

CHAPEL HILL GREENWAYS

Comprehensive Master Plan

*A Planning Guide for Future Physical Improvements
and Operational Policies*

Greenways Commission
Town of Chapel Hill, North Carolina
[[INSERT DATE UPON ADOPTION]]

CHAPEL HILL GREENWAYS

Comprehensive Master Plan

Prepared for:

Chapel Hill Town Council

Kevin C. Foy, Mayor

Edith M. Wiggins, Mayor pro tem

Sally Greene

Ed Harrison

Cam Hill

Mark Kleinschmidt

Bill Strom

Dorothy Verkerk

Jim Ward

Submitted by:

Chapel Hill Greenways Commission

Glenn Parks, Chair

Bill Bracey, Vice Chair

Sarah Bergmann

Mary Blake

Peter Calingaert

Jim Earnhardt

Mary Ann Freedman

TABLE OF CONTENTS

SUMMARY.....	Page vi
1. INTRODUCTION	Page 1
The Term “Greenway” Defined	
Benefits of Urban Greenways	
History of the Greenways Program	
Purpose of the Master Plan	
Organization of the Master Plan	
2. THE PLANNING PROCESS.....	Page 9
Assumptions for the Process	
Goals of the Master Plan	
Planning Methodology	
3. ANALYSIS OF CURRENT CONDITIONS	Page 13
Role of the Greenways Commission	
Supporting Plans and Ordinances	
Components of the Greenway System	
Existing Greenway Trails	
4. STRATEGIC PLANNING.....	Page 25
STREAM CORRIDORS	Page 26
Bolin Creek Watershed	
Booker Creek Watershed	
Little Creek	
Morgan Creek Watershed	
Dry Creek	
MAN-MADE CORRIDORS.....	Page 58
Utility Rights-of Way	
North Trail (Interstate Trail)	
Horace Williams Trail	
Meadowmont Trail	
CONNECTOR TRAILS	Page 68
Major Connectors	
Minor Connectors	
PARK TRAILS	Page 69
Current Capital Renovation Needs	

REGIONAL AND LOCAL COORDINATION	Page 72
Linkage with Regional and Local Trail Systems	
Connections with Town Alternative Transportation Plans	
Cooperation with the University of North Carolina at Chapel Hill	
IMPLEMENTATION POLICIES	Page 78
Meshing of Goals: Land and Trails	
Land Acquisition Procedures and Policies	
FINANCING THE GREENWAYS PROGRAM	Page 81
Previous and Current Funding for Greenways	
No-Cost Preservation of Greenway Corridors	
No-Cost Trail Construction	
Low-Cost Trail Construction	
Funding Land Acquisition and Trail Construction	
5. ACTION PLAN	Page 85
Criteria for Land Acquisition and Trail Construction	
Land Acquisition Priorities	
Trail Construction Priorities	
6. MAINTENANCE AND OPERATIONAL POLICIES	Page 89
Maintenance	
Neighborhood Trails Program	
Citizen Participation in the Greenways Program	
Promotion of Greenways	
Interagency / Regional Cooperation	
Security	
7. DESIGN STANDARDS & GUIDELINES	Page 93
Corridor Width Guidelines	
Trail Classifications	
Special Trail Needs	
Trail Locations	
Trail Amenities	
Parking Areas	
Accessibility	
Naming Trails	
Signage	
8. CONCLUSION	Page 101
Adoption of the Plan	
Review and Update of the Plan	

LIST OF FIGURES

FIGURE 1		
Primary Streams		Page 20
FIGURE 2		
Bolin Creek Watershed		Page 28
FIGURE 3		
Bolin Creek Trail		Page 29
FIGURE 4		
Booker Creek Watershed		Page 35
FIGURE 5		
Upper Booker Creek Trail		Page 36
FIGURE 6		
Lower Booker Creek Trail		Page 37
FIGURE 7		
Little Creek Watershed		Page 44
FIGURE 8		
Little Creek Trail		Page 45
FIGURE 9		
Morgan Creek Watershed		Page 47
FIGURE 10		
Morgan Creek Trail		Page 48
FIGURE 11		
Dry Creek Watershed		Page 54
FIGURE 12		
Dry Creek Trail		Page 55
FIGURE 13		
North Trail East		Page 60
FIGURE 14		
North Trail West		Page 61
FIGURE 15		
Horace Williams Tract North		Page 66

FIGURE 16		
Horace Williams Tract South		Page 67
FIGURE 17		
Potential Trail Linkage with Regional Systems and Neighboring Communities: <i>Carrboro/Orange County Area</i>		Page 74
FIGURE 18		
Potential Trail Linkage with Regional Systems and Neighboring Communities: <i>Durham Area</i>		Page 75
FIGURE 19		
UNC-Owned Land.		Page 77

LIST OF CHARTS

CHART 1		
Critical NCDOT and Town Road Intersections.		Page 71
CHART 2		
Anticipated Greenways/Open Space Program Funds by Funding Agency (2004-2014).		Page 82
CHART 3		
Anticipated Greenways/Open Space Program Funds by Project (2004-2014)		Page 82

SUMMARY

On September 8, 2003 the Council authorized the Greenways Commission to explore possible revision of the Greenways Master Plan. In addition the Council authorized the Manager to seek input from Boards and Commissions. This report represents the completion of a study begun in September 2003 to update the 1998 *Chapel Hill Greenways Comprehensive Master Plan*. A series of five public forums were held from October 2003 through April 2004. The input gathered during the forums in addition to other public comments received in various ways was used by the staff to prepare a draft document that was then reviewed and refined by the Greenways Commission. The Plan was further reviewed by the Bicycle and Pedestrian Board, Transportation Board, Planning Board, Parks and Recreation Commission, local environmental organizations, the University of North Carolina at Chapel Hill, adjoining local governments, and Town staff.

Goals of the Greenways Program

The Chapel Hill Greenways Program has three major goals that were originally identified in the 1998 Report:

1. To establish and maintain a system of linear open spaces that will help protect the environment of Chapel Hill.
2. To establish a system of trails, where appropriate, that will enable citizens to enjoy the recreational benefits of a network of greenways throughout the Chapel Hill community.
3. To develop specific trails which may offer alternatives to automobile transportation.

Purpose of the Master Plan

This Master Plan provides a foundation for making sound planning and design decisions related to the continued preservation of the Town's greenway corridors. The recommendations provided in the Plan will help to maintain a balance among the goals of the Greenways Program of resource protection, recreational use and transportation opportunities. It also provides the Council with an effective tool to enter into discussion and negotiation regarding regional open space preservation and trail development initiatives and for interacting with State agencies and other regulatory and funding agencies.

Changes to the 1998 Report

The 2005 *Greenways Comprehensive Master Plan* is designed to replace the 1998 *Greenways Comprehensive Master Plan*. The changes reflect current Town conditions and conditions anticipated for the next decade.

The major changes found in the Comprehensive Greenways Master Plan are:

- Addition of recently annexed areas, new schools, planned Town parks, greenway land acquisitions and recent and planned private land developments.
- Addition of newly-identified trail segments to the greenways program.
- Recommendations to change the alignments of several trails.
- New list of high priority trails that could be built in the next seven years.
- New maps that are based on the adopted *2004 Bicycle and Pedestrian Action Plan*.
- Identification of key trail intersections with NCDOT roads and suggested solutions for allowing pedestrians and bicyclists to cross these roads in a safe manner.

Current Condition of the Greenways Program

Since its first meeting in October 1985, the Greenways Commission has worked to expand the amount of land preserved by the Town and to plan and oversee construction of trails.

Current open space holdings total over 716 acres, most of which are within the greenways system. Seven greenway projects have been built to date and account for approximately seven miles of recreational trails. This leaves about 21 miles of trail to be completed in the future in order to complete the trails portion of the master plan. In addition, six park trails that total approximately 4.95 miles have been built.

The following **greenway** trails are now being used:

TRAIL	SURFACE	MILES
Battle Branch	Natural	1.5
Bolin Creek	Paved	1.5
Dry Creek	Natural	.5
Fan Branch	Paved	1.2
Lower Booker Creek	Paved	.85
Meadowmont	Paved	1
Tanyard Branch	Natural	.4
TOTAL		6.95

The following **park** trails are now being used:

TRAIL	SURFACE	MILES
Cedar Falls	Natural	1.2
Jones Park	Natural	.25
Meadowmont	Natural	.5
North Forest Hills	Natural	.5
Pritchard Park	Natural	1
Southern Community Pk.	Natural	1.5
TOTAL		4.95

Summary of Major Recommendations

This report continues to recommend the acquisition of 38 miles of linear open space. The most active recreational use proposed for the greenway corridors identified in this report are bicycle and pedestrian trails. Over 28 miles of the Town's greenway corridors are suitable for development of paved or unpaved trails. A variety of trail types are proposed to suit specific recreational or transportation priorities and specific site conditions. Trails may range from natural surface foot paths and boardwalks utilized to negotiate sensitive or difficult site conditions to paved pedestrian and bicycle trails offering maximum recreational and transportation use.

The following six new greenway trails and trail segments could be completed by the year 2012 if anticipated funding continues to be available and needed land is acquired:

- Bolin Creek, Phase III (Martin Luther King Jr. Blvd. to Estes Drive Extension)
- Dry Creek (Perry Creek Road to Eastowne)
- Fan Branch Trail (Scroggs School to southern tip of Southern Community Park)
- Morgan Creek (Merritt Pasture to Smith Level Road)
- Upper Booker Creek (Weaver Dairy Road to Homestead Park with a spur to Horace Williams Trail corridor)

A Look to the Future

The recommendations found in this Master Plan offer the present and future citizens of Chapel Hill a plan for integrating their urban environment with the natural world.

The adoption and endorsement of this Comprehensive Greenways Master Plan by the Council and the citizens of Chapel Hill is one step toward ensuring that goal.

Part I

INTRODUCTION

This Report is a revision of the Greenways Master Plan that was adopted by the Council on May 26, 1998. Since that time the Town has identified several changes in the Greenways Master Plan document that would make the document more useful and responsive to the Town's needs. These changes include:

- The need to address new funding sources that were not anticipated in 1998. These are discussed in greater detail on page 81 of this report.
- Land development has made several trail options available in 1998 impractical today. This report identifies options that respond to changes in land use patterns since 1998.
- It has become clear that special attention must be given to trails that cross NCDOT roads. This Report contains a section dealing with opportunities to move pedestrians and bicycles across NCDOT controlled roads.
- Neighboring jurisdictions have made changes to their trail and open space plans that affect the Town's plan. These changes are addressed.

The underlying assumption and need for this study emerges from three long-term concerns of the Town's governing body and its active citizenry. The first reflects the Town's continuing commitment to provide quality recreational facilities for the community. The second exemplifies the Town's commitment to preserving open space as an integrated component of the Town's urban landscape. The third reflects Chapel Hill's commitment to offer alternatives to automobile transportation. The Comprehensive Greenways Master Plan recommends linking the Town's land use objectives with its environmental, transportation and recreation

goals to provide a viable network of pedestrian/bicycle trails and other passive recreation opportunities.

As the Town continues to grow, the notion of conserving undeveloped land has become a more pressing matter. Significant population increases and growth are projected over the next several decades in Chapel Hill and surrounding communities. Development pressure will continue to influence the character of the Chapel Hill landscape, inevitably shaping the form and quality of the Town's open space.

The Town-wide greenway system proposed within this Master Plan occurs primarily along the Town's streams and watercourses. These open spaces along wooded stream corridors both protect and make accessible many of Chapel Hill's unique and beautiful natural settings.

The development of this Comprehensive Greenways Master Plan and its continuing update will contribute to the strategic organization of the Town's open space and greenways. The Master Plan is intended to provide a foundation for making decisions related to the greenways program and the quality of Chapel Hill's physical environment. The Plan's guidelines will help to assure the continuity and coordination of open space conservation, passive recreation and trail facilities for future decades.

The Term "Greenway" Defined

The term "greenway" is used in many communities throughout the United States. However, there is not a single, consistent definition of the term that would fit the needs of each locale. In some communities the word greenway is synonymous with the word "trail". In other towns and cities, the public may associate the term with specific types of trails, such as

paved bicycle accessible paths along streams. Other communities use the words “greenbelt” or “greenway” to identify areas which are simply set aside for preservation and/or buffers between non-complimentary uses or between communities.

In 1993, the Chapel Hill Greenways Commission adopted the following language to describe Town “greenways”:

Networks of natural spaces which provide corridors connecting areas such as neighborhoods, parks, and schools. These passageways typically include trails for pedestrians and non-motorized vehicles. They are a link to nature for the enjoyment of the community.

This definition describes greenways as linear natural areas which sometimes may be suitable for the inclusion of trails. It is an important distinction to note, however, that some greenway areas in Chapel Hill may not be suitable for trail development and may find their “highest and best” land use by remaining as undeveloped open space, and providing the community with valuable buffers, environmental preserves or wildlife corridors.

Benefits of Urban Greenways

Greenways can provide economic, environmental, recreation, and transportation-related benefits to the entire community in which they are found. A greenway system, well integrated within the Chapel Hill community, can function to:

1. Preserve the natural environment that makes Chapel Hill a pleasant place to live.
2. Provide recreational opportunities ranging from quiet enjoyment of natural areas to hiking and bicycling.

3. Provide natural laboratories where flora, fauna and ecological relationships can be studied by all Chapel Hill citizens.
4. Influence urban growth patterns by conserving open space, separating and buffering conflicting land uses, and connecting compatible land uses.
5. Provide a network of pedestrian and bicycle trails - a safe and pleasant alternative to the Town’s street system - that will connect neighborhoods, schools, shopping areas, and parks.
6. Increase the value of all properties in Chapel Hill by creating an aesthetically pleasing community with greater options for non-motorized vehicle transportation and recreation and open space.
7. Mitigate flooding, soil erosion, and stream siltation by preserving buffers between developed areas and streams.
8. Retard the degradation of air quality by allowing vegetation in the greenways areas to add oxygen, filter dust and air-borne pollutants, and cool the air.
9. Mitigate noise pollution by allowing vegetation in the greenways areas to act as natural noise barriers.
10. Preserve habitat and travel corridors for wildlife within the urban area.
11. Contribute to the aesthetic and visual structuring of the Town, helping to retain and amplify the character of the Town landscape.

History of the Greenways Program

The Chapel Hill greenways program was established by Council resolution in 1985. However, the concept of preserving open space and greenways has been part of Chapel Hill’s

planning efforts for four decades. The first deliberate efforts toward preserving linear parcels of open space for the purpose of developing a greenways program began in the 1960s and early 1970s.

The early movement was led by Planning Board member and later Alderman Alice Welsh who led the effort to acquire easements from landowners along the Bolin Creek corridor. These early efforts resulted in an almost unbroken chain of Town-owned properties and easements that stretched along Bolin Creek from Umstead Park to Franklin Street. The acquisition of these properties and easements contributed greatly toward the Town's goal of preserving Chapel Hill's first – and one of its most important greenway corridors – the Bolin Creek Greenway.

During the 1980s, the Town's greenways planning and development efforts became more formalized. In 1981, the Parks and Recreation Department surveyed the Chapel Hill community to determine user concerns. Eighty-four percent of the respondents thought that greenway development was a high to moderately high priority. These findings were reinforced by the 1982 report, "Subcommunities in Chapel Hill: Conditions, Problems, Recommendations." A major concern of citizens outlined in that study was the fear that greenways development would be dropped as a Town priority.

As the decade progressed, greenways programs in other North Carolina cities grew, especially in nearby Raleigh and Cary. As the success of the Raleigh and Cary programs grew, other municipalities, including Chapel Hill, became more interested in a greenways program.

This interest led to a January 9, 1984 resolution of the Town Council to create an eleven member Greenways Task Force to study whether or not the Town should initiate a greenways program. The members of the

task force included Lightning Brown (Chair), Diane Byrne, Valerie Carter, Lynn Cox, Karen Davidson (Vice Chair), Betsy Pringle, Zora Rashkis, Gordon Rutherford, Betty Sanders, Randy Schenck, and Philip Szostak. The group included representatives of the development community, the University, environmental groups, the business community, and various neighborhoods. The group presented their report, "Greenways Task Force Final Report" to the Council on February 11, 1985.

The Task Force Report recommended the creation of a Greenways Commission. The Council agreed and on July 8, 1985 adopted a resolution which directed that the Greenways Commission be established and that the Parks and Recreation Department provide staff support for technical and administrative functions. The Council then appointed a seven member Commission which met for the first time in October 1985.

Since its first meeting in October 1985, the Greenways Commission has worked to expand the amount of land preserved by the Town and to plan and oversee construction of trails. The Greenways Commission has been partially responsible for the Town's purchase of over 100 acres of land and has made recommendations that resulted in many acres of property being dedicated or donated to the Town. The Commission has dedicated seven major trails to date, and has been a vital part of the decision making process of Town government.

Historical Highlights

1965

An open space plan was adopted by Town Council.

The Council reviewed the *Mayor's Ad Hoc Open Space Committee Report*. The report urged the development of a greenways system through fee simple purchase of land and easements. The report was not adopted by the Council.

1969

The Research Triangle Planning Commission recommended in its report, *Chapel Hill, NC, Development Alternatives*, that the Town undertake extensive linear park development and acquire open space. No formal action was taken on the recommendations.

1970

The *Community Recreation Evaluation* recommended that greenways be developed along streams and urged that the findings of the *Mayor's Ad Hoc Open Space Committee Report* and the Research Triangle Planning Commission Report be adopted. The recommendations of the Reports were not adopted.

1972

The Chapel Hill, *Long Range Policy Plan*, recommended greenway development. The plan was not adopted.

1979

The *Comprehensive Plan: Community Facilities Report* defined “greenways” and recommended implementation of a greenways system that would connect parks and recreation areas. The plan was adopted by the Council.

The Cedar Falls Trail was completed.

1981

The Parks & Recreation Department administered, *The Townwide Leisure Survey*, and found that 84% of the respondents rated the importance of greenways as moderately high to high.

1982

The results of neighborhood surveys in the report, *Subcommunities in Chapel Hill: Conditions, Problems, Recommendations*, indicated that greenways were looked upon with great favor. Neighbors were afraid that the greenways program would be dropped by the Town.

1984

The Council passed a resolution to create a Greenways Task Force.

The Greenways Task Force made an interim report to the Council.

1985

The *Greenways Task Force Final Report* was presented to the Council. The Council accepted the Report and incorporated it into the Town's Comprehensive Plan.

The Chapel Hill Greenways Commission was formed and met for the first time in October.

1986

The Tanyard Branch Trail was dedicated.

A \$2.5 million bond for parks and open space passed.

1988

The Greenways Commission made an extensive evaluation of greenway possibilities along upper Bolin Creek and Battle Branch.

1989

A master plan for the middle Bolin Creek corridor was completed.

The Battle Branch Trail was dedicated.

The Council adopted the *1989 Community Facilities Report* which recommended greenway development.

A \$5 million bond for parks and open space was passed.

1991

Phase I of the Lower Booker Trail was completed.

1993

Construction of Phase I of the Bolin Creek Greenway Trail started.

The Council approved the Bolin Creek Greenway Advisory Committee's recommendations concerning Phase II of the Bolin Creek Trail. Work on the Special Use Permit started.

1994

Phase I of the Bolin Creek Greenway Trail was dedicated.

1996

Phase I of the Fan Branch Trail was constructed.

The first Greenways Trail Guide was published.

\$3 million bond for parks and greenways land acquisition was passed with 66% of the voters approving.

The Council authorized the expenditure of funds for a Conceptual Plan Study of the Dry Creek and Upper Booker Creek Trails.

The Dry Creek Trail Advisory Committee was established by the Council.

Hurricane Fran damaged all existing trails and felled numerous trees.

The Council dedicated the first phase of the Bolin Creek Trail in honor of former Alderman Alice Welsh.

1997

The Council adopted the Conceptual Plan for the Dry Creek Trail.

A temporary 1.5-mile natural surface trail was constructed at the future site of Southern Community Park.

1998

The Council dedicated Phase II of the Bolin Creek Trail in honor of Lightning Brown, chair of the 1984-85 Greenways Task Force.

On May 26, 1998 the Council adopted the *Chapel Hill Greenways Comprehensive Master Plan*.

1999

On March 14, 1999 the Council adopted the *Booker Creek Linear Park Advisory Committee's Report to the Town Council*.

2000

The Council adopted the *Report of the Merritt Pasture Access Committee* report on November 27, 2000. The report made recommendations to secure access to the pasture.

The second Greenways Brochure was produced.

2001

The Greenways Commission sponsored the first annual Greenways and Open Space Award.

Voters approved Orange County Parks bonds that included \$2,000,000 for the Southern Community Park and \$1,000,000 for greenway development in Chapel Hill.

Phase I of the Dry Creek Trail was completed.

2002

The Lower Booker Creek Trail was dedicated.

2003

The Pritchard Park Trail was completed using all volunteer labor.

Chapel Hill voters approved \$2,000,000 in open space bonds and \$5,000,000 in Parks bonds designated for greenways.

2004

The last sections of the paved Meadowmont Greenway Trail were completed. Work started on the natural surface sections of trail in the low areas.

2005

The Council adopted the *2005 Chapel Hill Greenways Comprehensive Master Plan*.

UNC renovated its portion of the Battle Branch Trail.

Phase II of Dry Creek Trail from Perry Creek Road to Erwin Road completed.

Natural surface trails in Meadowmont completed.

Purpose of the Master Plan

The Chapel Hill Greenways Program has had substantial impact on the community's natural, scenic, and recreational resources during its first eighteen years of existence. The quality and character of specific greenway corridors contribute significantly to the quality, image and livability of the Town.

