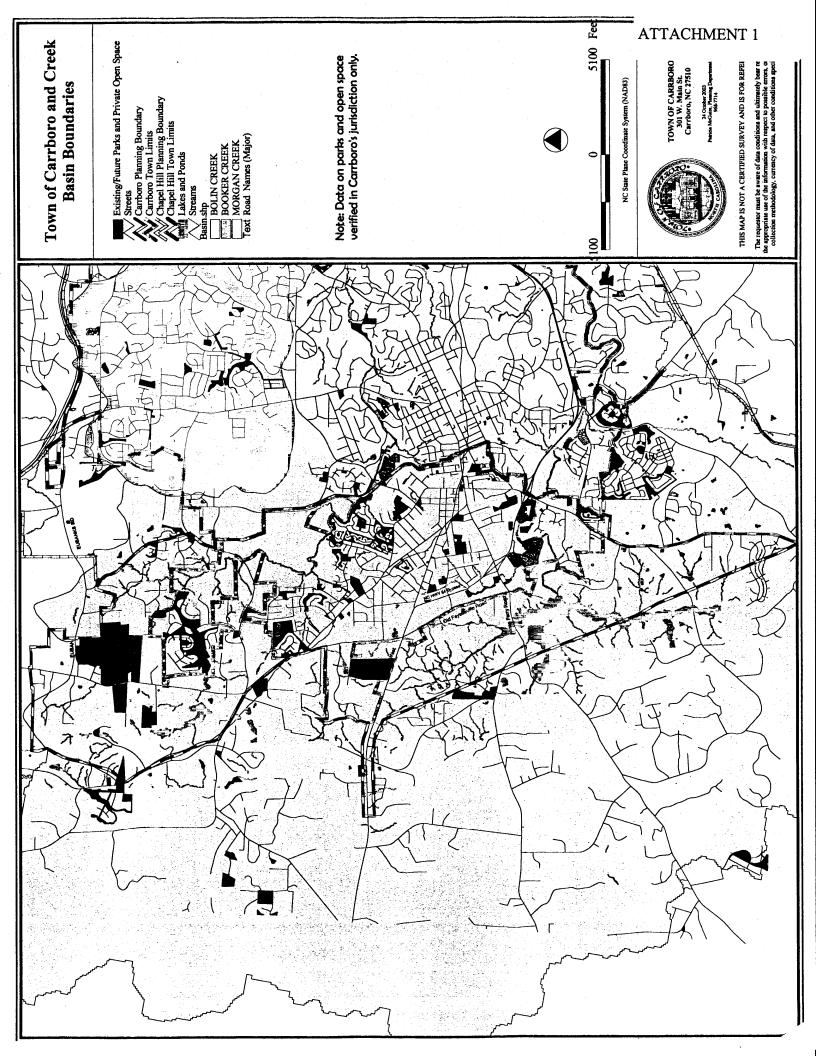
For a number of years the Town has utilized a coordinating policy and implementing regulatory approach to deciding on how to proceed with most of its activities. This approach allows a full range of policies and regulations, adopted by the Town, by neighboring jurisdictions, and by other organizations or governmental agencies, such as the Orange Water and Sewer Authority, the University of North Carolina, the Division of Water Quality, the Clean Water Management Trust Fund, to be given full consideration. The documents noted in this report, Carrboro Vision2020, the NSA Plan, the Land Use Ordinance, the Recreation and Parks Master Plan provide all but the design and development plans for much of the greenway corridors that have been designated to date.

Other approaches are available, such as comprehensive or strategic planning, as are opportunities to expand the greenway system through information gathering or community participation (e.g. updating the *Recreation and Parks Master Plan*), and to designate links to other networks (e.g. sidewalks and bikeways). Though the policy-regulatory approach has characterized greenway planning to date, efforts to acquire land, easements and funds have been fairly successful. The ongoing process of land development has yielded dedications of the bulk of the land needed for corridor development along the main channel of Morgan Creek from Smith Level Road to University Lake, and all of Tom's Creek between NC Highway 54 and Jones Ferry Road. Dedications have been made along Bolin Creek as well. The attached map illustrates offers of dedication accepted in 2001 (Attachment 6).

It is evident that the bulk of these acquisitions have emphasized providing public access for recreational and transportation purposes. The Town's expanded open space requirements have largely increased the natural areas set aside along streams and creeks and likely result in corridor widths that are consistent with other greenway functions. It should be noted that public access along Bolin Creek near the Bolin Forest and Spring Valley subdivisions is very narrow and is masked by the other map features. The map does not include the offers of dedication that were made this year in association with the approval of the Pacifica and Winmore developments.