The creation and adoption of this revision to the 1998 Comprehensive Greenways Master Plan are important steps in the process of continued evaluation of the greenways program. Adoption of a Comprehensive Greenways Master Plan is critical in helping to assure the continuity and direction of the program and its coordinated planning over time. Through this current master planning effort, citizens, elected officials, and Town staff have reexamined the direction of the Town's greenway corridor preservation and trail development efforts.

Specifically, the Plan will provide an updated evaluation of potential greenway conservation areas and trail opportunities along the Town's primary greenway corridors.

Recommendations have been formulated for greenway opportunities in recently annexed areas of Town and for greenways related to new schools and Town parks, recent land acquisitions, as well as to recent private land developments.

As an adopted public policy document, the revised Comprehensive Greenways Master

Plan would assist the Council in several important ways:

- The Master Plan would become an important planning tool, articulating a vision of what the greenways system may become, thereby becoming an essential guide for all future planning and decision-making which impacts the system's physical form.
- The Master Plan would support the Council's legal basis, established in the Land Use Management Ordinance, for requiring the dedication of land for certain recreation areas and easements during the development approval process.
- The Master Plan would provide the Town with a policy mechanism to enter into discussion and negotiation regarding regional initiatives.
- The Master Plan would provide a tool for interacting with State agencies and other regulatory bodies. Some agencies, such as the North Carolina Department of Transportation, may not alter their projects to meet local greenways needs without the adoption of a greenways master plan or similar document.

Organization of the Master Plan

The Master Plan is organized into eight complementary sections:

- 1. The Introduction** provides a historical perspective of the Chapel Hill greenways program and describes the philosophical underpinnings of the Plan and its organization.
- 2. The Planning Process** outlines assumptions for the process, goals for the Plan, a brief summary of the planning methodology especially related to the process of consensus-building within the community.
- 3. Analysis of Current Conditions** is a look at the greenways system as it exists today, including the administration of the program, the role of the Greenways Commission and the role of past planning efforts and supportive Town Ordinances.

A summary of current land holdings within the greenways system and existing trail development is also provided.

4. Strategic Planning is divided into four sections that organize the greenway system into identifiable corridors and discuss problems related to major streets and roads:

- Stream Corridors
- Man-Made Corridors
- Connector Trails
- Key NCDOT Road Intersections

These corridor types define the physical framework of the greenways system. Within each corridor type specific greenways are identified and evaluated for potential open space preservation and/or trail use.

Recommendations for the development of specific trail segments are given. In addition, the Report discusses recommended solutions for major NCDOT street and road intersections.

- This chapter also discusses other key strategic issues.
- Regional and Local Coordination discusses potential connections with neighboring jurisdictions, Town sidewalk and bicycle plans, and other regional and local open space/trail and transportation systems. The potential for cooperative greenway efforts with the University of North Carolina at Chapel Hill, especially at the proposed Carolina North campus, is also addressed.
- Implementation Policies provides a policy approach for future land acquisition and an outline of potential methods for acquisition.
- Financing the Greenways Program provides guidelines for funding the acquisition of land and the construction of trails.

5. The Action Plan outlines the criteria and guidelines for priority land acquisition and trail construction to be accomplished during the next 5 years.

6. Maintenance and Operational Policies provides a basis for making decisions related to trail maintenance and security and presents opportunities for citizen participation in the greenways program.

7. Design Standards and Guidelines provide design guidelines for the alignment and construction of trails within greenways corridors and design standards for special trail needs and amenities.

8. The Conclusion provides a synopsis of the master planning process and the future of the greenway program in Chapel Hill.

An important goal of the Master Plan is to create a guide for a continuing program of land acquisition, trail development, and open space preservation.

Part 2

THE PLANNING PROCESS

Assumptions for the Process

Outlined below are the working assumptions for the process of revising the Greenway Master Plan. These assumptions will frame the general direction, focus of the study, and clarify what is to be accomplished through this planning effort. The manner in which the Plan will be developed and presented will reflect the basic assumptions underlying the study.

1. The Greenways Master Planning process is part of a continuing, multi-faceted effort to establish a long-range planning strategy and development policy for the future growth of the Town.

The Greenway Master Plan will focus on the physical planning, implementation goals and operational policies of the greenway system. The Plan's recommendations are to be supportive and consistent with the goals, objectives and policies established within the Town's Comprehensive Plan.

2. The Greenway Master Planning process is an opportunity for the Greenways Commission to fulfill its specific charge of establishing a Town-wide system of greenway open spaces and greenway trails.

The Greenway Master Plan will exhibit the Town's commitment to continually upgrade and expand the greenway system. The Plan will provide a broad-based framework within which appropriate decisions can be made about the future growth of the greenway system and to encourage positive coordination with other Town programs such as parks and recreation development, sidewalk and bicycle plans, and open space preservation.

3. The process is an opportunity to strengthen important relationships and community perceptions.

The Master Plan will foster public input, awareness and participation in the planning process. The planning process will assimilate concerns and ideas from a variety of diverse constituencies, interests, municipalities and other institutions.

Goals of the Master Plan

The findings and recommendations set forth in this document are to reflect and remain consistent with this statement of goals. The Goals of the Master Plan revision process will serve as criteria against which the progress and direction of the study may be tested at key points in the planning process.

1. Create a Plan that will provide a comprehensive direction for the physical development of the greenway system that is both strategic and action-based.

Create a guide for a continuing program of land acquisition, trail development and improvement, and open space preservation. Provide a framework within which future projects can be conceived and remain responsive to changing needs.

Prepare a planning foundation from which more detailed analysis and design of individual greenways and trails may be generated. Provide recommendations for immediate and near-term physical improvements that may be realized within realistic and prudent financial parameters.

2. Create a Plan that balances a sense of stewardship for the Town's natural resources and scenic qualities with the need for public use, recreation and alternative transportation. Provide policy and planning guidelines which will

maintain open space systems and natural areas and expand their potential use and aesthetic quality.

3. Provide for the needs of current and potential greenway trail users.

Create a guide for greenway trail implementation and greenway corridor preservation that appeals to a broad range of passive recreational pursuits and offers a variety of experience. Determine standards for greenways development, trails functions and amenities.

4. Establish strong operational policies.

Provide security policies to help create a safe, enjoyable system for the public that is also respectful of the privacy of adjacent property owners. Outline a maintenance policy to assure the protection of the Town’s investment in greenways and to assure the upgrade of the facilities over time.

5. Create a Plan that may serve as a vehicle for acquiring grants and other funding opportunities.

A sound master plan is often required to be eligible to receive certain grants.

6. Create a Plan that may serve as a promotional tool.

Provide a document that will raise awareness of greenway and open space issues and encourage broad community-based support for greenways.

Planning Methodology

The original greenways planning document was the 1985 *Greenways Task Force Report*. This document, which was authored by a citizen task force, laid out the basic framework of a greenways program for Chapel Hill and recommended the formation of a Greenways Commission.

As an update to the 1985 Task Force Report the 1998 *Chapel Hill Greenways*

Comprehensive Master Plan, reaffirmed the original goals of the greenways program.

In 1989, William Webster, while a Masters of Public Administration student at the University of North Carolina at Chapel Hill, completed an extensive identification of greenway corridors throughout Chapel Hill. Specific trail segments were identified and rated according to recommended levels of development. Corridors were evaluated in terms of their natural features, environmental sensitivity and site conditions favorable for trail development. The 1998 *Chapel Hill Greenways Comprehensive Master Plan*, provided an expanded study of these greenway corridors, refined the trail classification system and offered updated findings.

Prior to preparing the 2005 Report the Greenways Commission held five public forums. Each forum was targeted to review the greenways in certain areas of Town. Prior to each forum the staff mailed notice to everyone living within the targeted areas. Most of these mailings ranged from 800 to 1,200 individual pieces. Approximately 60 citizens attended the meetings and provided input. In addition, numerous telephone and e-mail communications were received from citizens who desired to comment but could not attend the meetings. The Commission used the information gathered to develop recommendations for the first draft.

The 2005 Report continues the tradition of building on the work of the past. The 2005 Report contains the major goals and themes of both past documents while addressing specific changes that have occurred since the publication of the 1998 Report. Much of the 1998 Report is left intact or little changed. Some sections have been heavily revised to respond to changes. In summary the major changes made to the 2005 document relate to the fast moving and changing financial and physical conditions of the Town and its neighboring jurisdictions.

The Master Planning process has followed a logical sequence to ensure that the project’s

decision-making has been consistent with the stated goals for the Master Plan. The process was organized to forge a consensus plan which is technically workable and responds to the full range of community interests.

The Greenways Commission actively participated throughout the entire process. Participation by citizens was established as an integral part of this planning process. Public forums and working sessions were conducted to solicit general input and identify issues of concern from the community-at-large.

It has been a planning process that attempted to broaden the sense of community ownership of the Town's open space and greenways. The Greenways Commission has sought to solicit and assimilate views and input from a variety of public perspectives. The following agencies, municipalities, institutions and public interest groups were made part of the review process of this Plan and the formulation of recommendations during its draft stages:

- **Chapel Hill Advisory Boards and Commissions:**
Bicycle and Pedestrian Commission, Parks and Recreation Commission, Planning Board, and Transportation Board.
- **Chapel Hill Town Staff:**
Town Manager's Office, Long Range Planning, Current Development Planning, Transportation, Engineering, Public Works, and Parks & Recreation.
- **Neighboring governmental bodies:**
Orange County, City of Durham, Durham County, and Town of Carrboro.
- **Agencies and institutions:**
Orange Water and Sewer Authority (OWASA), University of North Carolina Department of Facilities Planning and Design, and North Carolina Botanical Garden.

- **Conservation groups:**
Triangle Rails to Trails, Triangle Greenways Council, New Hope Creek Corridor Committee, Sierra Club, and Triangle Land Conservancy.

It is hoped that the planning methodology used for this update to the *Chapel Hill Greenways Comprehensive Master Plan* has allowed a balance to be achieved between technical feasibility, input from concerned neighbors and broader community goals.

During the planning process, the Greenways Commission has sought to solicit and assimilate views and input from a variety of public perspectives.

Part 3

ANALYSIS OF CURRENT CONDITIONS

GREENWAYS PROGRAM ADMINISTRATION

The Chapel Hill greenways program has two major goals: to establish and maintain a system of open spaces that will help protect the environment of Chapel Hill, and where possible, to establish a system of trails, that will enable citizens to enjoy the benefits of greenways to the greatest extent possible.

Advising the Town Council to implement the goals of the greenways program is the responsibility of the Chapel Hill Greenways Commission. The greenways program is administered by a variety of Town departments under the guidance and coordination of the Parks and Recreation Department. The Parks and Recreation Department staff provides planning and technical support, coordination of design and engineering consultants and provides promotional and liaison services to the community.

Role of the Greenways Commission

The Chapel Hill Greenways Commission is a seven member body of citizens which is charged with the task of advising the Council in the creation of a town-wide system of greenways and greenway trails. The Town Council appoints members for three-year terms. Sitting members may apply for a second three-year term. The Commission was created in 1985 to perform the following duties:

1. Develop and propose, for the Town Council consideration, a master greenways plan, including a proposed timetable for development and listing of

potential greenways properties and extensions.

2. Identify potential property and easements to accomplish the greenway plan with the cooperation of property owners and neighborhood organizations in areas along greenway corridors.
3. Work with neighborhoods to develop specifications for appropriate design, use, maintenance, and security for greenways.
4. Promote awareness of the greenways program among Town residents. For example, publish maps and trail guides for use of greenways.
5. Advise the Town Council regarding the status of needs of the greenway system annually during the consideration of the Capital Improvement Program and annual operating budget. Recommend property to be acquired and trails to be constructed.
6. Work with community groups to encourage the development and maintenance of greenway trails.
7. Work with regional organizations and Greenway Commissions to coordinate regional greenway plans; encourage linkage of greenway systems when beneficial to Chapel Hill citizens.
8. Review proposals for subdivision or development of land in the identified greenway corridors, and make recommendations to the Planning Board or Town Council regarding provision or dedication of property or easements to accomplish the greenway plan.

9. Recommend and promote alternative funding sources for acquisition and maintenance of greenways.
10. Recommend naming trails or greenway corridors in honor of individuals to the Town Council Naming Committee.

Supporting Plans and Ordinances

The movement toward comprehensive greenway planning is demonstrated in the development and evolution of other Town documents and plans of neighboring communities and institutions. The Chapel Hill greenway program is supported by a wide range of Council-adopted plans and reports within the Town’s Comprehensive Plan and important sections of the Town’s Development Ordinance. As the greenway program develops, it will continue to rely on the reinforcement and mutual support that these plans and policy statements provide.

Town Planning Efforts Supportive of Greenways

There are a number of current plans and reports that support the efforts of the greenway program, including:

- 1989 Natural Environment Report
- 1989 Transportation Report
- 1991 New Hope Corridor Open Space Master Plan
- 1993 Regional Bicycle Plan
- 1994 Pedestrian Plan
- 2000 Comprehensive Plan
- 2002 Parks and Recreation Master Plan
- 2004 Bicycle and Pedestrian Action Plan

A brief review of each Report and its recommendations follows.

1989 Natural Environment Report

The 1989 Natural Environment Report identifies critical and sensitive features of the

Town’s natural environment which include steep slopes, floodplains, bottomland hardwood forests, open space and greenways. The Report recommends the preservation of these natural features and is supportive of open space and stream buffer preservation.

1989 Transportation Report

1989 Transportation Report identifies the goal of safe and efficient movement of people throughout Town. In addition to a safe road network, sidewalks, pedestrian paths and bicycle routes are noted as integral parts of the Town’s transportation system. The Report recognizes the need of the recreational community and supports combining recreational needs with commuter bicycle facilities.

1991 New Hope Corridor Open Space Master Plan

Chapel Hill, Orange County, Durham County, and the City of Durham shared the costs of preparing this Report which made recommendations for preserving the remaining wild land between Chapel Hill and the City of Durham. Most of the studied area lies within Durham County and outside of Chapel Hill’s jurisdiction. However, the Dry Creek corridor and the area near Eastowne Drive are included in the study. The study recommends that Chapel Hill work to preserve Dry Creek, acquire land for trail development, and plan for a future trail connection to Durham along Dry Creek.

Specific recommendations related to the Chapel Hill greenway system are included in Part 4 of this report.

1993 Regional Bicycle Plan

Chapel Hill, Orange County, Durham County, and the City of Durham shared the costs to develop a Regional Bicycle Plan to study current and future bicycle use patterns and the need for facilities. The Plan identified Phases I and II of the Bolin Creek trail and the planned Booker Creek Trail as components of the Regional Bicycle Plan.

1994 Pedestrian Plan

The 1994 Pedestrian Plan was intended to lay the groundwork for development of improved pedestrian facilities in order to promote pedestrian versus automobile transportation. Greenway trail segments are recognized as being important and complementary components of an overall pedestrian system composed mainly of sidewalks along Town streets.

2000 Comprehensive Plan

The stated transportation goal of the Comprehensive Plan (p 92) is to: “Develop a balanced, multi-modal transportation system that will enhance mobility for all citizens, reduce automobile dependence, and preserve/enhance the character of Chapel Hill.” The Plan states the following general objectives (p 93) for

Bikeways: Develop and maintain a system of safe and efficient bikeways (on-street bike lanes and off-street bike paths within greenways) designed to contribute to Town-wide mobility, connecting neighborhoods with activity centers, schools, parks, and other neighborhoods.

Pedestrian (facilities): Develop and maintain a pedestrian circulation system, including sidewalks and greenway trails that provide direct, continuous, and safe movement within and between districts of Town. Link neighborhoods to activity centers, transit stops, schools, parks, and other neighborhoods.

2002 Parks and Recreation Master Plan

This plan made a number of recommendations related to greenway development including:

- Aggressively pursue the recommendations of the 1998 Greenways Report.
- Build a minimum of 6-7 miles of trail by 2011.
- Seek funding from a variety of sources.

- Approach UNC to be a partner in trail development.

2004 Bicycle and Pedestrian Action Plan

This draft plan is an extension of the Comprehensive Plan. It identifies and includes existing and proposed greenways as integral parts of a bicycle and pedestrian network. A key plan objective is to identify locations for improved facilities or engineering improvements which:

- connect neighborhoods to adjacent existing schools, activity centers, recreational facilities and transit stops,
- close gaps between existing facilities,
- facilitate travel between residential neighborhoods and key employment, recreation, shopping centers, such as downtown and UNC and,
- connect Chapel Hill with neighboring communities

Specifically the plan includes the following recommended actions related to the Greenways Master Plan:

- A recommended greenway for use by bicyclists and pedestrians to connect Southern Village to the New High School off Smith Level Road.
- The provision of a bicycle and pedestrian bridge at Ashe Place.
- The provision of a trail spur from the Tanbark trail connecting to Broad Street, Carrboro.

Other Supporting Plans

The Chapel Hill greenway system is supported by the findings and recommendations established in planning documents adopted by neighboring communities and environmental groups.

Town of Carrboro Recreation and Parks Comprehensive Master Plan

Adopted in 1994 by the Town of Carrboro Board of Aldermen, the Master Plan outlines recommendations for a Town-wide system of community parks, neighborhood parks, mini-parks and greenways. The Plan supports cooperative efforts with the Town of Chapel Hill to deliver recreational services to both communities. Specific recommendations for connections to several of Chapel Hill’s greenways are presented. This plan will likely be updated in 2005.

Inventory of the Natural Areas and Wildlife Habitats of Orange County, North Carolina

Sponsored by the Triangle Land Conservancy, and completed in 1988, the Inventory of Natural Areas and Wildlife Habitats of Orange County describes 64 sites representing unique and exemplary natural ecosystems, rare species habitats, special wildlife habitats and scenic areas.

The following reports and plans have been adopted by the University of North Carolina Board of Trustees as guides to the future planning and development of UNC properties in Chapel Hill:

Summary of the Campus Framework Plan, A Guide to Physical Development

The University of North Carolina at Chapel Hill Johnson Johnson and Roy, Inc. March 1991.

North Carolina Botanical Garden Master Plan, A Guide for Development

The University of North Carolina at Chapel Hill, Jones and Jones, and Hunter Reynolds Jewell, March 1992.

Central Campus Open Space Preservation Policy

The University of North Carolina at Chapel Hill, Johnson Johnson and Roy, Inc., 1996.

Study of the University of North Carolina Outlying Properties

The University of North Carolina at Chapel Hill, Johnson Johnson and Roy, Inc., November 1996.

1999 Orange County Bicycle Transportation Plan

The Plan is the Bicycle Transportation Component of the Orange County Comprehensive Plan. This is a plan intended to develop transportation facilities and programs for bicyclists. The plan seeks to provide facilities between the urban areas within and adjacent to Orange County and to provide bicycle transportation access from rural areas to adjacent urban areas.

Greenway trail segments are important and complementary components of an overall pedestrian system composed mainly of sidewalks along Town streets.

Town Ordinances

The Town's Land Use Management Ordinance (LUMO) has several sections which are of vital importance to the enhancement of the greenways program. The most important of these are the sections which mandate the dedication of recreational land and define the Resource Conservation District (RCD).

The mandatory dedication of open space levied on private residential development within the Town is an important mechanism for greenway land acquisition. The Resource Conservation District aids the greenways system in a broader sense, by providing ordinance protection of land associated with stream bottomlands, the primary component of Chapel Hill's greenway corridors.

Mandatory Dedication of Recreation Area

Most of Chapel Hill's greenway land was acquired through the provisions of the Development Ordinance (which predated the LUMO prior to 2003) that mandated dedication of recreation space with each new major subdivision and some projects developed under Special Use Permits. This process was used continually since mandatory recreation area dedication was added to the Town's development ordinance in 1981.

The new LUMO continues to require the dedication of recreation areas for almost all residential development projects. The intent of the ordinance is to require a prescribed amount of land which could be used for active recreation purposes. For sites that abut or include areas designated as future greenway corridors, the ordinance allows the developer, with Council approval, to dedicate land for greenway use in lieu of active recreation space.

The LUMO also specifies exemptions to required recreation land dedication which include payments in lieu agreements and the substitution of other land areas. These provisions have led to the preservation of greenway corridors, land having steep slopes, environmentally sensitive areas and open space associated with the Town's entranceway corridors.

Resource Conservation District (RCD)

In 1984, the Town adopted its RCD Ordinance restricting development in and adjacent to the 100-year floodplain of the Town's perennial streams. The RCD is an overlay zoning district which protects this critical area by limiting permitted uses, the amount of impervious surface created by a development, the amount of land that can be disturbed and development density.

The greenways program benefits from the RCD in two ways. First, the district protects large areas of fragile and important natural areas without the need to purchase property. Second, the ordinance lists greenway trail development as an allowable and acceptable use within the RCD.

The mandatory dedication of open space levied on private residential development within the Town is an important mechanism for greenway land acquisition.

THE GREENWAY SYSTEM IN 2005

Chapel Hill's greenway system is best viewed as a network or web of open space and trails that provide many benefits, including an opportunity for people and wildlife to safely travel through the urban environment. In a community with ideally planned greenways, it would be possible to travel inside linear open space corridors to any major destination. Neighborhoods, schools, parks, shopping centers, commercial centers, and office areas would be interconnected so that user contact with automobile traffic would be minimized.

The greenway network proposed for Chapel Hill does not reflect the ideal. Although most greenway corridors are at least partially preserved, the transportation aspects of the Town's greenways fall short of providing a complete or continuous system. Portions of the proposed system fit together rather poorly, while other segments have missing pieces. The imperfect plan presented here reflects the reality of trying to implement a greenway trail system in a community which has already been largely developed, contains difficult terrain and has large areas under a single owner, the University of North Carolina at Chapel Hill. Some lands owned by the University and additional portions of some greenway corridors have areas which are biologically sensitive, including federally-regulated wetlands.