Funds are available (\$40,000) to the Town in the current Federal fiscal year, via the DCHC MPO's adopted funding plan for planning the Morgan Creek West greenway (Attachment 7). This project follows on Chapel Hill's recent planning for the eastern portion of the Morgan Creek East greenway, construction of which is to occur this year as well. The Morgan Creek West Greenway planning project will require a match from the Town of approximately \$8,000.

Attachments



subdivisions through design standards for building design and for neighborhood layout.

• APPROPRIATE DENSITIES: Cap densities for market-rate housing at 3 dwelling units per acre that bonus densities of 4 to 5 dwelling units per acre could be offered while still allowing for a minimum of 40 percent of the developable land being designated as open space (connected with the Town-wide greenway network).

4.3 Support community land trust efforts for the provision of affordable housing.

In line with the recommendations of Carrboro's Community Land Trust Study, the formation of a local community land trust should be actively supported by the Town. In addition to approaching potential local non-profit housing agencies, Carrboro should support the dedication of, or simply designate, a portion of the area's affordable housing budget to the support of such a land trust.

GOAL 5: A VARIETY OF TRANSPORTATION ROUTES, WHICH ALLOW FOR PUBLIC, PRIVATE, BICYCLE, AND PEDESTRIAN MODES OF TRANSPORTATION.

MEASURES:

5.1 Implement the Connector Roads Plan Concept.

See Appendix B for plan details.

EUBANKS ROAD: Re-examine policy to extend Eubanks Road as a vehicular thoroughfare in the location shown on official documents, which might be more appropriate as a rustic trail. Do not locate the extension of Eubanks Road as proposed by the Draft Small Area Plan but preserve the idea of connectivity in the general vicinity without undue disturbance to existing residents or areas of high resource value.

ROAD WIDENING: Adopt policy to encourage shifting rights-of-way to save distinctive features of the landscape (such as a line of shade trees) where ever feasible.

- STREET CONNECTIONS BETWEEN LAKE HOGAN FARM & THE HIGH SCHOOL: Such street connections should not be through existing subdivisions because an alternative route is feasible, linking Lake Hogan Farm with Homestead Road across several largely undeveloped properties on a northwestern/southeastern axis. Bike route connections using existing neighborhood streets are recommended in this area. The Town should proactively contact the owners of properties needed for the above mentioned alternative street connection to explore the possibility of pre-planning such a route, possibly utilizing the approach known as the "landowner compact" (See 9.4)
- 5.2 Implement the Carrboro Bikeways Plan.
- 5.3 Follow required sidewalk policy in the Land Use Ordinance.

Coordinate transportation planning for the Study Area with Chapel Hill and other 5.4 relevant agencies.

With the concurrent development of Chapel Hill's Northwest Area, the University's Horace Williams tract, and Carrboro's Study Area, one can expect significant changes in traffic levels and patterns in the area within the next 15 years. To ensure that transportation planning in the area takes "the big picture" into account, Carrboro should strongly encourage the coordination of transportation planning in the area with other involved parties. Carrboro should also continue to actively participate in regional transportation planning efforts. If commuter rail service is planned for the area at some point in the future, the service should be closely coordinated by involved parties.

Promote coordination between developers for the planning of bicycle, pedestrian, 5.5 transit, and automobile transportation routes.

Incentives should be provided to developers for linking these transportation routes. Emphasis should be placed on making these routes publicly accessible. Currently developers are awarded points for the provision of facilities such as tennis courts and swimming pools in their developments. The points awarded for the provision of bicycle and pedestrian pathways should be increased, with even higher points awarded to pathways that connect to other networks. The findings of the American Lives Survey indicate that consumers highly rank natural open space, as well as walking and bicycle paths, in their preferences for development amenities. (Source: "American Lives Survey Analysis", prepared by Diane Schrauth, January 16, 1995.)

Incorporate transportation concepts which support mixed-use development. 5.6

Provision for the traditional mode of transportation by automobile should be balanced with provision for other modes, such as bus, pedestrian, and bicycle travel. Automobile access should not preclude the uses of other modes of transportation. This can be controlled by locating automobile access in the rear of buildings, revising roadway design standards, and limiting the provision of parking spaces while providing for convenient bicycle, pedestrian, and transit access to buildings. Mixed-use style development should ensure that distances between residences and commercial, office, and civic centers will not require the use of automobiles in all instances.