Many acres within potential greenway corridors have already been developed as single family residential neighborhoods and for commercial uses. This existing development occurs predominantly in the central portion of Town and along Morgan Creek and Booker Creek. The corridors associated with small tributaries are often divided by many individual properties, a condition that could make acquisition of trail corridors a costly and difficult undertaking. Some trail development must wait until such

time, perhaps far in the future, when land use patterns change enough to allow acquisition of public greenways.

Despite the problems inherent in implementing a greenways system in an urban environment, opportunities abound. Many of the Town's proposed greenways lie in areas not under immediate development pressure; some are located along corridors that the Town controls, while others lie within areas protected by Town ordinances that allow for the preservation of open space and greenways corridors.

Components of the Greenway System

The Chapel Hill greenway system provides a connective amenity for the community, supplying aesthetic value and ecological continuity at some of its most important natural areas. Its valued role as a functional and recreational part of the Town environment may be further understood by considering three types of greenway corridors: Stream Corridors, Man-Made Corridors and Connector Trails.

Stream Corridors

Stream Corridors are the primary component of the greenways system. The pattern of the Town's major streams - Bolin Creek, Booker Creek, Morgan Creek, Little Creek and Dry Creek and the open spaces along these streams and their tributaries create the basic structure for the Town's open space and greenway system.

Stream Corridors are composed of land directly adjacent to the Town's perennial streams, including both flood plain land and high ground. These linear open spaces may provide trail linkages to generators of pedestrian or recreational activity, such as parks, schools, shopping areas and residential communities. Some Stream Corridors, however, do not include trails and function simply as wildlife corridors and buffers. The majority of the land within the Town's jurisdiction falls roughly equally within the drainage basins, or watersheds, of three

primary streams: Bolin Creek, Booker Creek, and Morgan Creek. Dry Creek, in the northeast corner of Chapel Hill, has a fairly small drainage area within the Town limits, and is part of the New Hope Creek watershed. A fifth perennial stream, Little Creek, located in the eastern portion of Town, is created by the confluence of Bolin and Booker Creeks.

Stream Corridors in Chapel Hill vary in width according to the topography of the area, the amount of existing development adjacent to the corridor, the existence of significant biological areas, and patterns of property ownership. Stream Corridors generally straddle the centerline of a stream, although greenway lands are sometimes acquired to include larger parcels of general recreational land and undeveloped land. Some portions of Stream Corridors have already been developed. A large amount of development preceded the enactment of the Town's Resource Conservation District. The planning of these corridors for greenway purposes must take this encroachment into account.

Protection of greenways within the Town's stream watersheds is enhanced by a variety of natural factors. The inherent characteristics of the land immediately surrounding streams such as weak and poorly-drained soils, high water table and steep slopes are often limiting to development. Because of these characteristics Stream Corridors, to a large degree, have been left in their natural condition. Within the width of a corridor itself, there is often a variety of land conditions, including dry terraces which sometimes allows for the construction of recreational trails. A diverse combination of alluvial flats, drier floodplains, gradual slopes, steep channels, typical common vegetation, regionally rare plant communities, and fine remnant stands of bottomland forest, enrich these corridors, providing habitat for wildlife and a diverse visual amenity for the community.

Man-Made Corridors

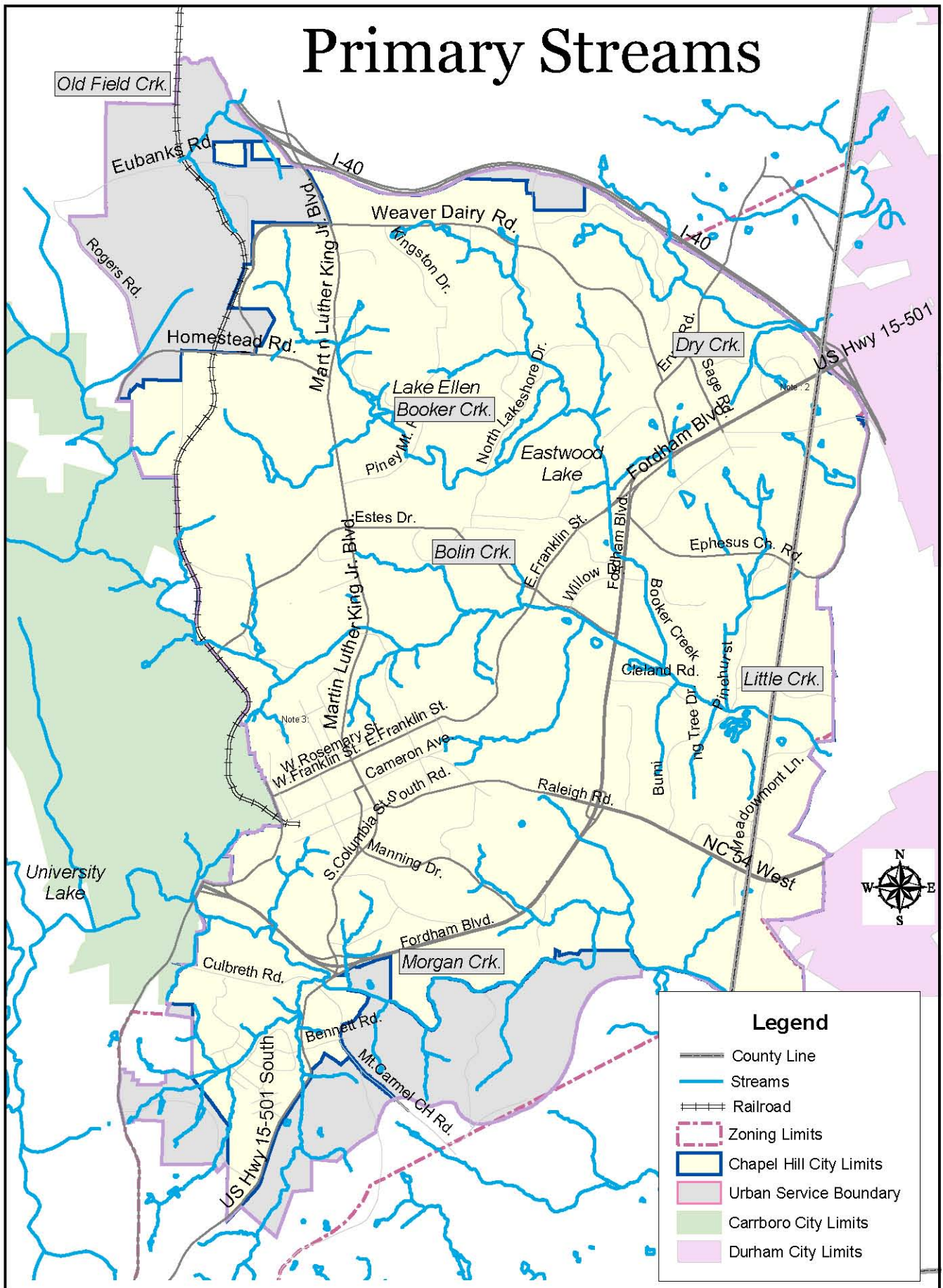
Man-Made Corridors are greenways which follow man-made features and are identified primarily to provide trails. These corridors typically follow linear elements of the roadway or utility infrastructure or they may follow corridors created by patterns of land development.

Man-Made Corridors can make important connections throughout the system by taking advantage of abandoned rail corridors and highway rights-of way. In addition to linear trails, Man-Made Corridors are sometimes created in conjunction with land development projects, often becoming part of the community open space network.

The Man-Made Corridors, currently possible in Chapel Hill, such as the Horace Williams Trail and the North Trail may become the most significant recreational trails in the Town greenway system in terms of their length. Occurring at the periphery of the Town limits, these corridors also present excellent opportunities to link the Chapel Hill greenway system with neighboring open space programs and regional trails.

Chapel Hill's Greenway System is comprised of the following three types of corridors: Stream Corridors, Man-Made Corridors, and Connector Trails.

Primary Streams



Connector Trails

Connector Trails are short segments of greenways which provide important connections among the Stream and Man-Made Corridors of Chapel Hill’s greenway system. They increase the general accessibility of the Town’s greenway system and provide other valuable community linkages. Connector Trails offer unique opportunities to link greenway corridors with recreational areas and other destination points, such as schools or shopping areas. They may also serve to connect one greenway corridor with another, linking separate greenway segments to help form an integrated system.

In many situations, Connector Trails may lie on private property within neighborhoods and residential subdivisions. In these cases, the Connectors may be developed by homeowner associations or may simply become trails by frequent use. Occasionally, Connector Trails may be built and maintained by the Town. Examples of these include the trail connecting Pritchard Park and the Chapel Hill Library with Franklin Street and the trail at Farrell Street connecting Ephesus Park with the Colony Woods subdivision.

Connector Trails located along minor tributaries may provide useful natural and recreational links within the community. Connector Trails may also

function as complementary systems to the primary greenway corridors by joining the planned open space network with the Town’s sidewalk and bicycle path system. By incorporating neighborhood-to-park connectors and neighborhood-to-school connectors utilizing all the Town’s possible pedestrian transportation options, the greenway system can be expanded to serve a greater number of Town citizens.

Trail Classifications

The intent of greenway trail construction is to make open space available without damaging the qualities of the natural environment that are most valued and appreciated. Trail surfacing should be selected to support projected intensities of use and to enable multiple uses. Surfacing should also take into account site topography, surface drainage, frequency of flooding, construction cost and maintenance concerns.

The greenway system can provide a variety of trail types from essentially unimproved to very tightly specified and engineered multiple-use trails. Trails can range from primitive woodland paths designed for low intensity pedestrian travel to paved bike paths designed for bicycle and wheelchair use.

In the following section, “Strategic Planning,” specific recommendations for the planning and design of greenway corridors are presented. Each greenway segment discussed in the Strategic Planning section is referenced to a specific trail classification. The hierarchy of proposed greenway improvements and trail classifications are found in Part 7, “Design Standards & Guidelines”, page 93.

Trail classifications are defined in Part 7, “Design Standards & Guidelines”, on page 93.

EXISTING GREENWAY TRAILS

Existing Land Suitable for Trails

Early in the greenway program's history, the Town had few practical options in its trail development schedule due to the lack of land. The Town's first trail project, the Cedar Falls Trail, was built as part of the construction of Cedar Falls Park. In the mid-to-late 1980's, Battle Branch and Tanyard Branch, were selected because most of the required land was already under Town control and the projects were relatively inexpensive. Subsequent projects such as the Bolin Creek and Booker Creek greenways had the advantage of more strategic planning, a longer land acquisition history, and eligibility for significant funding by State programs.

Through a variety of means, the Town has acquired significant land holdings and easements along many identified greenway corridors.

The parcels of land which currently make up the greenway system, are somewhat scattered although land acquisition efforts have resulted in significant gains in open space since 2000.

Bolin Creek

Much of the property needed to create a continuous, unbroken stream corridor along Bolin Creek from Umstead Park to the Community Center Park has been acquired. Two of the major tributaries available for greenway development, Tanyard Branch and Battle Branch, have been improved with natural surface trails.

Booker Creek

The Town controls all of the land proposed for trails along the Booker Creek corridor.

Acquisition of land and easements is needed along the middle segments of the Booker Creek corridor to help assure its preservation as an open space greenway.

Dry Creek

All needed properties (except one located north of I-40) have been acquired. The Town is now in position to build planned trails south of I-40.

Once access has been gained across one property north of I-40 the Town could then build a trail to link with Durham's open space and trail system.

Morgan Creek

The Town controls most of the land along the Morgan Creek corridor from the Merritt Pasture to the Chapel Hill-Carrboro boundary. Some land has been acquired along the tributaries of Morgan Creek. The lower segments of Morgan Creek are subject to restrictions on property development within the 5-mile radius of Jordan Lake by the Division of Water Quality. Also, Town RCD restrictions apply to lands that must comply with overlay zoning restrictions.

Additional protection for the lower segments of Morgan Creek is provided by the NC Botanical Garden, 100-year flood (FEMA) regulations, and the U.S. Army Corps of Engineers property and easement regulations.

Existing Greenway Trails

Currently, the Town has seven existing greenway trails, totaling approximately 7 miles.

Battle Branch

- Completed in 1989.
- Located on UNC campus next to Forest Theater within the Bolin Creek corridor. One of the longest protected natural areas in Chapel Hill, the University has maintained this site as an undeveloped park since the late-1800's. It is an isolated upland forest of approximately 60 acres, recognized in the 1988, "Inventory of the Natural Areas and Wildlife Habitats of Orange County, North Carolina".
- Battle Branch is a combination of half University-owned land and half Town-owned land. Included are the Town-owned Emily Braswell Perry Park and Greendale Park.
- Trail development is a combination of University controlled footpaths and Town-maintained trails, 1.5 miles long. The Battle Branch Trail is an unpaved Class 3 greenway with some boardwalk sections and a paved sidewalk connection.
- Connects the Community Center Park, the future Phase II of the Bolin Creek Trail, and the UNC campus.
- UNC renovated its portion of the Battle Branch Trail in 2005.

Bolin Creek

- Phase I completed in 1993, Phase II completed in 1998
- Ten-foot wide, paved woodland and meadow trail with few steep slopes, 1.5 miles long. Designed for multi-use, pedestrian and bicycle traffic as a Class 6 greenway.
- Connects Martin Luther King Jr. Blvd. with Elizabeth Street and Community Center Park.

- Fourteen acres of adjacent bottomland with steep slopes at the edge offer additional buffering and passive recreation opportunities.

Dry Creek

- Phase I natural surface trail from San Juan Trail to Perry Creek Road completed in 2001.
- Phase II of Dry Creek Trail from Perry Creek Road to Erwin Road completed in 2005.

Fan Branch

- Phase I completed in 2000.
- Paved Class 6 woodland trail with few steep slopes, 1.2 miles long, along Wilson Creek and Fan Branch, both tributaries of Morgan Creek.
- Connects Southern Community Park with Culbreth Road.

Lower Booker Creek

- Phase I completed 1991, Phase II completed in 2002.
- Ten-foot wide concrete Class 6 trail, approximately .85 miles long with a bridge crossing of Booker Creek.
- Connects Franklin Street, Daley Road, Tadley Drive, and Booker Creek Road. Includes pedestrian signalization of Franklin Street to allow safer crossing.

Meadowmont

- Paved trail completed in 2004 and natural surface trail completed 2005.
- Paved Class 6 asphalt trail from west side of High 54 to Rashkis School and Meadowmont Park. Services commercial and residential areas of Meadowmont.
- Natural surface trails to connect to Lancaster Drive and eastern extension of Meadowmont Drive.

Tanyard Branch

- Completed in 1986.
- Unpaved, Class 3 woodland trail with some steep slopes within the Bolin Creek corridor. Approximately .4 miles in length.
- Connects Northside neighborhood with Umstead Park.

Existing Park Trails

Currently, the Town has five existing park trails, totaling approximately 4.25 miles.

Cedar Falls

- Completed in 1979.
- Unpaved, Class 3 woodland trail with some steep slopes within the 51-acre Cedar Falls Park. Approximately 1.2 miles in length.
- Cedar Falls Trail joins with the park's internal network of minor unpaved paths including the .6 mile long Jo Peeler Nature Trail.
- Trail spurs connect the main trail loop with Lake Forest and Cedar Falls neighborhoods, providing access to East Chapel Hill High School.

Jones

- Completion date unknown.
- Unpaved, Class 3 woodland trail with some steep slopes within Jones Park. Approximately .25 miles in length.

North Forest Hills

- Completed 1994
- Unpaved, Class 3 woodland trail with some steep slopes. Approximately .5 miles in length.

Pritchard

- Loop trail completed 2003. Work continues.
- Unpaved, Class 3 woodland loop trail within Pritchard Park. Approximately 1 mile in length.

Southern Community

- Loop trail completed 1997
- Unpaved, Class 3 woodland loop trail within Southern Community Park site. Approximately 1 mile in length.
- This trail will likely be partially replaced with a paved facility upon construction of the park anticipated for 2006.

Part 4

STRATEGIC PLANNING

The proposed Chapel Hill greenway system potentially encompasses over thirty-eight miles of linear open space. See Figures 2, 4, 7, 9, 11. Within the Stream Corridors and Man-Made Corridors, over twenty-eight miles are suitable for trail development. See figures 13, 14, 15, 16. While providing important pedestrian links within the community, a thorough assessment of Connector Trails is not presented within this Master Plan.

Stream Corridors have been identified and are arranged according to their location within a specific primary stream watershed. Man-made Corridors are identified according to their specific locale or man-made feature along which they are aligned.

Recommendations for individual trail segments comprising the greenway system are formatted to provide the following information and commentary:

- Resource Protection
- Potential for Trail Development
- Summary of Constraints for Potential Trail Development
- Summary of Factors Favorable for Potential Trail Development
- Planning Recommendations

For purposes of the following recommendations, all proposed greenways centered on streams are described beginning from the point where the stream enters the Town jurisdiction and continuing downstream. Compass point directions are given with the understanding that despite the many meanders a stream will make, the watercourse will tend to travel in a general direction. For example, Bolin Creek runs more west-to-east than north-to-south. For

this reason, descriptions are given with the reference points of north bank and south bank.

The Master Plan recommendations provided for each trail segment offer general planning parameters within which individual trails and plans may be conceived. The recommendations should be used as a basis from which more detailed analysis and design of individual greenways and trails may be prepared. As trails are brought on-line as specific capital projects, the environmental conditions of the corridor, status of surrounding land use, potential for access, location and specific alignment should be revisited and reevaluated at the conceptual design phase of each trail project.

The proposed Chapel Hill greenway system encompasses over 38 miles of linear open space. Over 28 miles are suitable for trail development.

STREAM CORRIDORS

The Bolin Creek Watershed

Bolin Creek begins in south-central Orange County and enters Chapel Hill’s jurisdiction near Estes Drive Extension. The creek flows approximately 3.8 miles within the Town limits, until it merges with Booker Creek to form Little Creek.

If the proposed trail system were fully developed along the entire length of the Bolin Creek corridor, it would connect directly to the following existing and proposed trails: Horace Williams Trail, Tanyard Branch, Battle Branch, Booker Creek, and Little Creek. The Bolin Creek Trail would connect indirectly, through the above mentioned greenways, to the following trails: North Trail and Dry Creek.

Bolin Creek Trail Conceptual Plan Study

The Town is currently in the process of developing a detailed study of the section of Bolin Creek from Estes Drive Extension to Martin Luther King Jr. Blvd. Once the Council adopts the report its findings will replace the recommendations below.

① BOLIN CREEK:

Estes Drive Extension to Village Drive

Bolin Creek enters Chapel Hill near Estes Drive Extension. At the point where the creek crosses under Estes Drive Extension, the land is characterized by steep slopes reaching down from the Estes Drive Extension roadbed. Once on the east side of Estes Drive Extension, the creek flows in a small valley with steep slopes on the south bank and a broad floodplain on the north bank. The steep south bank is forested with mixed hardwoods, but also contains a cleared sewer easement that parallels the creek. Some residential development exists on the north bank.

Potential for Trail Development

This section has a high potential for development of a natural surface trail. The trail could be important in future connections to any greenways developed within Carrboro’s jurisdiction.

Trail development would be possible on both banks although there would be problems to overcome with both options. The north bank has existing residential development that could require more than usual mitigation efforts if a trail is located adjacent to developments. The south bank has areas with steep slopes and an OWASA interceptor sewer line. The most difficult area for construction of a trail exists at the west end of this section. The pipe that currently channels Bolin Creek under Estes Drive Extension is too small to allow human passage. This plan recommends that the trail be placed in an underpass at Estes Drive Extension. Without an underpass, the construction of a trail could involve difficult grading of steep slopes or require construction of numerous switchbacks in order to gain access to the current Estes Drive Extension roadbed. Estes Drive Extension is an NCDOT road. Please see the list of NCDOT critical intersections on page 71.

Recommendations

1. The Town should pursue the construction of a Class 6 trail.

② BOLIN CREEK:

Village Drive to Umstead Park

After passing under Village Drive, Bolin Creek flows in a broad floodplain with considerable development. After a short distance the creek flows through Umstead Park.

Potential for Trail Development

A trail in this area would provide access from Village Drive to the Tanyard Branch Trail and Umstead Park. The trail could provide a safe pedestrian and non-motorized vehicle alternative to Umstead Drive.

Both banks could provide a location for a future trail although some difficulties would be faced with either option. Pre-existing development on the north bank would require special mitigation efforts. The south bank outlet onto Village Drive would place any trail uphill and out of alignment with any upstream trail section. This would likely result pedestrian and bicyclists using a portion of Village Drive.

Recommendations

1. The Town should pursue the construction of a Class 6 trail.

③ BOLIN CREEK: Umstead Park to Martin Luther King Jr. Blvd.

The Bolin Creek valley just east of Umstead Park has a broad floodplain for a short distance until it passes under Pritchard Avenue Extension. Just east of Pritchard Avenue Extension, Bolin Creek enters a very narrow valley with extremely steep slopes on both banks. The short but dramatic gorge ends at Martin Luther King Jr. Blvd. where the creek enters an area of moderate topography. Other than an intensely developed area along the south bank, between Umstead Park and Pritchard Avenue Extension, the slopes of this gorge are too steep to allow extensive development. Umstead Drive occupies the only flat land along the creek.

Potential for Trail Development

This short section of trail has the potential to be the most difficult trail section in Town from a construction standpoint. Yet it also has the potential to be one of the most useful and aesthetically pleasing trail segments. A trail along this section could enhance Umstead Park and provide for safe pedestrian and bicycle traffic to Umstead Park. The Tanyard Branch Trail would connect directly to the Bolin Creek Trail in Umstead Park.

The trail in this area should be located through an engineering study that carefully analyzes all options in light of FEMA regulations, potential damage to the environment, proximity to utilities, street crossings, flooding, cost, and other factors.

Summary of Constraints for Potential Trail Development

1. Trail development from Umstead Park to Martin Luther King Jr. Blvd. would be difficult due to existing development and extremely steep slopes.
2. Trail construction along the narrow sections of the stream corridor will become more difficult over time due to rapidly progressing erosion.
3. Feasibility studies have not yet been undertaken to determine the possibility of crossing under the Umstead Drive and Martin Luther King Jr. Blvd. bridges. These studies will need to investigate the impact and relationships of flooding and trail construction and the regulatory position of the NCDOT on such a proposal.

Recommendations

1. The Town should pursue the construction of a Class 5 or 6 trail.

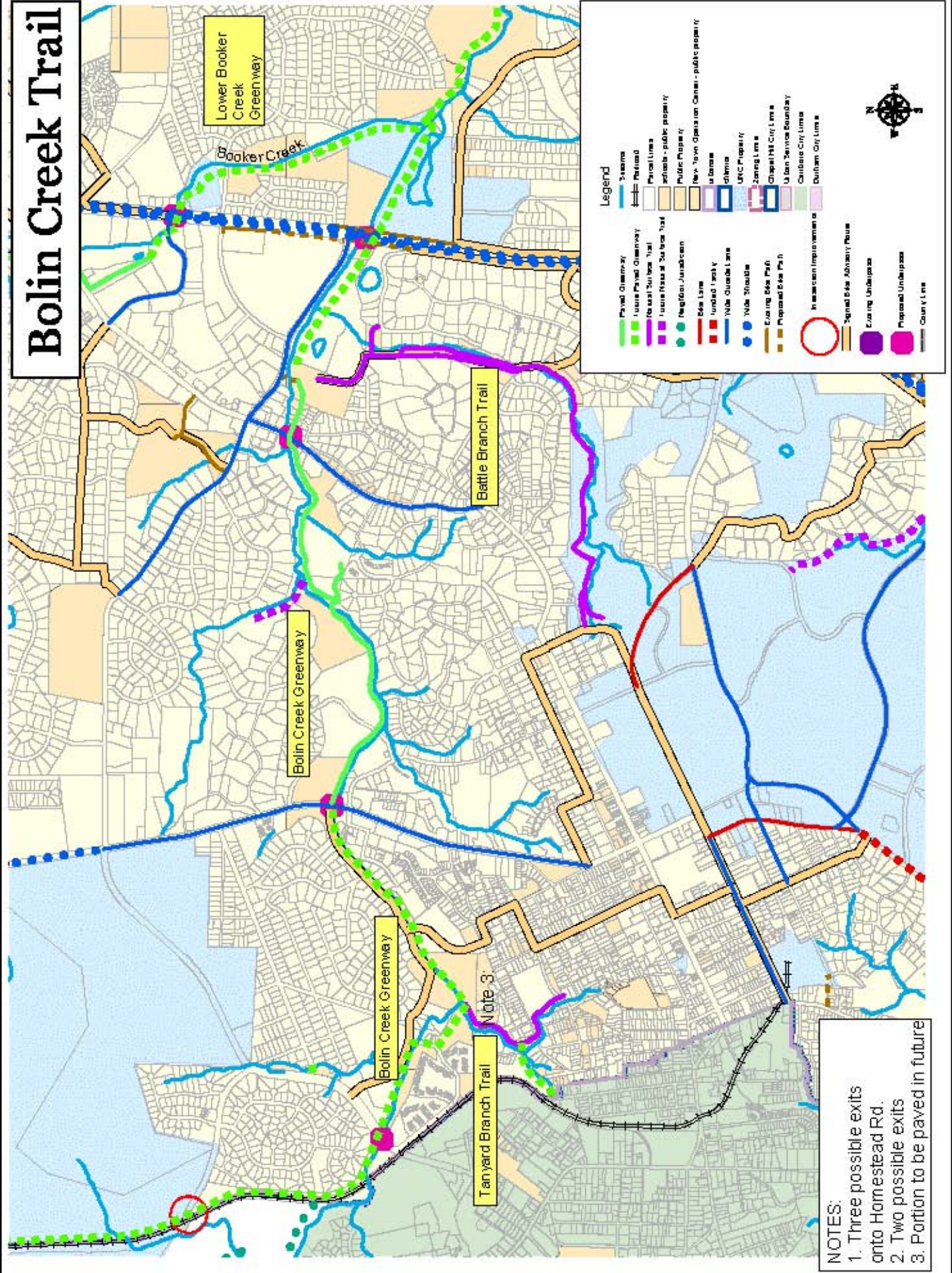
④ BOLIN CREEK: Martin Luther King Jr. Blvd. to Elizabeth Street

Completed. Paved 10-foot wide asphalt trail designed as a Class 6 trail, .8 miles in length.

Recommendations

1. A sidewalk should be constructed along the east side of Bolinwood Drive from the Bolin Creek Trail to the existing sidewalk on Hillsborough Street. This connection would mitigate current conflicts of pedestrians traveling to the trail with the numerous parked cars along Bolinwood Drive.

Bolin Creek Trail



NOTES:

- Three possible exits onto Homestead Rd.
- Two possible exits
- Portion to be paved in future

2. In the event of future widening or replacement of the Bolinwood Drive Bridge, lanes for safe pedestrian and bicycle travel should be accommodated.

**5 BOLIN CREEK:
Elizabeth Street to Community Center
Park**

Paved 10-foot wide asphalt trail designed as a Class 6 trail, .8 miles in length. Construction completed in July 1998.

Potential for Trail Development

During the planning of this trail segment, it was a Town goal to provide a pedestrian link from the Town Library, Pritchard Park and neighborhoods north of Franklin Street to this portion of the Bolin Creek Trail. A set of stairs joining the trail with the existing sidewalk on Franklin Street was proposed to meet this need. This concept requires a right-of-way encroachment agreement from the North Carolina Department of Transportation (NCDOT). However, because the stairs would not be in compliance with the Americans with Disabilities Act (ADA), the request for an encroachment agreement was denied by the NCDOT. The Greenways Commission still considers this goal to be unmet.

**6 BOLIN CREEK:
Community Center Park to Fordham
Boulevard**

For 3,000 feet the creek corridor is surrounded by streets, businesses, and homes. Estes Drive is located along the north bank. Residences dominate the south bank. The Community Center Park is also located on the south bank.

Potential for Trail Development

Once past Community Center Park, there are two opportunities for trail development: as a sidewalk along Estes Drive or a Class 6 trail in front of Brookwood and Camelot condominiums. This section ends at Fordham

Boulevard which acts as a barrier that may discourage pedestrian and bicycle transportation.

**Summary of Constraints for Potential Trail
Development**

1. The sidewalk option is constrained by the presence of a number of utility poles and street trees within the desired alignment. The feasibility of this option is diminished by these constraints.
2. The Town currently owns no land between the Community Center and Fordham Boulevard.
3. The grade change between the elevation of the trail and Fordham Boulevard would be difficult to negotiate.
4. The trail would need to be extended northward to the Estes Drive intersection where the existing traffic signal would allow safe crossing of Fordham Boulevard. This extension might require a bridge over Bolin Creek.

**Summary of Factors Favorable for Potential
Trail Development**

1. A trail located on the south bank could follow the existing sewer easement.

Recommendations

1. The Town should explore the possibility of continuing the Bolin Creek Trail as a Class 6 trail along the south bank.

**7 BOLIN CREEK:
Fordham Boulevard to Booker Creek**

Once Bolin Creek passes under Franklin Street, the character of the stream banks change from the narrow valleys of the upper stretches, to a very broad floodplain with little topographical relief. As the creek flows under Fordham Boulevard, it enters an area subject to fewer human intrusions. The surroundings become either park like or low density residential. The creek flows along the Rainbow Soccer fields and then continues a short

distance downstream where it joins with Booker Creek to form Little Creek. Over 60 acres of Town-owned open space is located at this juncture.

Potential for Trail Development

Development of a trail along this portion of Bolin Creek is possible although much of this area is prone to flooding. Trails in this area would likely require either extensive boardwalk sections or raised trail beds.

Recommendations

1. The Town should build a Class 6 trail with boardwalk sections.
2. Fordham Boulevard should be improved with an underpass and/or a pedestrian refuge in order to allow safer pedestrian and bicycle transportation across this busy NCDOT road. Please see the list of NCDOT critical intersections on page 71.

Summary of Constraints for Potential Trail Development

1. This area is generally low-lying and exhibits poorly drained soils.
2. It is likely that there are extensive wetlands in this greenway segment.
3. At least two bridge crossings would be required in addition to extensive boardwalk sections over wet areas.
4. Fordham Boulevard is a major barrier to pedestrian and bicycle use.

For the next section downstream, see Little Creek, page 42.

Tributaries of Bolin Creek

TANYARD BRANCH TRAIL

Completed, Class 3 natural surface trail, nearly one-half mile in length, connecting Caldwell Street and Umstead Park. See Figure 3.

Potential Improvements to the Existing Trail

The trail has a number of highly eroded areas that should be corrected. See the section related to capital renovations, page 70.

Potential for Additional Trail Development

Although this trail has been in existence for years, recent land acquisition has created the potential to upgrade a portion of the trail as an extension of the future Bolin Creek Trail. This possible expansion would allow a connection to Carrboro and Chapel Hill's Northside neighborhood in the vicinity of Bynum and Broad Streets. A class 6 trail could be extended from Umstead Park about half way up the existing Tanyard Branch Trail. A new trail could then be extended to the area of Bynum and Broad Streets while the existing class 3 Tanyard Branch Trail could remain as it currently exists.

Summary of Constraints for Potential Trail Development

1. The land that would allow the extension is steeper than would be ideal.

Summary of Factors Favorable for Potential Trail Development

1. A trail could provide a direct bicycle and pedestrian connection from the Bolin Creek Trail to the Northside neighborhood.

Recommendations

1. The Town should explore the possibility of continuing the Bolin Creek Trail as a Class 6 trail along a portion of the Tanyard Branch Trail to the Northside neighborhood.

BATTLE BRANCH TRAIL

Completed, Class 3 natural surface trail with some boardwalk and a paved sidewalk connection. The Battle Branch Trail totals 1.5 miles in length and connects Battle Park with the Chapel Hill Community Center. See Figure 3.

Potential Improvements to the Existing Trail

Most of the trail's bridges and boardwalk section should be replaced soon. See the section relation to capital renovations, page 70.

Potential for Trail Upgrade

The Battle Branch Trail is one of the Town's oldest trails. Recent discussion has dealt with the possibility of upgrading the trail to a Class 6 facility. This would allow a direct bicycle/pedestrian connection to the UNC campus from the Bolin Creek Trail and the east side of Town. A class 6 trail could be extended from Community Center Park to the UNC campus in the vicinity of Forest Theater.

Summary of Constraints for Potential Trail Development

1. The major issue identified at public forums relates to some of the public's view that Battle Park is a special natural area that should be protected. The opinion expressed by a majority of neighbors at a public forum and at several subsequent Greenways Commission meetings was that an improved trail would be out of character with the natural character of Battle Park and that the increase in use would further damage the area.
2. Any improvement would require cooperation by the university. UNC owns half of the corridor and would have to agree to any change in trail classification. At this time we do not know the university's position on this issue.

3. Some steep slopes would be encountered.
4. Soils are generally poor.
5. A number of bridges would be required.

Summary of Factors Favorable for Potential Trail Development

1. A trail could provide a direct bicycle and pedestrian connection from the Bolin Creek Trail to UNC.
2. Most slopes are reasonable and the corridor is wide enough in most locations to allow consideration of multiple options for trail development.

Recommendation

1. The Town should work with the university to determine a mutually acceptable level of trail improvement.

COLE SPRINGS BRANCH

The Cole Springs Branch runs in a northwest to southeasterly direction and extends over three-fourths mile to its confluence with Bolin Creek. It is comprised of two major forks one which begins near the intersection of Estes Drive and Martin Luther King Jr. Blvd. and a second which begins at Martin Luther King Jr. Blvd. south of Estes Drive near the YMCA. The two forks join into a single stream channel approximately 2,500 feet above the confluence with Bolin Creek.

Potential for Trail Development

The south bank of Cole Springs Branch directly above Bolin Creek is characterized by a wide, dry stream terrace which would allow a variety of options for trail alignment. An existing sanitary sewer easement follows the north bank. There are no significant conflicts with existing residential development for the first 2,500 feet of the stream.

Above this segment of the stream existing residential development may pose considerable difficulty to trail placement. Coupled with a

narrowing of the stream terrace and steep side slopes, trail development may be problematic.

Summary of Constraints for Potential Trail Development

1. Extensive land or easement acquisition would be necessary for trail development.
2. There are some existing residential conflicts.
3. Slope conditions may make trail continuity and linkage with adjacent neighborhoods difficult.

Summary of Factors Favorable for Potential Trail Development

1. Large portions of Cole Springs Branch are relatively flat and exhibit dry, stable soils.

Recommendations

1. The Town should take advantage of any opportunities to acquire easements or land along both banks of Cole Springs Branch and continue to search for linkages to public streets adjacent to the corridor.
2. Any trail should be designed as a Class 3 trail to connect with the Phase II segment of the Bolin Creek Trail.

The Battle Branch Trail totals 1.5 miles in length and connects Battle Park with the Chapel Hill Community Center.

The Booker Creek Watershed

Booker Creek begins as two small branches. The south branch rises near Homestead Road east of the existing rail line. The north branch begins near the intersection of Weaver Dairy Road and Martin Luther King Jr. Blvd. and is joined by a smaller tributary midway in its course. The two branches eventually merge just west of Martin Luther King Jr. Blvd..

From the juncture of the two branches, Booker Creek flows generally south and east across areas of Town that include both developed and undeveloped tracts. The creek flows into Lake Ellen and Eastwood Lake. From Eastwood Lake, the creek flows through a wide flood plain, continues under Franklin Street, and then literally flows under the Eastgate shopping area. Once past Fordham Boulevard, the creek flows through very low and wet areas until it merges with Bolin Creek. Both Bolin and Booker Creeks lose their separate identities at this point as they become Little Creek.

Booker Creek flows nearly 5.7 miles and has five major segments which may be developed with trails of varied classifications. The central section of the creek has been too heavily developed to practically support a trail program, however trails of Class 6 could be built west of Martin Luther King Jr. Blvd. and east of Eastwood Lake and a Class 3 or Class 6 trail could be included south of Fordham Boulevard.

If the proposed Chapel Hill trail system were fully developed the various sections of the Booker Creek Trail would total nearly 3.2 miles and would connect directly to the following trails: Bolin Creek and the Horace Williams Trail. Various segments of the Booker Creek Trail would connect indirectly, through the above mentioned greenways, to the following trails: Battle Branch, Tanyard Branch, Cole Springs Branch, North Trail, and Dry Creek.

📍 BOOKER CREEK: Weaver Dairy Road to Homestead Park

The north branch of Booker Creek drains primarily flat land to the west of and parallel to Martin Luther King Jr. Blvd..

Resource Protection

The Town has built the 40.77 acre Homestead Park, which includes approximately 1,100 feet of greenway corridor.

Potential for Trail Development

This section of the proposed trail system has been referred to as the Upper Booker Creek Trail. Trail development would be relatively easy along the east side of the creek. Trails could be constructed to any class with few constraints.

Summary of Factors Favorable for Potential Trail Development

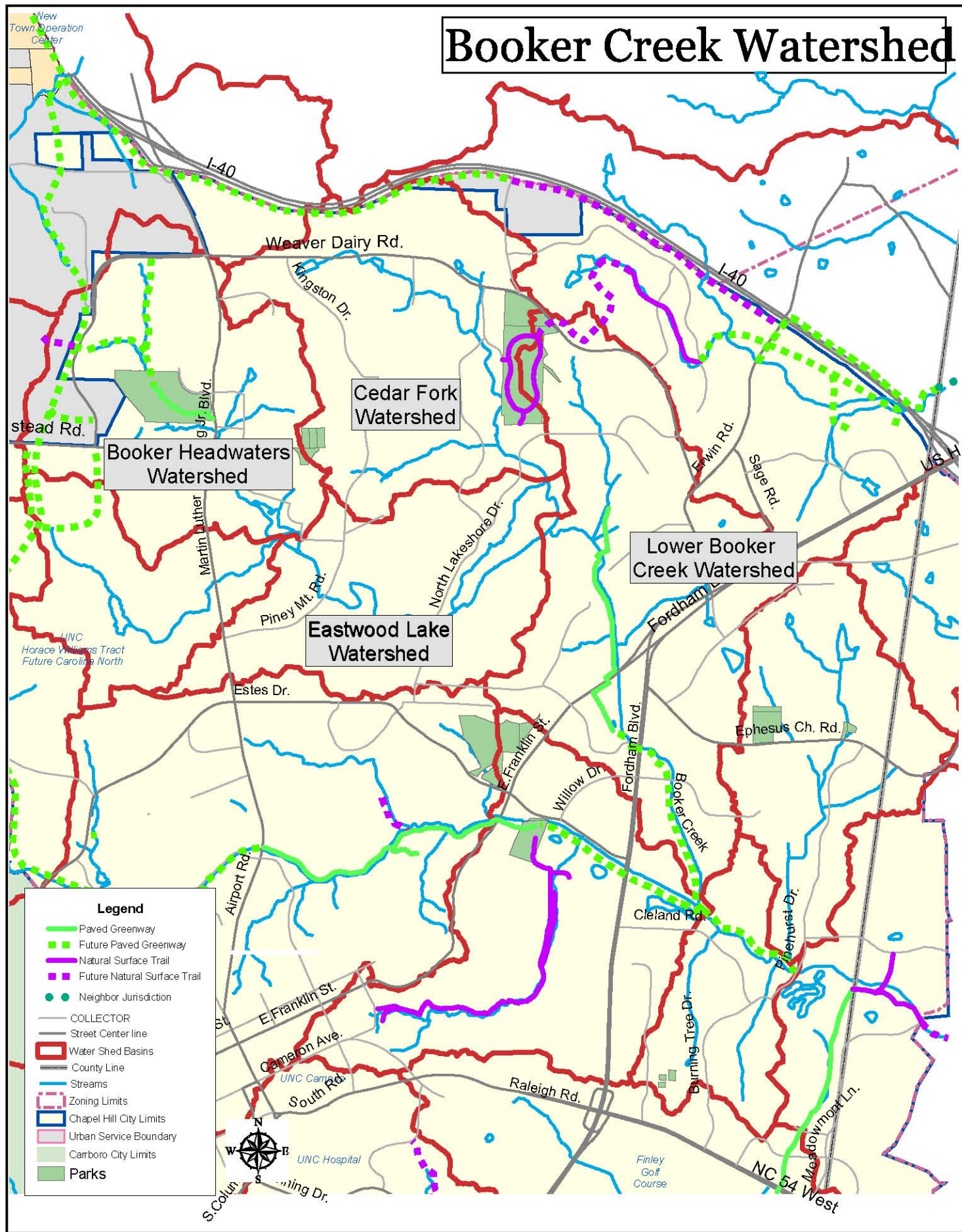
1. There are few topographical constraints.
2. There are few conflicts with residences or businesses.

Recommendations

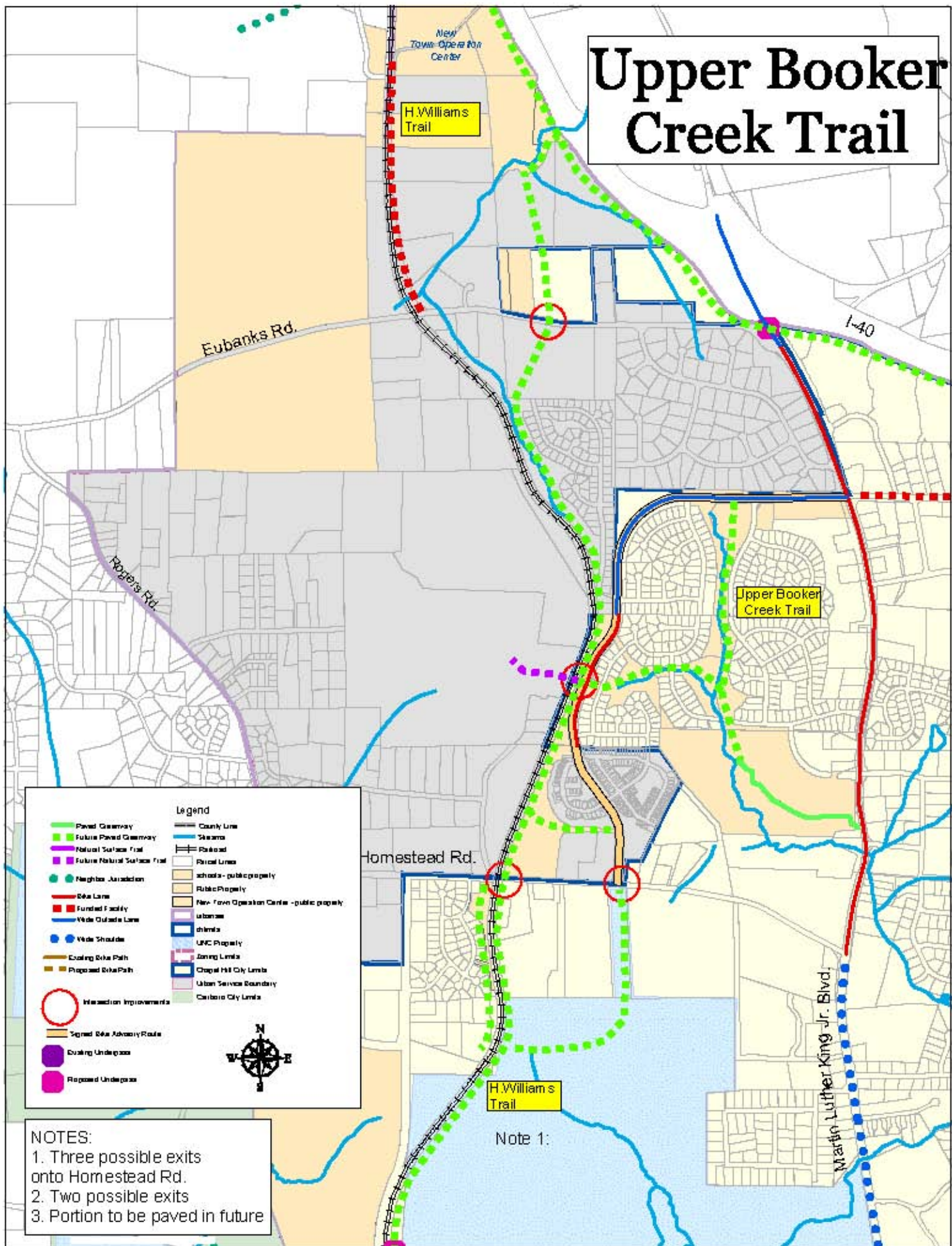
1. The Town should pursue the construction of a Class 6 trail from the vicinity of Weaver Dairy Road to Homestead Park. In addition, a Class 6 spur trail should be built from the proposed Upper Booker Creek Trail to the proposed Horace Williams Trail.