ADEQUATE PROVISION OF PUBLICLY ACCESSIBLE PARKS AND RECREATION GOAL 6: FACILITIES.

MEASURES:

Follow the recommendations of the Recreation and Parks Comprehensive Master 6.1 Plan.

6.2 Provide or increase incentives for developers to dedicate land or facilities for public park and recreational use.

Incentives such as density bonuses, awarding points, and tax incentives that would encourage the dedication of land and/or facilities for public use should be explored.

- 6.3 REQUIRE CONSERVATION LAND TO INTER-CONNECT: Establish design standards for the open space in new subdivisions, so they will eventually coalesce to create an interconnected network of protected lands as greenway corridors.
- 6.4 COMPLETING THE LOOP: Extend the proposed greenway trail link westwards from the North Community Park generally along the line currently shown in the Draft Plan as a Eubanks Road extension and then southerly to connect ultimately with a tributary of Bolin Creek. This trail and others closer to population centers in Carrboro should be considered for accessibility by the physically handicapped.
- 6.5 CONNECT HOMESTEAD ROAD AT LAKE HOGAN FARMS WITH THE BOLIN CREEK GREENWAY: Implement this connection along a drainage channel or stream bed running through several existing subdivisions, as a long term goal.
- 6.6 SUBSIDIARY GREENWAY TRAILS: Require developers of new subdivisions to lay out and construct neighborhood trails through their new developments in such a way that they will connect with and extend the Town's more formal greenway network.
- 6.7 HORACE WILLIAMS TRACT: The Town should aim for more than a small 10-acre park on this large tract by proactively encouraging the owner to think more creatively and to plan to accommodate all the permitted density to be situated east of the creek, where the land is actually much more suitable for development. A defacto density bonus could be offered by agreeing to calculate the density to be transferred from west of the creek to the eastern area on the basis of gross acreage on the western bank, rather than on net developable land.
- 6.8 EXPERIMENTAL TRAILS: New trails should be designated as "experimental" with a defined period for evaluation and abandonment, in situations where abutters register concern about litter, vandalism, privacy loss, etc..
- GOAL 7: CONTINUATION OF CARRBORO'S SMALL-TOWN CHARACTER AND PRESERVATION OF ITS EXISTING NEIGHBORHOODS.

MEASURES:

7.1 Require new development to mitigate impacts from traffic, noise, lighting, and other sources on existing neighborhoods, to the extent practicable.

Adopt town-wide design guidelines to ensure that new development is harmonious with 9.3 the attractive features of existing development.

Town-wide design guidelines related to parking, tree preservation, site design, and architectural character, as proposed in the 1993 Draft Townwide Design Guidelines, would help to preserve the character and natural beauty of the Study Area.

- Farmland Preservation: Work with the County to encourage the preservation of active 9.4 farmland, and to limit the conversion of farmland to developed uses outside the Transition Areas, as a trade-off for accommodating new development within the Transition Areas. Examine the implementation of the following farmland preservation techniques:
 - "METRO-FARMING": Encourage the conservation of active farmland within new conservation subdivisions and elsewhere in the Study Area, with emphasis on nontraditional crops or uses (high-value vegetables, pick-your-own berries, apples, etc.) and community-supported agriculture (community gardening, wholesale nurseries, commercial stables, etc.).