Booker Creek flows nearly 5.7 miles and has five major segments.

Booker Creek Watershed



Upper Booker Creek Trail

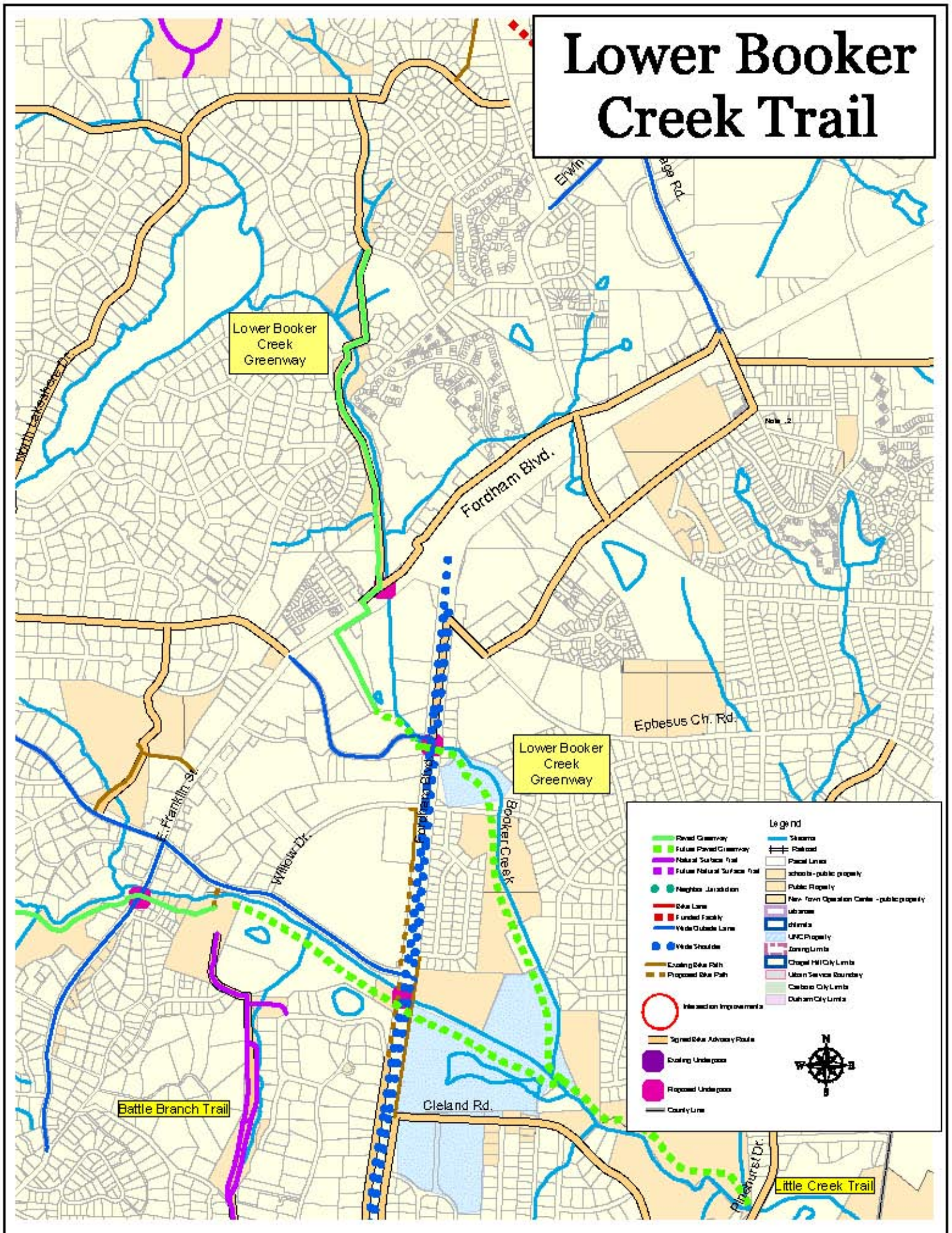


Legend	
	Paved Gateway
	Future Paved Gateway
	Natural Surface Trail
	Future Natural Surface Trail
	Neighborhood Jurisdiction
	Bike Lane
	Funded Facility
	Wide Outside Lane
	Wide Shoulder
	Existing Bike Path
	Proposed Bike Path
	Intersection Improvements
	Segment Bike Advisory Route
	Existing Underpass
	Proposed Underpass
	County Line
	Stream
	Railroad
	Railroad Lines
	Schools - public property
	Public Property
	New Towns Operation Center - public property
	Urban
	Urban
	UNC Property
	UNC Property
	Zoning Limits
	Chapel Hill City Limits
	Urban Service Boundary
	Carboro City Limits

NOTES:
 1. Three possible exits onto Homestead Rd.
 2. Two possible exits
 3. Portion to be paved in future

Note 1:

Lower Booker Creek Trail



❷ BOOKER CREEK: Greene Tract to Booker Creek Trail

The west branch is a minor tributary which joins the northern branch of Booker Creek at a point north of Homestead Park and the proposed Horace Williams Trail. The creek resembles more of a ditch in its early stage and drains large areas of relatively flat land to the west of Martin Luther King Jr. Blvd..

Potential for Trail Development

Trail development would be relatively easy along both sides of the tributary. Trails could be constructed to any class with few constraints and could potentially be extended westward across the rail line to the Greene Tract. The Greene Tract is a 164.5-acre, currently undeveloped tract that was once jointly owned by the Town of Chapel Hill, the Town of Carrboro and Orange County. In 2002 the three governments agreed to dispose of the tract in the following manner:

- 60 acres deeded to Orange County
- 85.9 acres jointly owned by the Town of Chapel Hill, the Town of Carrboro and Orange County for open space with a conservation easement placed over the property
- 18.1 acres owned by the Town of Chapel Hill, the Town of Carrboro and Orange County for affordable housing

Summary of Constraints for Potential Trail Development

1. A crossing of the rail line would be necessary.
2. The local governments would have to agree to a trail building program within the Greene Tract.

Summary of Factors Favorable for Potential Trail Development

1. There are few topographical constraints.
2. Currently, there are few existing residential conflicts.
3. The proposed Horace Williams Trail corridor including all Town property and easements lies on the east side of the tracks.

Recommendations

1. The Town should work with all Greene property partners to determine a trail program for the property including potential areas to cross the rail corridor.

❸ BOOKER CREEK: Martin Luther King Jr. Blvd. to Eastwood Lake

Booker Creek crosses under Martin Luther King Jr. Blvd. and flows for a short distance through an area that is mostly wooded. The north shore of the stream corridor becomes highly developed as it parallels Dixie Drive. Booker Creek eventually flows into Lake Ellen, which is surrounded by single-family homes and steep slopes. Below the dam the creek enters a valley which is often steep with extensive areas of exposed rock. Homes are found throughout this section, some quite near the creek, while others are located on bluffs overlooking the stream. The stream passes under Piney Mountain Road. Eventually the creek flows into Eastwood Lake, near Curtis Road and Kensington Drive.

Resource Protection

The Town has protected some open space downstream of Lake Ellen and at the intersection of Kensington Drive and Curtis Road.

Potential for Trail Development

Trail development would be extremely difficult along this section of Booker Creek. Although cleared Orange Water and Sewer Authority (OWASA) sanitary sewer easements could provide a good surface for the trail along some

sections of the creek, portions of the corridor are steep, rocky, and narrow. The greatest constraint to trail development is the absence of Town controlled rights-of-ways in a densely developed area. In many locations, trails would have to be constructed very close to established homes and in several places would have to cross over maintained lawns.

Summary of Constraints for Potential Trail Development

1. Extensive land acquisition would be necessary for trail development.
2. Some bridges may be required.
3. Trail development may be difficult given proximity of existing homes.
4. Steep slopes predominate throughout the section.
5. Feasible access to the Orange Water and Sewer Authority (OWASA) sanitary sewer easement is not apparent in at least two locations.
6. Tree and rock outcroppings would be disturbed by trail construction of Class 5 or greater.
7. Trails in the vicinity of the two lakes would be difficult to locate.

Summary of Factors Favorable for Potential Trail Development

1. An Orange Water and Sewer Authority (OWASA) sewer easement would allow for easy construction of trails in some areas.

Recommendations

1. The Town should take advantage of any opportunities to acquire easements or land, for resource protection purposes, along both banks of Booker Creek.

2. The Town should not promote a trail in this area unless requested to do so by residents. The corridor should remain undeveloped to a Class 1 or 2 level.

④ BOOKER CREEK:

Eastwood Lake to Franklin Street and the Northeast Branch

From the spillway of Eastwood Lake, Booker Creek crosses several private lots until it merges with the northeast branch, east of Eastwood Lake. From the juncture with the northeast branch, the creek flows almost due south through a broad vegetated, floodplain until it crosses under Franklin Street near the Eastgate Shopping Center. The northeast branch of the creek begins near Honeysuckle Road and flows south to meet the main branch just south of Booker Creek Road.

The trail, which is called the Lower Booker Creek Trail, is complete. It is a 10' wide paved, Class 6 trail, approximately .85 miles long and includes a bridge crossing of Booker Creek that provides a connection between Daley Road and Tadley Drive.

Resource Protection

The Town has acquired a great deal of land along this section of the Booker Creek greenway, including a majority of the acreage along 5,000 ft. of stream corridor. In addition to fee-simple ownership of land, the Town has established a large recreation area and over 2,000 feet of pedestrian and non-motorized vehicle easements. The Resource Conservation District (RCD) ordinance assists in protecting the remaining portions of the greenway corridor not directly controlled by the Town.

Potential for Additional Trail Development

Trail development would be extremely difficult from Eastwood Lake to the juncture with the northeast branch due to the private property along the lake. Another issue relates to providing neighborhood access from the Oxford Hills neighborhood to the existing trail. Although the Town owns two potential connectors neighboring

property owners have expressed concern related to privacy issues if a connector trail is built.

Trail safety and use would be greatly enhanced with the addition of an underpass of Franklin Street adjacent to the culvert that carries Booker Creek. Please see the list of NCDOT critical intersections on page 71.

Recommendations

1. The Town should continue to work with neighbors to eventually provide direct access from the Oxford Hills neighborhood to the Lower Booker Creek Trail.
2. The Town should pursue the addition of an underpass of Franklin Street to assure a safer and more useful trail crossing of this major road.

5 BOOKER CREEK: Franklin Street to Fordham Boulevard

The landscape surrounding Booker Creek changes character once the stream passes under Franklin Street. The entire creek immediately passes beneath the parking lot and main building of Eastgate Shopping Center. From the outflow of the creek on the south side of the Eastgate Shopping Center, the creek resumes a more natural course, although the surroundings are predominantly urban. The creek flows near several commercial buildings and roads until it passes beneath Fordham Boulevard near Willow Drive.

Resource Protection

The entire corridor is in private ownership and is almost completely developed.

Potential for Trail Development

The Lower Booker Trail project included a pedestrian activated crossing signal of Franklin Street and the entrance to the Eastgate Shopping Center. Once on the south

side of Franklin Street trail users can continue on a class 6 trail through the Staples Shopping Center until its southern tip. The Town has plans and funding to continue the trail to Fordham Boulevard. Construction is anticipated for early 2006, if necessary easements are recorded..

Recommendations

1. The Town should take advantage of any opportunities to acquire easements or land along both banks of Booker Creek.
2. Should the Eastgate Shopping Center property be redesigned or rebuilt, the Town should take advantage of the opportunity to assure an additional trail corridor.
3. Options for safe pedestrian and bicycle crossing of Fordham should be a high priority. The best solution would be an underpass of Fordham Boulevard and a redesigned Elliott Road that would eliminate the Elliott Road culvert. Meanwhile provision of a pedestrian refuge and pedestrian activated crossing signal would improve safety and increase use in this location.

6 BOOKER CREEK: Fordham Boulevard to Little Creek

Once past Fordham Boulevard, Booker Creek enters a floodplain that is very flat and poorly drained. The areas surrounding Booker Creek probably contain significant areas of wetlands, as defined by the Army Corps of Engineers. Booker Creek ends as it joins with Bolin Creek to form Little Creek.

Resource Protection

The Town owns 26 acres of land along this portion of the Booker Creek corridor.

Potential for Trail Development

Trail development in this area would be challenging although beneficial to the neighborhoods in the southeast portion of Town. A trail could be used to gain access to the

shopping and commercial areas near Elliott and East Franklin Streets, and the Bolin Creek Trail.

Summary of Constraints for Potential Trail Development

1. Some land acquisition would be necessary for trail development.
2. Engineering would be required to overcome problems associated with trail development in wet areas.
3. Extensive use of boardwalks may be required.
4. The University of North Carolina at Chapel Hill owns a 9.8-acre tract of low-lying land which straddles Booker Creek between Fordham Boulevard and Willow Drive. An agreement with the University would be needed to complete the trail corridor.

Summary of Factors Favorable for Potential Trail Development

1. There are few topographical constraints to trail development.
2. The Town controls a significant tract of land along the creek.

Recommendations

1. The Town should take advantage of any opportunities to acquire easements or land along both banks of Booker Creek.
2. Once the section has become a priority, the Town should pursue construction of a Class 6 trail.
3. The Town should negotiate with the University to gain access across UNC property.

For the next section of greenway corridor downstream, see “Little Creek”, page 42.

Tributaries of Booker Creek

CEDAR FORK

Cedar Fork drains much of the area north of Honeysuckle Road and south of Interstate 40. The creek flows generally southeast, over 1.1 miles, until it empties into Booker Creek near the intersection of Brookview Drive and Cedar Falls Court. The stream flows through an area which is heavily developed by both residential and commercial structures.

Potential for Trail Development

Trail development would be difficult along Cedar Fork due to the existing development encountered along the stream. A trail currently exists within Cedar Falls Park (see Connector Trails, page 68.) The park trail and this portion of Cedar Fork could provide a natural connector for persons wishing to travel from the proposed North Trail and Dry Creek Trail to the Booker Creek Trail. Although some travel on streets would be required to connect these trails, Cedar Falls Park greatly reduces the need to walk on Town streets.

Recommendations

1. The Town should acquire easements and land along Cedar Fork.
2. The Cedar Fork corridor should remain as a Class 1 or 2 greenway.

Little Creek

The confluence of Bolin Creek and Booker Creek occurs between the Rainbow Soccer fields and 52 acres of Town-owned open space. Beyond the confluence, Little Creek flows for over 1.1 miles within the Town limits, flowing eastward into the Town-owned tract, through the Chapel Hill Country Club property, through the site of the future 72-acre Meadowmont park and then out of the Town's jurisdiction to Jordan Lake.

① LITTLE CREEK: Confluence to Pinehurst Drive

Resource Protection

The Town owns a 52-acre tract of land, which includes approximately 2,000 feet of greenway corridor, and 72 acres along the creek in Meadowmont.

Potential for Trail Development

Most of the required land within this corridor segment is controlled by the Town.

Summary of Constraints for Potential Trail Development

1. Extensive wetlands might exist along portions of the trail corridor.

Summary of Factors Favorable for Potential Trail Development

1. There are few topographical constraints to trail development.
2. The Town controls a significant tract of land along the creek.

Recommendations

1. Trails should be constructed as a Class 6 trail and integrate boardwalks through wet areas.

② LITTLE CREEK: Pinehurst Drive to Chapel Hill Jurisdictional Limits

Resource Protection

The Town now owns a 72-acre park site located downstream from the Chapel Hill Country Club property. The park includes soccer fields, a picnic area, trails, and a portion of land along the Little Creek corridor.

Potential for Trail Development

A major obstacle to the continuity of the Little Creek corridor for recreational and transportation purposes, is the existing Chapel Hill Country Club golf course. Trails from Rashkis School to Lancaster Drive and the eastern end of Meadowmont Drive have been completed. The trails could continue eastward following the edge of the Jordan Lake flood land to the Town limits near NC 54.

Summary of Constraints for Potential Trail Development

1. Some land acquisition or easements would be necessary for trail development.
2. A continuous trail across the existing Chapel Hill Country Club golf course may not be feasible.
3. The North Carolina Division of Wildlife manages the Army Corps of Engineers land near NC 54. Cooperation from the Corps and North Carolina Division of Wildlife would be required to achieve limited clearing, required grading and paving of the trail.
4. Some portions of the trail would require acquisition of land to avoid wet areas or steep slope conditions within the existing easement.

Summary of Factors Favorable for Potential Trail Development

1. The majority of the Little Creek Trail downstream of the 52-acre Town-owned parcel, would be constructed on land exhibiting somewhat variable slope conditions, but dry and stable soils.
2. The juncture of planned residential uses and development of the trail can be coordinated to minimize potential conflicts.

Recommendations

1. Easements and land acquisition should be acquired as opportunities arise.
2. Once preceding greenway segments are completed, the Town should pursue the potential of a street and sidewalk connection to bypass the golf course property. Trail users could be routed on public sidewalks southward on Pinehurst Drive and connect with new roads within the Meadowmont development and eventually connect with the proposed Meadowmont Trail. This link could be marked as part of the Town's greenway system to assist trail users following the route. Trail users could also be routed to Lancaster Drive to the trailhead that will likely be in that location by the end of 2005
3. The Town should make all efforts to work with the Country Club and surrounding neighborhoods to make the connections possible.
4. The Town should pursue a connection with future Durham trail development as it occurs along Little Creek.
5. The Town should coordinate with the Durham Open Space and Trails program to determine the appropriate trail type that should be constructed from the Town limits to Meadowmont Drive.

6. Until such time as joint planning with Durham occurs, the trail should be constructed as a natural surface, Class 3 trail from the Town park to the intersection of the Class 6 Meadowmont Trail.

Potential American Tobacco Trail Connection

See Highway 54 Trail on page 59 for a recommended class 6 connection. The construction of a class 3 trail connector to the American Tobacco Trail is partially possible along Little Creek although conflicts with the Chapel Hill Country Club golf course would remain. The extent of poorly drained soils and wetland areas may also create significant environmental trade-offs.

Recommendations

1. Natural surface trails could be built from Meadowmont to the Durham line.
2. The bicycle transportation component should be addressed in part by the provision of off-road bicycle paths along NC 54. See page 45.

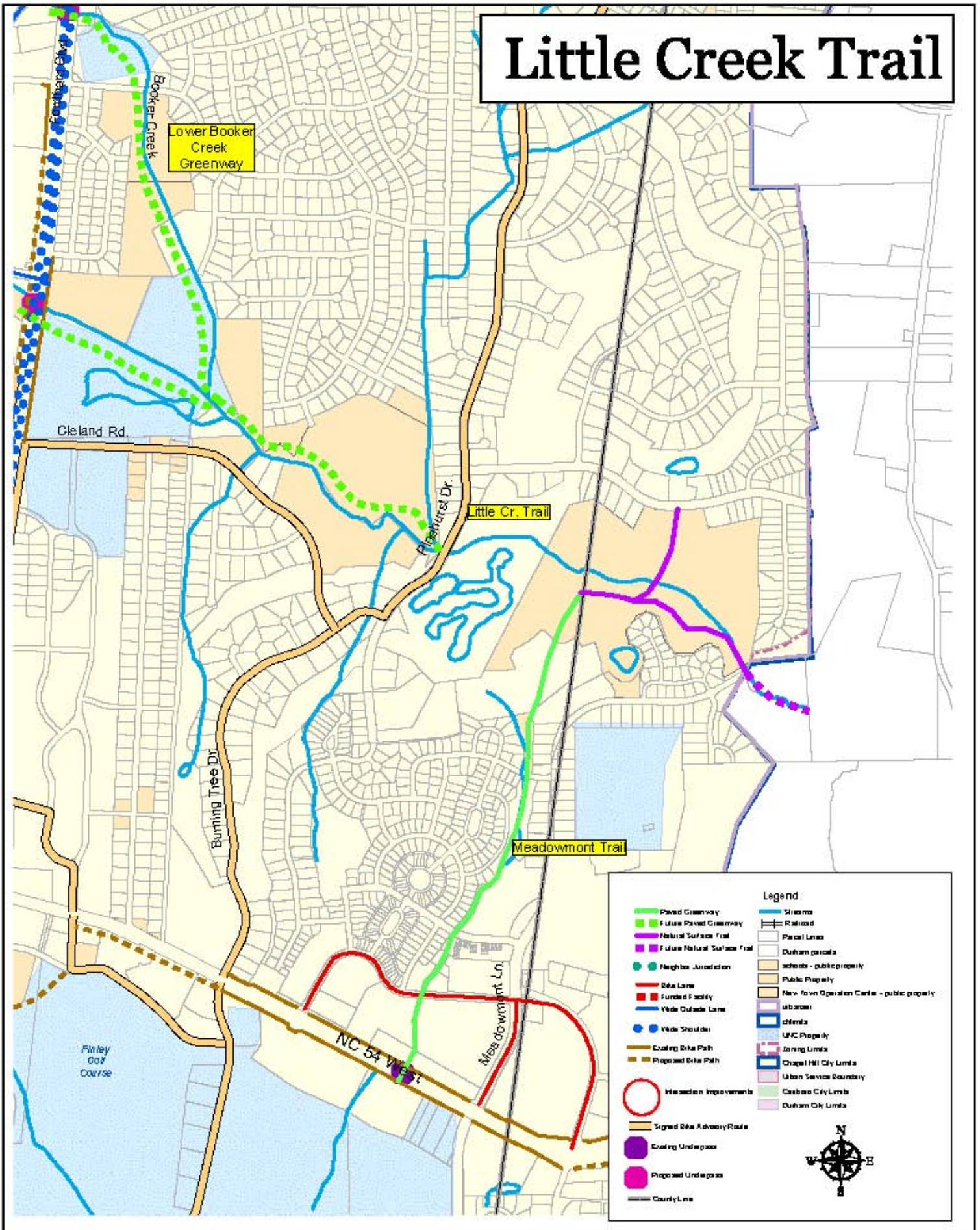
The Town now owns a 72-acre park site located downstream from the Chapel Hill Country Club property, which includes a portion of land along the Little Creek corridor.

Little Creek Watershed



Legend	
—	Paved Greenway
- - -	Future Paved Greenway
—	Natural Surface Trail
- - -	Future Natural Surface Trail
●	Neighbor Jurisdiction
—	COLLECTOR
—	Street Center line
	Water Shed Basins
	County Line
—	Streams
	Zoning Limits
	Chapel Hill City Limits
	Urban Service Boundary
	Carboro City Limits
	Parks

Little Creek Trail



The Morgan Creek Watershed

Morgan Creek begins in central Orange County and flows southeast until it becomes a large stream. Near the Carrboro town limits, the creek enters University Lake, an important water source for southern Orange County. From its outflow at the base of the University Lake dam, Morgan Creek flows east through Carrboro's jurisdiction until it flows under Smith Level Road. Once the creek passes under Smith Level Road, it enters Chapel Hill's jurisdiction. Once inside Chapel Hill's town limits the creek flows over 4.5 miles and undergoes several dramatic transformations. From Smith Level Road to its outflow into Jordan Lake, the creek passes through three distinct sections.

The watershed is the most isolated of the major streams in Chapel Hill. Natural connections from Morgan Creek to the Town's trails north of Fordham Boulevard are blocked by high ridges and major roads. A class 6 trail has been built along Fan Branch and a short section of Wilson Creek.

● MORGAN CREEK: Smith Level Road to Merritt Pasture

As Morgan Creek enters the Chapel Hill Urban Services District on the east side of Smith Level Road, the stream flows through a broad flood plain, with its greatest relief being on the south bank. The greenway corridor contains an elementary school, a large apartment complex, a large single-family residential area, an extensive series of power line rights-of-way, and several undeveloped tracts of land.

Resource Protection

The Town has acquired several tracts of land along both banks of Morgan Creek including significant acreage south of Frank Porter Graham School in 2003. Although the environmental and aesthetic integrity of much of the property near Highway 15-501 has

been compromised by extensive power line construction, there remain significant tracts of relatively untouched land.

Potential for Trail Development

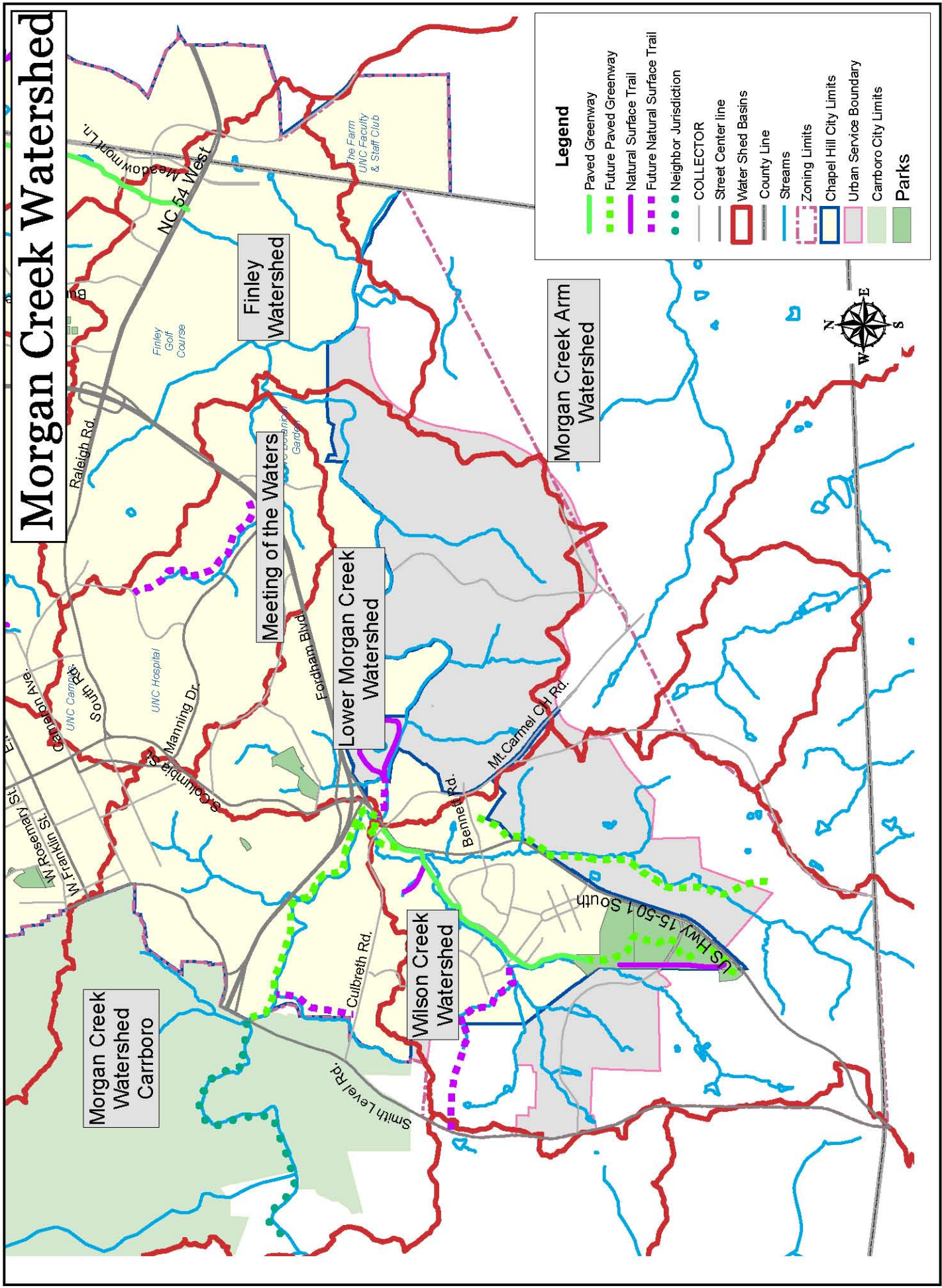
The Town is currently in the midst of a major study of the Morgan Creek corridor. The limits of the planning process extend from the western side of Smith Level Road to Merritt Pasture east of Highway 15-501. The planning process is intended to identify trail location, bridge locations, and needed property/easement acquisitions.

Once built, the Morgan Creek Trail would interconnect much of the area south of Fordham Boulevard. Citizens would be provided with safe access to Frank Porter Graham School and with trails proposed to be developed along Wilson Creek and Fan Branch. The partially constructed Fan Branch Trail would eventually lead to the new Southern Community Park at Dogwood Acres Drive, Scroggs School, and to the commercial and residential areas within Southern Village.

Summary of Constraints for Potential Trail Development

1. An underpass at Culbreth Road, would be the safest, though most expensive method of crossing.
2. As many as 6 bridges may be required.
3. Access to the trail by persons living north of Fordham Boulevard may be difficult.
4. Land or easement acquisition would be necessary.
5. Construction of the Duke Power transmission lines has negatively impacted the aesthetics of the creek corridor.
6. Future widening of Highway 15-501 might impact the trail corridor in ways not yet apparent.

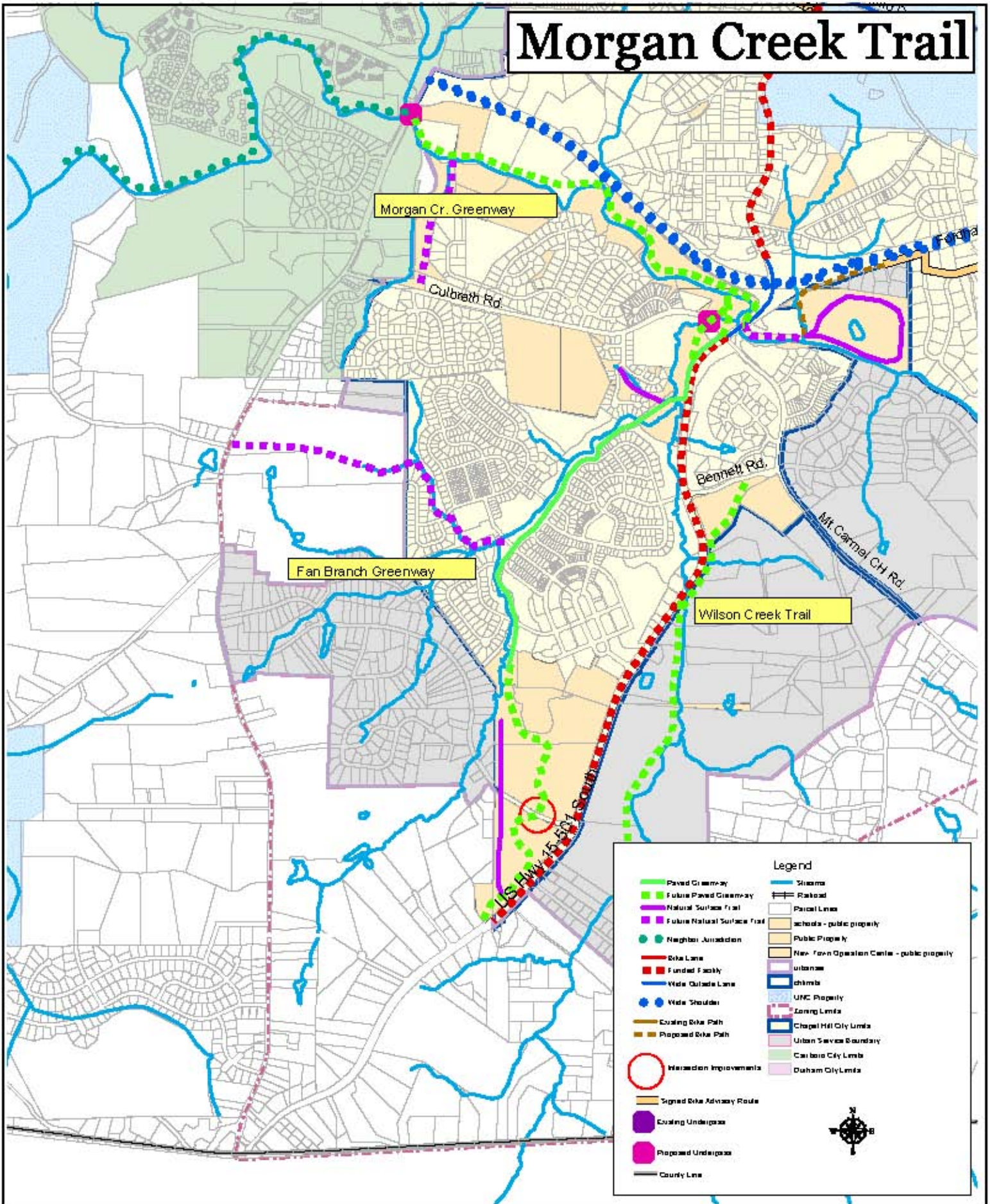
Morgan Creek Watershed



Legend

- Paved Greenway
- - - Future Paved Greenway
- Natural Surface Trail
- - - Future Natural Surface Trail
- Neighbor Jurisdiction
- COLLECTOR
- Street Center line
- Water Shed Basins
- County Line
- Streams
- Zoning Limits
- Chapel Hill City Limits
- Urban Service Boundary
- Carboro City Limits
- Parks

Morgan Creek Trail



Legend

Paved Greenway	Stream
Future Paved Greenway	Railroad
Natural Surface Trail	Parcel Lines
Future Natural Surface Trail	Acreage - public property
Neighbor Jurisdiction	Public Property
Bike Lane	New Town Operation Center - public property
Funded Facility	Urban
Wide Outside Lane	Urban
Wide Shoulder	UNC Property
Existing Bike Path	Zoning Limits
Proposed Bike Path	Chapel Hill City Limits
Hazardous Improvements	Urban Service Boundary
Signed Bike Advisory Route	Carolina City Limits
Existing Underpass	Durham City Limits
Proposed Underpass	
County Line	

Summary of Factors Favorable for Potential Trail Development

1. Most of the land acquisition has already occurred.
2. There are few conflicts with established residential neighborhoods.

Recommendations

1. The Town should complete the conceptual plan study as soon as possible.
2. The Town should acquire any easements identified in the study .
3. Once all the needed land has been acquired, a Class 6 trail should be constructed from Culbreth Road near the Hwy. 15-501 bridge over Morgan Creek to Smith Level Road and, if possible, to Frank Porter Graham Elementary School.
4. The alignment of the Class 6 trail should be located to align with the Fan Branch Trail.
5. The Town should build a trail underpass of Culbreth Road.

📍 MORGAN CREEK: Merritt Pasture to Ashe Place

After Morgan Creek passes under the Highway 15-501 bridge, it enters an area of Chapel Hill that has experienced a great deal of residential development. Specific tracts have also been identified as environmentally sensitive, and are listed in the 1988 “Inventory of the Natural Areas and Wildlife Habitats of Orange County, North Carolina”, a study prepared by the Triangle Land Conservancy. As the stream flows east it passes into a small valley with a high ridge along the south bank. Occasionally this ridge plunges directly into the creek, forming steep and rocky banks.

Residential development on the south bank is generally located on the ridge, well above the creek. However, in several locations homes have been constructed quite near the stream. The north bank of the creek is generally lower and has more residential development near the stream bank. Little undeveloped land remains along this section of Morgan Creek.

Resource Protection

The 31-acre Merritt Pasture presents 1,500 feet of Town-owned property along this segment of the Morgan Creek corridor. The Town has acquired very little land beyond this section of Morgan Creek. The NC Botanical Garden Foundation has agreed to work with neighbors to acquire conservation easements to help protect this section of stream.

Potential for Trail Development

An informal trail exists along this section of Morgan Creek; however, it is important to note that most of the trail is in private ownership and is not available for public use. The potential for trail development for public use is limited along this section of Morgan Creek for several reasons: existing residential development has split ownership of the corridor into many small parcels, the corridor is environmentally sensitive, and the banks are typically steep and rocky. The short section of the corridor, from Highway 15-501 to the foot of the steep slopes beneath Old Bridge Lane and Mallard Road, could potentially be developed for trail use.

Summary of Constraints for Potential Trail Development

1. Many bridges could be required.
2. Trail construction would be very difficult due to the sensitive nature of the vegetation and soils.
3. Much land acquisition would be necessary.
4. Steep slopes predominate in this portion of the corridor.

Recommendations

1. The Town should work to accommodate public access to the Merritt Pasture from the west.
2. No improvements are recommended within the pasture. Trail construction should terminate at the edge of the pasture.
3. The Town should work with the NC Botanical Garden and the residents along this section of Morgan Creek to ensure that the sensitive environment of the creek corridor is preserved. Assistance should be given when negotiating with applicants of future developments as well as with current landowners.
4. This greenway segment should be preserved as an unimproved Class 2 corridor.

📍 MORGAN CREEK: Ashe Place to Jordan Lake

Residential development exists along the north bank of Morgan Creek downstream of

Ashe Place and Arboretum Drive. Beyond Bartram Drive the creek is totally within University property. The creek travels through a broad, wooded, flood plain with little evidence of human activity, except for an Orange Water and Sewer Authority (OWASA) sewer line that parallels the creek.

Eventually the creek flows past the OWASA Wastewater Treatment Plant. Shortly after passing the treatment plant, the creek flows into the Finley Golf Course property toward the Town limits. Beyond the Town limits the creek flows through lands controlled by the U.S. Army Corps of Engineers until it empties into Jordan Lake.

Resource Protection

The land along both banks of Morgan Creek is owned by the University.

Potential for Trail Development

An informal Class 2 trail currently exists along the creek, particularly on the Orange Water and Sewer Authority (OWASA) sewer easement, between Ashe Place and Finley Golf Course.

Summary of Constraints for Potential Trail Development

1. Currently the University wishes to preserve the area for education and research.
2. Access is controlled through the NC Botanical Garden.

Summary of Factors Favorable for Potential Trail Development

1. Should the University increase land available for trail development, most of the necessary land acquisition would already be in place.
2. The existing OWASA sewer easement would provide a good foundation for trail construction.

Recommendations:

1. The Town should continue to collaborate with the University for open space preservation in this area.
2. This greenway segment should be preserved as an unimproved Class 2 corridor.

Tributaries of Morgan Creek

WILSON CREEK

This creek begins in northern Chatham County and flows north until its confluence with Morgan Creek just west of the Highway 15-501 bridge. It flows over 2.8 miles within the Town limits, through mostly forested land.

Resource Protection

The Town controls an insignificant portion of the Wilson Creek corridor except that portions fall under the protection of the RCD ordinance.

Potential for Trail Development

Sections of the creek would be suitable for trail development.

Summary of Constraints for Potential Trail Development

1. The portion of the creek east of Hwy. 15-501, is low and prone to flooding.
2. Portions of the corridor contain steep slopes.

Summary of Factors Favorable for Potential Trail Development

1. Much of the corridor is undeveloped.

Recommendations

1. If the area is developed at a fairly low density a Class 3 trail is recommended from the vicinity of the southern fire station southward to Wave Road.
2. If development density is increased portions of the proposed trail could be increased to as high as Class 6.

FAN BRANCH

Fan Branch is a small stream with two major forks, totaling nearly 1.9 miles in length. One fork begins near Smith Level Road and the other near Dogwood Acres Drive. The forks merge south of Culbreth Road and flow north until they merge with Wilson Creek.

Resource Protection

The majority of the Fan Branch watershed lies within the Southern Village community. This community was developed to a relatively high density; however the stream corridor was preserved from Culbreth Road to the Southern Community Park.

Potential for Trail Development

About 1 mile of the Fan Branch greenway has been completed as a Class 6 trail (see Figure 10). The Town is currently planning an extension of the existing paved trail to the southern end of the planned Southern Community Park

MEETING OF THE WATERS CREEK

This creek flows almost entirely on University lands for a distance of over 1.1 miles. It begins in a ravine that parallels Manning Drive, and then passes under Fordham Boulevard. Once on the south side of the bypass, the creek passes through the NC Botanical Gardens until it empties into Morgan Creek near the Wastewater Treatment Plant.

Resource Protection

The land along Meeting of the Waters Creek is owned by the University of North Carolina at Chapel Hill and lies almost entirely within areas currently protected for research purposes. See Figure 9.

Potential for Trail Development

Class 3 trails that are open to the public currently exist within the NC Botanical Garden. NC Botanical Garden trails are limited to pedestrian traffic only. Also, Class 2 trails exist on the north side of Meeting of the Waters Creek, extending northward through the Coker Pinetum. See Figure 9.

Summary of Constraints for Potential Trail Development

1. Currently the University wishes to preserve this area for education and research.

Summary of Factors Favorable for Potential Trail Development

1. Should the University increase land available for trail development, most of the necessary land acquisition would already be in place.

Recommendations

1. The Town should continue to collaborate with the University for open space preservation in this area.

CHAPEL CREEK

Chapel Creek, flows some 1.1 miles from north of St. Thomas More School until it passes under Fordham Boulevard. Once on the south side of the bypass, the creek passes through University of North Carolina property until it empties into Morgan Creek near the Wastewater Treatment Plant.

Resource Protection

The land along Chapel Creek is owned by the University of North Carolina at Chapel Hill and lies almost entirely within areas currently protected for research purposes or in sites already developed. See Figure 9.

Potential for Trail Development

The Carolina Adventure Outdoor Education Center is located in this area, providing physical education and campus recreation .

Summary of Constraints for Potential Trail Development

1. Currently the University wishes to preserve this area for educational and campus recreation .

Summary of Factors Favorable for Potential Trail Development

1. Should the University become interested in trail development, most of the necessary land acquisition would already be in place.

Recommendations

1. The Town should maintain ongoing communication with the University to facilitate any cooperative greenway planning or trail development in the future.