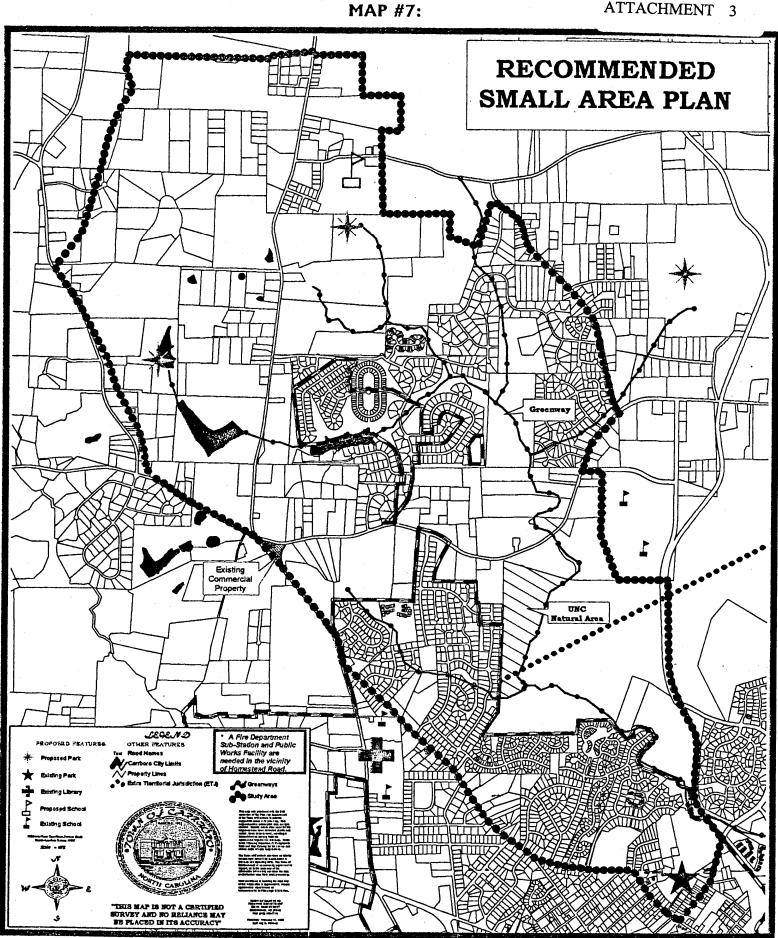
• Establish a committee to look into changing use value taxing to promote metrofarming.

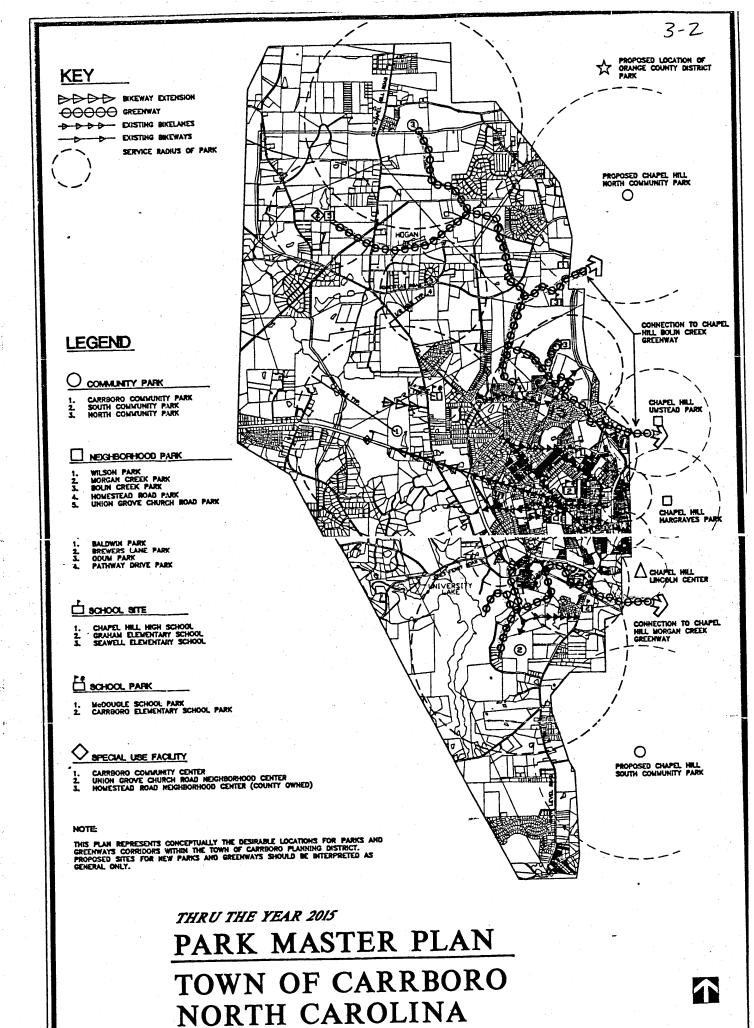
• count community gardening, and farming; as open space in subdivisions.

• ENCOURAGE "LANDOWNER COMPACTS": Actively promote the concept of two or more adjoining landowners combining their properties to increase the possibility of significant conservation set aside on one parcel by shifting part or all the density to the other parcel(s), with pro-rata sharing of proceeds by the various participating landowners.

• EXPLORE THE ROLE OF PDR'S: Recognizing the limited availability of public and private funds with which to purchase development rights from farmers, and also the relatively high cost of such purchases where farmland is zoned for densities of one or more dwelling per acre, the Town should nevertheless explore this option as one

additional way of preserving all or part of a farm within the Study Area.





WOOLPERT

Dantantian & Darke Master Plan