Specific tracts along Morgan Creek have been identified as environmentally sensitive, and are listed in the 1988 “Inventory of the Natural Areas and Wildlife Habitats of Orange County, North Carolina” a study prepared by the Triangle Land Conservancy.

Dry Creek

Dry Creek is a major tributary of New Hope Creek. The creek has several branches that drain much of the area north of Weaver Dairy Road and south of Interstate 40. The creek flows past Erwin Road then under Interstate 40 where it quickly enters Durham County. The name Dry Creek is misleading since the majority of the creek corridor tends to be very wet and swampy even during dry periods. The potential trail, over two and one half miles in length, could serve as a wonderful complement to the proposed North Trail.

Portions of the Dry Creek corridor have been identified as environmentally sensitive, and are listed in the “Inventory of the Natural Areas and Wildlife Habitats of Orange County, North Carolina”, a study prepared in 1988 by the Triangle Land Conservancy.

The Conceptual Plan for the Dry Creek Greenway was completed by the Dry Creek Greenway Advisory Committee and adopted by Council in June 1997. Because of land acquisitions that occurred after the adoption of the Plan, the Master Plan contains significant revisions of the reports recommendations for trail locations.

❶ DRY CREEK: East Chapel Hill High School to Silver Creek Trail

The initial segment of the Dry Creek Greenway begins at East Chapel Hill High School and continues 2,300 feet eastward along the southern branch of Dry Creek. This portion of the greenway is essentially of a woodland character, predominantly hardwoods, and offers a variety of rock outcroppings, waterfalls and picturesque forest experiences.

Resource Protection

The Town has acquired the necessary land to implement this segment of the Dry Creek Greenway.

Potential for Trail Development

The trail has been completed from San Juan Road to Silver Creek Trail. In addition, a trail location has been identified and “roughed in” by volunteers from San Juan Trail to the High School property. Erosion control work on the school site completed in 2005. The trail is expected to be opened and signed in early 2006.

Recommendations

1. The Town should coordinate with school officials to determine the location of the trailhead on East Chapel Hill High School property.
2. The Town should complete a narrow natural surface footpath wide enough for travel by one person similar in construction to the Town’s existing Battle Branch Trail.
3. Trail signage should be installed as soon as the trail is completed.

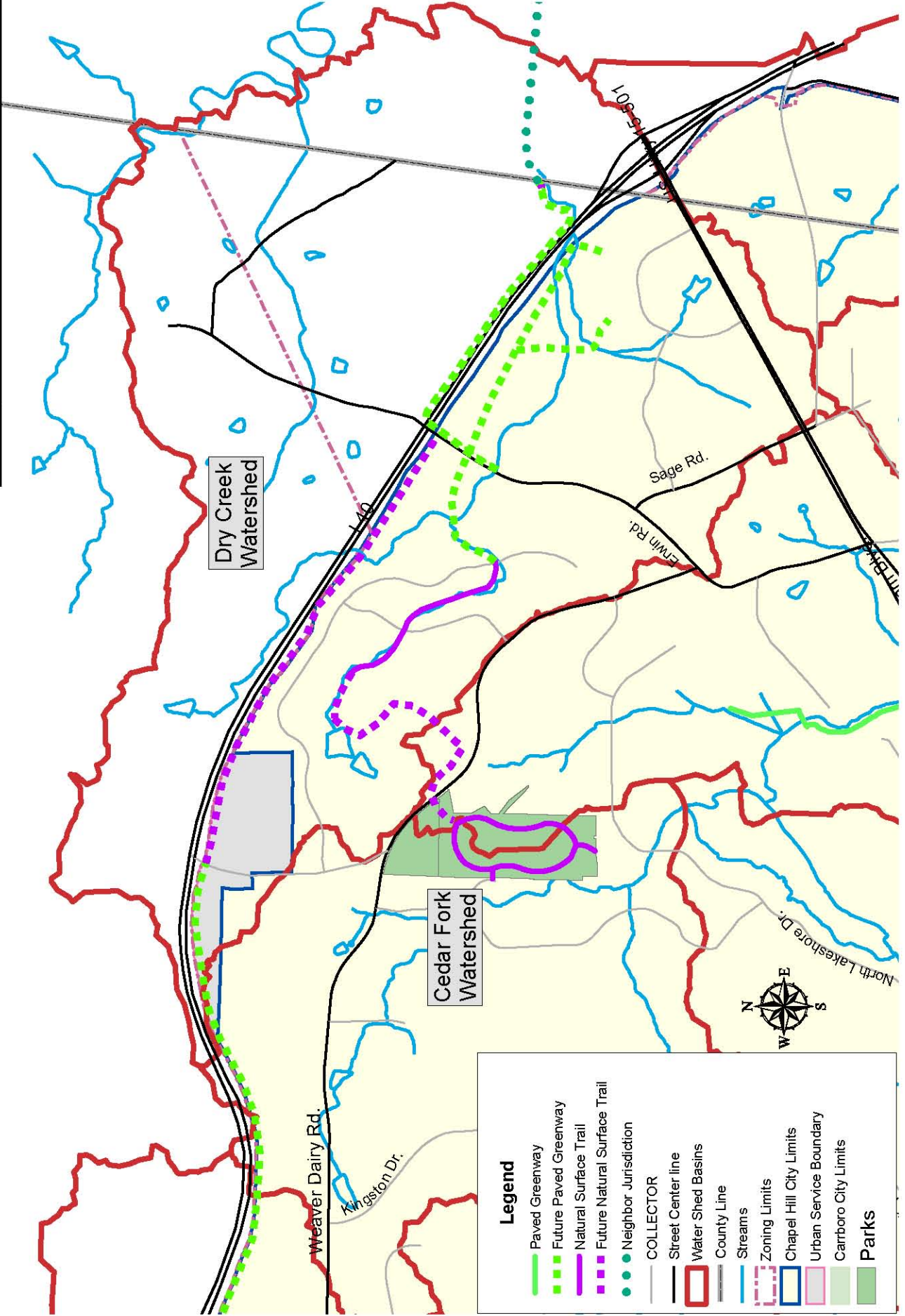
❷ DRY CREEK: Silver Creek Trail to Perry Creek Drive

The second segment of the Dry Creek Greenway corridor changes in physical and visual character. The quality of tree cover is diminished from the initial trail segment, being a mix of fewer hardwoods, modest small pines and other new growth species. The initial 100 feet of the trail corridor is relatively steep due to the existing fill slope at Silver Creek Trail.

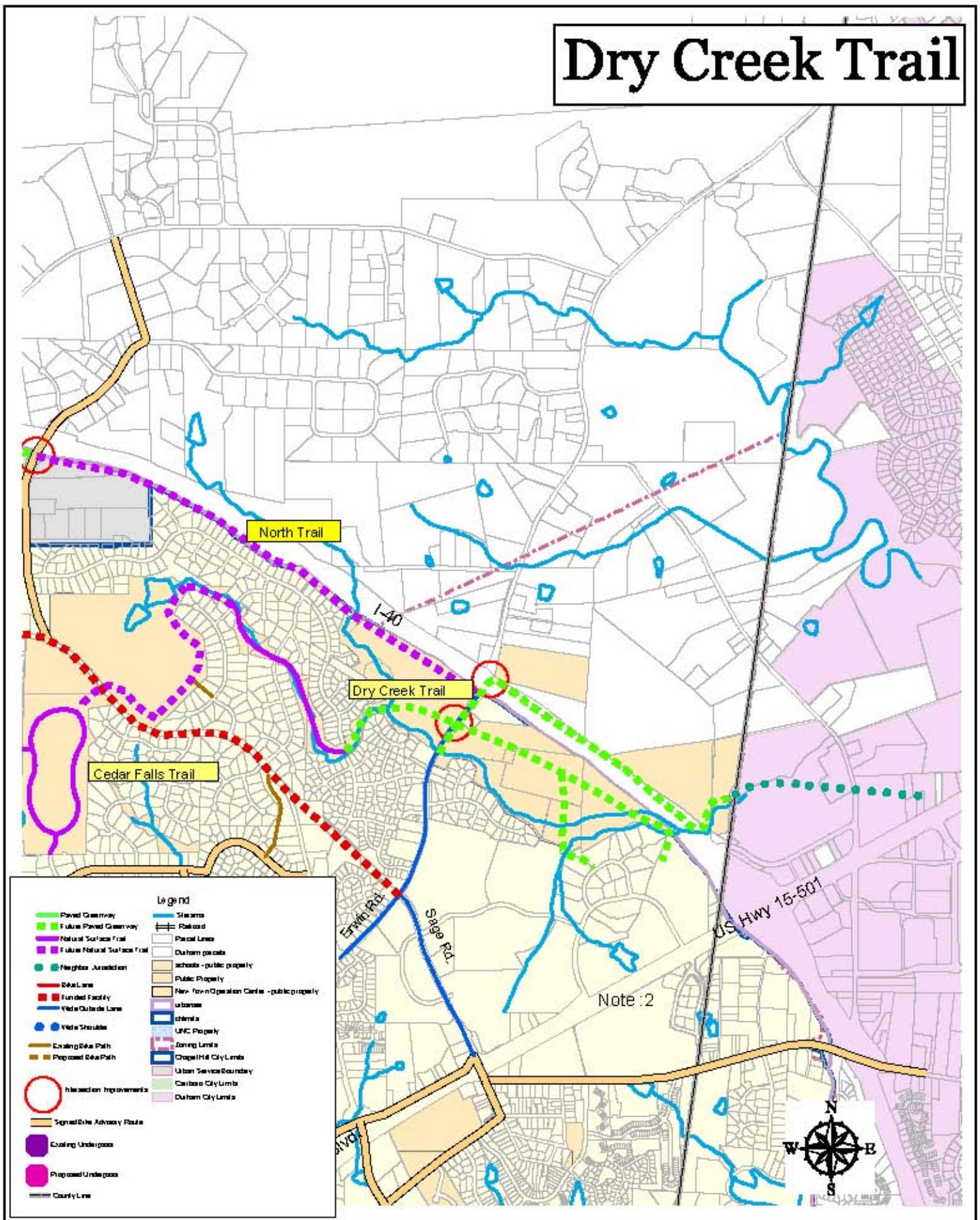
The remaining portions of this segment are relatively low-lying, flat, and subject to flooding and seasonal ponding. The wet soils here sustain the very thick stand of young pines.

This section of the trail has been completed.

Dry Creek Watershed



Dry Creek Trail



Recommendations

1. Signs should be erected as soon as the upstream trail segment is completed.

③ DRY CREEK:

Perry Creek Drive to Erwin Road

This 2,100-foot portion of greenway would be primarily located on a 32-acre parcel of Town-owned open space property acquired in 2000. The land is located north of Dry Creek and south of I-40.

Resource Protection

The Town has acquired the necessary land and easements to implement this segment of the Dry Creek Greenway.

Potential for Trail Development

The initial trail would be located in and adjacent to an OWASA sewer easement to a crossing of Dry Creek. The trail would then be located on the well-drained Town open space property to Erwin Road.

Summary of Constraints for Potential Trail Development

1. The initial 500 ft from Perry Creek Road to Dry Creek would require some landscaping to preserve privacy for nearby homes.
2. Poorly drained soils will dictate location of paved sections of trail in some locations.

Summary of Factors Favorable for Potential Trail Development

1. The Town owns all the land required for trail development.
2. Existing utility easements provide land already cleared for trail use.

Recommendations

1. The Town should construct a Class 6 trail, from the east side of Perry Creek

Drive for some 2,100 feet to Erwin Road.

2. A natural surface trail connection running northeastward along a minor tributary of Dry Creek to the proposed North Trail is possible and should be pursued.
3. A small parking area (8-10 cars) should be built near Erwin Road.
4. A sidewalk should be built to the north to Interstate 40. This would allow a connection between the Dry Creek Trail and the Durham greenways system.

④ DRY CREEK:

Erwin Road to Providence Road

The Dry Creek basin east of Erwin Road is one of the most extensive wetland areas in Orange County. As described by the Triangle Land Conservancy, it is one of the most significant areas of biological diversity in the southern part of the county. The primary goal for this portion of Dry Creek should be to remain as a nature preserve, supporting activities such as bird and wildlife observation.

Resource Protection

1. The Town has acquired significant amounts of property along this section of Dry Creek.

Potential for Trail Development

The greenway corridor extends 3,300 feet through this segment of Dry Creek. The Town has acquired most of the property adjacent to the creek including a large amount of property between the creek and I-40 that would allow trail development. The major obstacles would be a required crossing of Dry Creek and finding suitable exits onto public streets within Eastowne.

A major safety issue relates to a trail crossing of Erwin Road. This plan recommends the addition of a pedestrian crossing and pedestrian refuge. Please see the list of NCDOT critical intersections on page 71.

Summary of Constraints for Potential Trail Development

1. Wet soils and wetlands dominate portions of this segment.
2. Erwin Road in its current state would present safety concerns for persons crossing the road. Improvements such as a pedestrian crossing and pedestrian refuge would be needed.
3. Exits onto streets within Eastowne have not yet been identified.

Summary of Factors Favorable for Potential Trail Development

1. Tree cover is uniform, relatively mature, with an open understory presenting few constraints to trail alignment.
2. The Town owns most of the potential trail corridor including most of the higher and drier ground.

Recommendations

1. The corridor should be developed as a Class 6 greenway with boardwalk sections as needed.
2. The trail should be sensitively placed to avoid fragmenting the wildlife corridor.
3. The Town should continue to explore options for trail connections to the New Hope Corridor and Durham greenway system.

⑤ DRY CREEK: Erwin Road to Durham County Line

This segment of the Dry Creek Greenway would be a joint project with the Durham Open Space and Trails Commission. The portion of the corridor within Chapel Hill's jurisdiction would be approximately 4,600 feet in length. Depending upon location, Durham would extend the trail an additional 1,000 to 2,000 feet to Mt. Moriah Church

Road. Durham's long-range plans show a trail extending downstream along Dry Creek to New Hope Creek. The trail surfacing is yet to be determined.

Resource Protection

The Town now owns all but one property needed to develop a trail along this section of Dry Creek.

Potential for Trail Development

The corridor is generally gently sloping with well-drained soils. A mixed hardwood tree cover exists with trees of varying age.

Summary of Constraints for Potential Trail Development

1. One parcel is still in private ownership.
2. Some pockets of potential wetlands exist.
3. The existing Erwin Road Bridge over I-40 is not suitable for pedestrian traffic.

Summary of Factors Favorable for Potential Trail Development

1. Few topographic, vegetative or soil restrictions are present.

Recommendations

1. The Town should continue to pursue a joint development effort with Durham in constructing a coordinated trail and open space corridor.
2. A bike lane and sidewalk could continue to north of I-40 along Erwin Road.
3. To the north of I-40 and Erwin Road, a greenway connection would turn east and follow the north side of the Interstate northeast of Dry Creek. The trail would then continue to New Hope Commons shopping center and to New Hope Creek.
4. The Town should work with NCDOT to assure that any expansion and/or replacement of the Erwin Road Bridge over I-40 include sidewalks and bicycle lanes.

MAN-MADE CORRIDORS

This Plan has assessed the potential of six Man-Made Corridors for inclusion in the Chapel Hill greenway system: Public Service of North Carolina gas transmission rights-of-way, Duke Power cross-country transmission rights-of-way, the Norfolk-Southern Railroad, the Interstate 40 corridor, portions of NC 54, and the Meadowmont development.

Utility Rights-of-Way

Gas Transmission Rights- of-Way

It is the current policy of Public Service of North Carolina, Inc. to prohibit the shared use of its gas transmission line rights-of-way for recreational or trail purposes. At this time, the use of gas transmission corridors is not a viable option for Town greenways.

Power Transmission Rights- of-Way

Recently, Duke Power has more strictly enforced its prohibition of allowing facilities such as roads and trails to be built within the easements. They generally allow uses that cross easements but not ones that follow the course of an easement. Any use of these easements would require permission from the utility. The Town should explore the feasibility of utilizing these transmission corridors to augment its planned greenways to the greatest extent allowed by Duke Power.

Proposed Man-Made Corridors

There are four Man-Made Corridors currently proposed or built within the Chapel Hill greenways system - the Horace Williams Trail, North Trail, portions of NC 54, and Meadowmont Trail. These trail corridors have the potential to provide significant trail opportunities as well as potential linkage with planned greenways in neighboring municipalities and regional trails.

HIGHWAY 54

Bicycle paths were added to both sides of NC 54 in conjunction with the development of Meadowmont. The paths could be continued both to the east and to the west to increase bicycle and pedestrian use of this important corridor. Westward extensions could serve the UNC campus. Eastward extensions to the Town Limits could provide eventual links to the New Hope Corridor and the American Tobacco Trail.

Potential for Trail Development

The existing paths could be easily extended eastward to the extent of the Town's jurisdiction and the beginning of Durham's jurisdiction, especially if extensions are completed as part of new development or re-development of property.

The paths could also be extended to the west. The trail could be extended relatively easily on the south side of NC 54 to Glenwood Square. The north side of the road presents greater problems due to pre-existing development.

Summary of Constraints for Potential Trail Development

1. Pre-existing development would make extensions difficult in some areas west of Meadowmont.
2. The Highway 15-501/NC 54 intersection is busy with numerous turning movements by vehicles, often at high speeds. This situation lessens the viability of the corridor as a bicycle/pedestrian corridor to the UNC campus and the downtown area.

Summary of Factors Favorable for Potential Trail Development

1. Eastward expansion to Durham's jurisdiction would be relatively easy to accomplish.

Recommendations

1. Require extension of the existing paths with each new development or re-development along NC 54.

2. When appropriate, the Town and NCDOT should perform a study of the NC 54 corridor to determine if changes can be made to increase safety and bicycle/pedestrian access to the UNC campus and the downtown. See page 76.

NORTH TRAIL (INTERSTATE TRAIL)

The presence of Interstate 40 in the northern portion of Chapel Hill offers a unique opportunity to preserve an approximately five miles long buffer along the Interstate highway and to construct sections of bicycle and pedestrian-only trails adjacent to the highway right-of way. The greenway corridor is almost entirely free of development at this time, and only one subdivision, Chandler's Green, has constructed dwelling units within the corridor.

A greenway corridor could be preserved along the entire length of I-40, from the Town limits to the intersection of I-40 and Highway 15-501. It is possible to build a trail from the site of the proposed Town Operations Center in the northwest quadrant of Town to the junction of Interstate 40 and Erwin Road. The greenway corridor could provide additional buffering between the highway and present and future residents and businesses. This corridor could also preserve the wooded appearance of Interstate 40 and benefit travelers using the highway. The corridor is identified in this report as being a 100-foot or wider strip of land adjacent to the south side of the I-40 right-of-way.

Development of a trail along most of the Interstate would be relatively easy. Much of the land has reasonable topography with few steep or wet areas to contend with. The trail would not be suited for nature study due to the noise level next to the highway. However, portions would be ideally located for a paved trail to provide bicyclists and pedestrians a safe route to travel across the northern portion of Town. The trail would cross only three major roads: Erwin Road, Sunrise Road, and

NC 86 (Martin Luther King Jr. Blvd.). In addition, the trail could connect to several other trails including the trail planned by Durham County as recommended by the New Hope Corridor Master Plan. This trail is discussed in the "Dry Creek" section, page 53. The Durham trail would also be a paved trail accessible by bicycles.

● NORTH TRAIL:

Millhouse Road (Town Operations Center) to NC 86

This section begins at Millhouse Road and the Town Operation Center. The corridor would follow the Interstate east to NC 86.

Resource Protection

The Town currently controls the site of the Town Operation Center. Other properties would be required.

Potential for Trail Development

This section of the trail corridor would present no unusual difficulties to trail development. An opportunity exists to tie the North Trail into the Horace Williams Trail at the Town Operations Center. The primary difficulty would involve crossing NC 86.

Summary of Constraints for Potential Trail Development

1. Land acquisition east of the Town Operations Center would be required.
2. It may be difficult for trail users to safely cross NC 86.

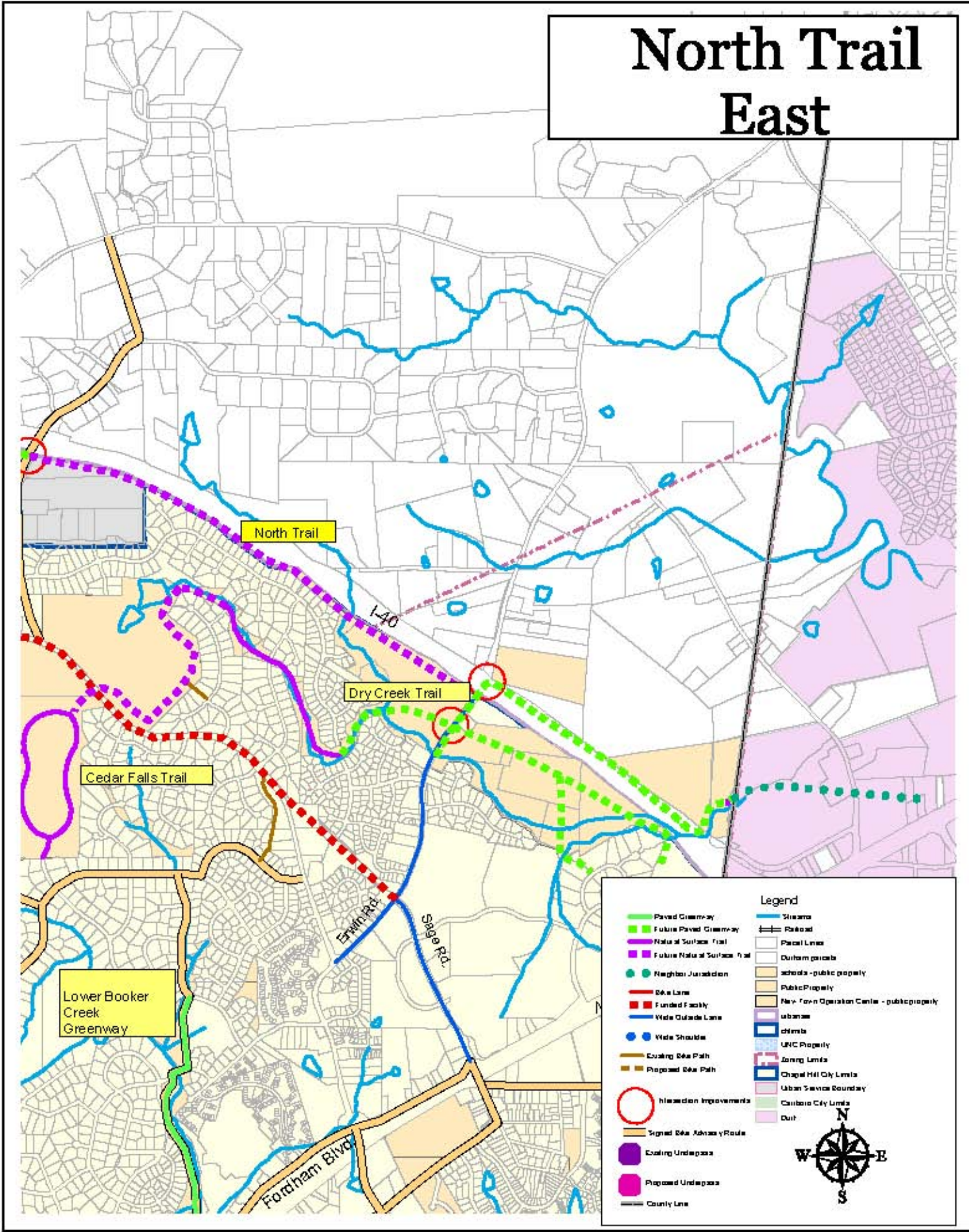
Summary of Factors Favorable for Potential Trail Development

1. There are few physical constraints to trail construction.

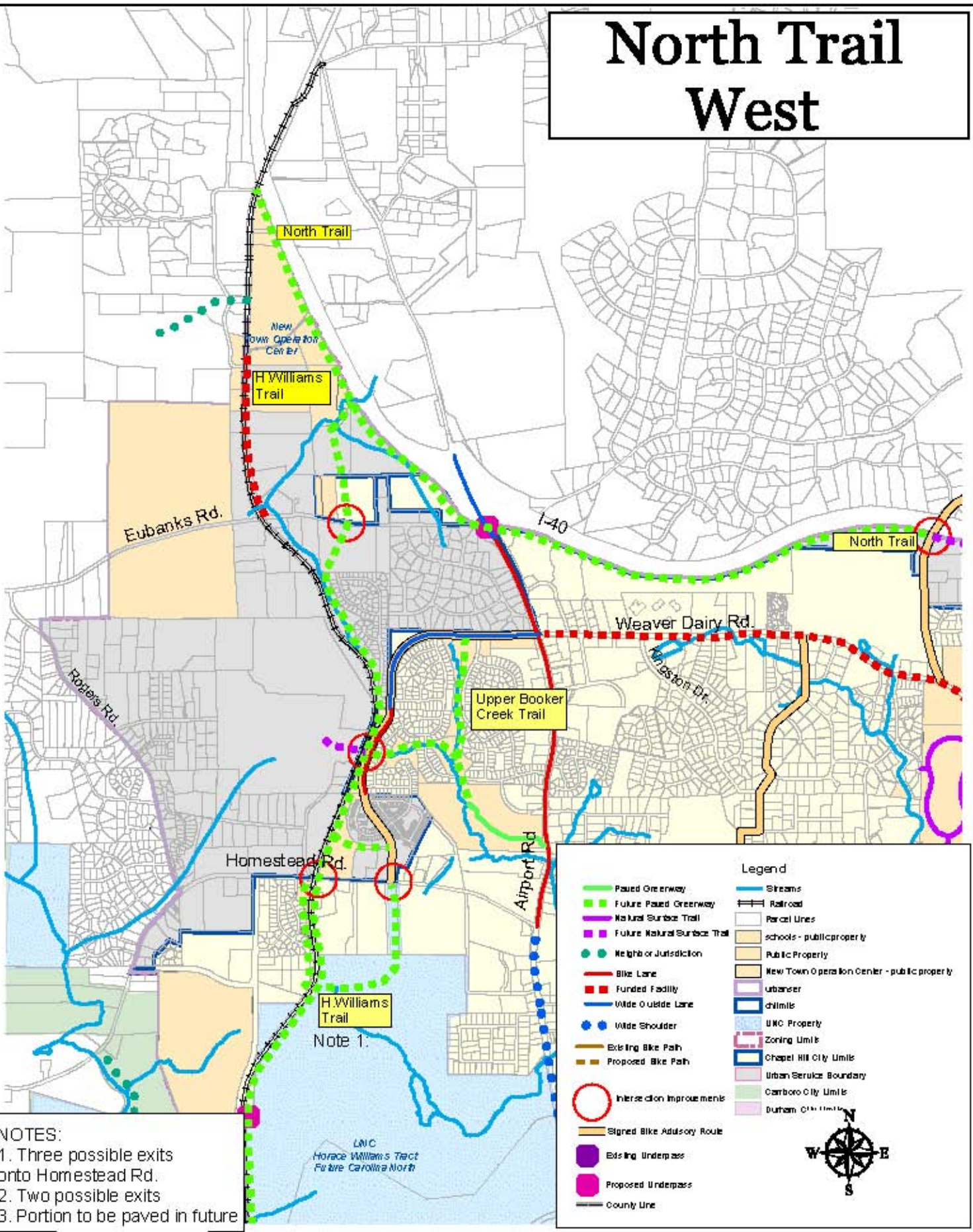
Recommendations

1. Easements and land should be acquired as opportunities arise.

North Trail East



North Trail West



NOTES:
 1. Three possible exits onto Homestead Rd.
 2. Two possible exits
 3. Portion to be paved in future

2. A study should be undertaken to determine the best method for bicyclists and pedestrians to safely cross NC 86. It appears that a crossing utilizing a pedestrian refuge and pedestrian activated signals may be the most likely method of crossing this wide and busy road.
3. Once the land rights are acquired, the Town should build a Class 6 trail.

**② NORTH TRAIL:
NC 86 to Sunrise Road**

This section would stretch from NC 86 at its junction with I-40 to Sunrise Road. There are no current or planned developments within the 100 ft. greenway corridor. Segments of the trail, or spur trails, could be located south of the 100 ft buffer within easements provided by developers. This section of greenway is important as a potential transportation route for pedestrians and bicyclists. The proposed trail could provide safe transport to proposed shopping and business facilities along NC 86, Cedar Falls Park on Weaver Dairy Road, and residential developments that border the corridor. The potential exists for allowing numerous multi-family condominiums and apartment complexes to build private trails that would connect directly into the trail. The Circle-the-Triangle Trail is proposed to connect to Chapel Hill via Sunrise Road, thus providing the North Trail a direct tie-in to a larger regional trail system.

Resource Protection

Future trails have been provided for at only two locations at this time. The first lies on property owned by the Carol Woods Retirement Community and begins at Sunrise Road. It stretches approximately 2,500 feet to the west along the I-40 corridor. The second is located on the Vilcom Development property. The Town’s greatest opportunity for additional land and easement acquisition will come as the corridor is developed. It may be

possible that the North Carolina Department of Transportation (NCDOT) would allow the trail to occupy the Interstate right-of-way in areas where land could not be obtained.

Potential for Trail Development

This section of the trail corridor would present no unusual trail building difficulties.

Summary of Constraints for Potential Trail Development

1. Some additional land acquisition would be required.
2. It would be difficult to join the segments of the North Trail that would lie east and west of NC 86.
3. The trail intersection with Sunrise Road is at a very steep fill slope where Sunrise Road crosses over the Interstate. ADA compliance may be difficult.

Summary of Factors Favorable for Potential Trail Development

1. Few physical limitations to trail construction exist within the corridor.

Recommendations

1. Easements and land should be acquired as opportunities arise.
2. Explore potential acquisition of land or easements beyond the 100 ft. corridor on either side of Sunrise Road in order to negotiate the fill slope.
3. Once the land rights are acquired, the Town should build a Class 6 trail.

**③ NORTH TRAIL:
Sunrise Road to Erwin Road**

The proposed corridor and trail would continue in much the same fashion as those sections further west, except that the trail would be built to a Class 3 standard. From Sunrise Road, the trail would continue over easy ground to Erwin Road.

The section has few topographic problems; however one major development has already been built within the 100 foot greenway corridor. The trail would allow current and future residents and businesses the opportunity to access Cedar Falls Park and the proposed regional, Circle-the-Triangle Trail.

Resource Protection

The Town currently controls only the eastern end of the corridor. The Town's greatest opportunity for addition land and easement acquisition will come as the corridor is developed. It may be possible that North Carolina Department of Transportation (NCDOT) would allow the trail to occupy the Interstate right-of-way in areas where land could not be obtained.

Potential for Trail Development

No unusual trail-building difficulties for trails up to Class 3, exist within the 100 ft. corridor, although this segment is characterized by a long, rather uniform slope. The Chandler's Green subdivision has built units within the 100 ft. corridor. In order to bypass Chandler's Green, it may be necessary to build the trail within the NCDOT right-of-way. The trail could connect into several other trails including a proposed trail along Dry Creek, Durham's proposed trail along Dry Creek on the north side of Interstate 40, the Circle-the-Triangle Trail, and the Horace Williams Trail.

Summary of Constraints for Potential Trail Development

1. Over 5,000 feet of land acquisition would be required.
2. It may be difficult to secure a public access along the section controlled by Chandler's Green.
3. The long sustained slope may make ADA compliance difficult.

4. The trail intersection with Sunrise Road is at a very steep fill slope where Sunrise Road crosses over the Interstate. ADA compliance at this crossing may be difficult.

Summary of Factors Favorable for Potential Trail Development

1. There are few physical constraints to trail construction if the proposed trail is constructed at a Class 3 level.

Recommendations

1. Easements and land should be acquired as opportunities arise.
2. The Town should work with North Carolina Department of Transportation (NCDOT) to acquire rights to develop within the Interstate right-of-way.
3. Explore potential acquisition of land or easements beyond the 100 ft. corridor on either side of Sunrise Road in order to negotiate fill slope.
4. Once the land rights are acquired, the Town should build a Class 3 trail.

④ NORTH TRAIL: Erwin Road to Highway 15-501

This area is described as part of the Dry Creek Trail. See page 53.

MEADOWMONT TRAIL

The Meadowmont Trail alignment does not follow a specific natural feature of the land, but was planned as a man-made corridor. The alignment of the corridor is shaped by the urban pattern of roads and lots created within the Meadowmont subdivision. It provides an important transportation and recreational link within Chapel Hill's largest mixed-use business and residential development. The Meadowmont Trail was constructed by the developer of the project.

Resource Protection

The Chapel Hill Town Council approved a greenway corridor as part of the master land use plan for Meadowmont. In addition, the developer dedicated a 69-acre park that is primarily stream bottom and open space with some natural surface trails and a 22 acre school site that is home to the Rashkis Elementary School and two athletic fields operated by the Town. The Town-owned park allows for the protection of extensive wetlands and steep slopes.

Potential for Trail Development

The trail has been completed. It extends from the Town park site near Little Creek, through the Rashkis school site, southward through the nearly 425-acre planned community and crosses NC 54 to access the remainder of the development. The trail crossing at NC 54 is accomplished via a tunnel. Connections to the Little Creek Trail were also provided.

The developer also built bicycle paths along NC 54. These could eventually be part of a connection with future Durham trails, including possible links to the New Hope Corridor and the American Tobacco Trail as well as a segment of an eventual bicycle connection to UNC campus and the Chapel Hill downtown.

Recommendations

1. As opportunities arise the Town should pursue extensions of the bicycle paths paralleling both sides of NC 54. These extensions should be encouraged to the east toward the American Tobacco Trail and to the west toward UNC campus.

HORACE WILLIAMS TRAIL

A spur of the Norfolk Southern Railroad leaves the main rail line near Hillsborough and trends southeast to Chapel Hill. The line serves the needs of the University of North Carolina co-generation plant and extends over 4.1 miles along this potential greenway.

① HORACE WILLIAMS TRAIL:

Estes Drive Extension to Homestead Road

This section of the proposed trail would start at the end of Chapel Hill's planned Bolin Creek Trail and the beginning of Carrboro's proposed Bolin Creek Trail. The segment would provide direct access to several neighborhoods and the University's proposed Carolina North Campus. Side trails could serve Seawell Elementary School, Smith Middle School, and Chapel Hill High School. It would end at Homestead Road.

Resource Protection

The University currently controls most of the land outside of the railroad right-of-way, and may develop the majority of the 1,013-acre Horace Williams Tract at some future date. Over 1.25 miles of the proposed Horace Williams Trail is within the Horace Williams Tract. See Figure 16.

The legal status of the railroad right-of-way should be watched carefully. If the Norfolk Southern Railroad ever moves to abandon the spur, the Town should be prepared to move quickly to have the easement banked for future rail use. Banked rail easements can be used for trail purposes until such time as they are required for rail purposes.

Potential for Trail Development

The physical limitations of trail development are few, but the legal and ownership problems are many. The trail would most likely be developed on the east side of the tracks either on the railroad right-of-way or on land that is owned predominantly by the University. At one or more points, it would cross the tracks to gain access to Seawell Elementary, Smith Middle, and Chapel Hill High schools.

Summary of Constraints for Potential Trail Development

1. Over 7,000 feet of land or easement acquisition would be required. Most of the required land is owned by the University.
2. It would likely be necessary to negotiate access with the Norfolk Southern Railroad.

Crossings of the tracks might require expensive safety precautions.

3. The best location for an exit onto Homestead Road is uncertain at this time.

Summary of Factors Favorable for Potential Trail Development

1. Except for the area immediately adjacent to Estes Drive Extension and the Ironwoods Subdivision, the grade is less than 5%.

Recommendations

1. The Town should work with the University to ensure that the University builds its segment of the Horace Williams Trail as part of the construction of the Carolina North campus.
2. In the event that the Norfolk Southern Railroad attempts to abandon the railroad spur, the Town should work to see that it is banked and used for trail purposes until a need for a rail use arises in the future.
3. The Town should be flexible in its approach to locating the best point for accessing Homestead Road. All possible locations should be preserved as properties are developed. One likely location could be through the University's frontage on Homestead Road. Another location could be through lots east of the rail corridor. A third possibility would be via a crossing of the rail line and an extension of the trail through Town property to Homestead Road.
4. The project should include crosswalks and a pedestrian refuge to allow safe crossings of Homestead Road.

② HORACE WILLIAMS TRAIL: Chapel Hill High School to Eubanks Road

The trail would continue from Homestead Road past a Town owned recreation/open

space area, a proposed connector trail to the Upper Booker Creek Trail, the Greene Tract, and several neighborhoods to Eubanks Road.

Resource Protection

The Town controls almost all of the land along the tracks. Only one parcel is currently missing. The Town can likely preserve a trail corridor on that tract when the property is developed in the future.

Potential for Trail Development

The physical limitations of trail development in this section are few.

Summary of Constraints for Potential Trail Development

1. One parcel of land is in private ownership.
2. It would be necessary to negotiate access with the Norfolk Southern Railroad. Crossings of the tracks to access the Greene Tract might require expensive safety precautions.

Summary of Factors Favorable for Potential Trail Development

1. The land has little topographical relief.
2. Most of the corridor is in Town ownership.

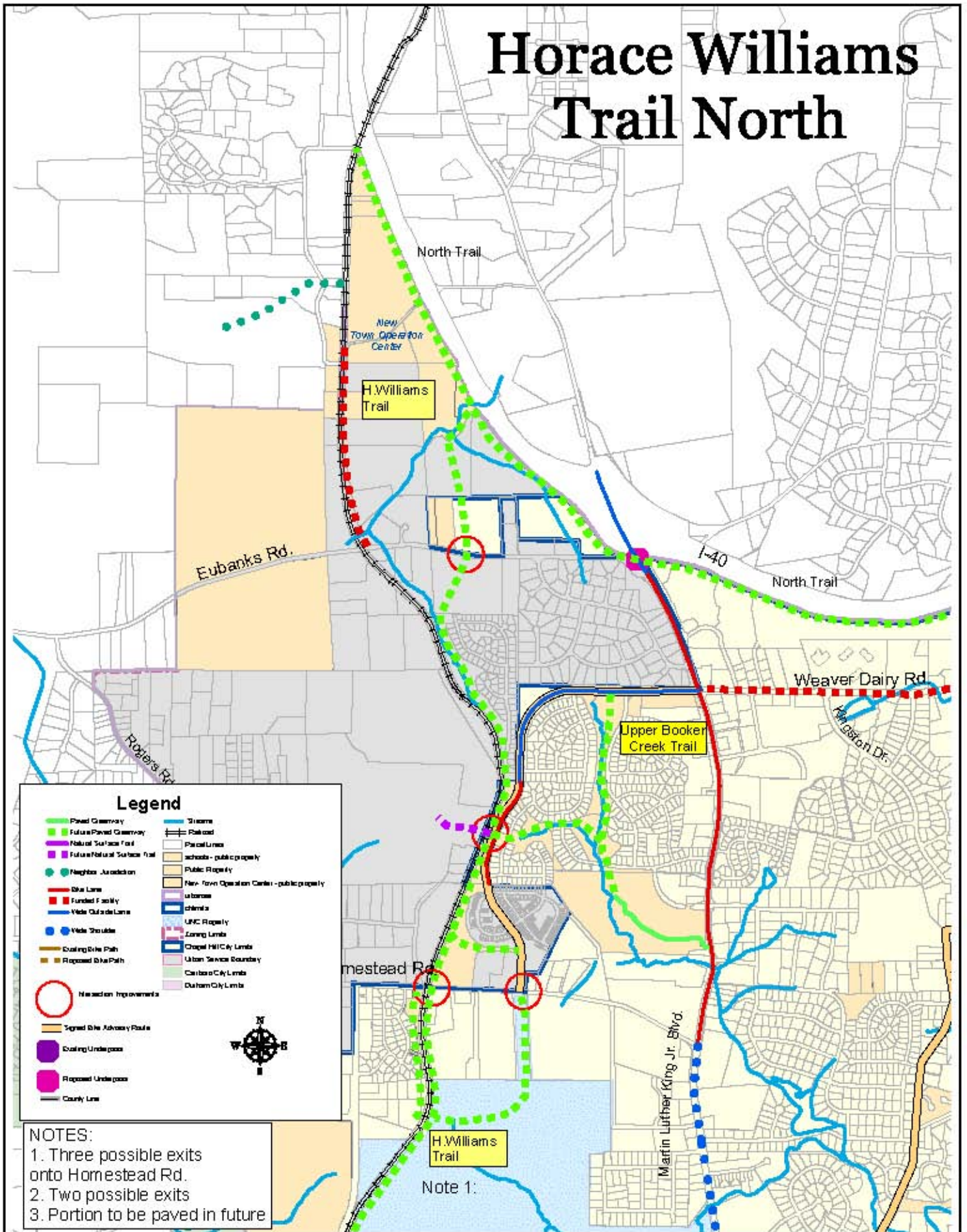
Recommendations

1. The Town should work with the one remaining owner or developer to acquire the last required easement.
2. In the event that the Norfolk Southern Railroad attempts to abandon the railroad spur, the Town should work to see that it is banked and used for trail purposes until a need for a rail use arises in the future.

③ HORACE WILLIAMS TRAIL: Eubanks Road to Millhouse Road

The trail would continue from Eubanks Road through the Town's northern park and ride lot to the Town Operations Center. The trail would terminate at Millhouse Road just south of I-40.

Horace Williams Trail North



Horace Williams Trail South

H. William Trail

Note 1:

LNC
Horace Williams Tract
Future Carolina North

Piney Mt. Rd.

Estes Dr.

Note 2

Bolin Creek Greenway

Bolin Creek Greenway

Tanyard Branch Trail

Note 3:

W. Rosemary St
W. Franklin St

Alport Rd.
E. Franklin St

Cameron Ave

South Rd.

Manning Dr.

LNC Campus

LNC Hospital

NOTES:
1. Three possible exits onto Homestead Rd.
2. Two possible exits
3. Portion to be paved in future

Legend			
	Paired Greenway		Streams
	Future Paired Greenway		Railroad
	Natural Surface Trail		Parcel Lines
	Future Natural Surface Trail		schools - public property
	Neighbor Jurisdiction		Public Property
	Bike Lane		New Town Operation Center - public property
	Funded Facility		urbanizer
	Wide Outside Lane		chimits
	Wide Shoulder		LNC Property
	Existing Bike Path		Zoning Limits
	Proposed Bike Path		Chapel Hill City Limits
	Intersection Improvements		Urban Service Boundary
	Signed Bike Advisory Route		Carboro City Limits
	Existing Underpass		Durham City Limits
	Proposed Underpass		
	County Line		



Resource Protection

The Town controls almost all of the land in this section. Only one parcel is currently missing. The Town can likely preserve a trail corridor on that tract when the property is developed in the future. The Town should be prepared to act swiftly to preserve the rail corridor in the event that the railroad should abandon the line.

Potential for Trail Development

The physical limitations of trail development in this section are few. An important connection could be made from the Horace Williams Trail to the North Trail in the vicinity of Old Field Creek.

Summary of Constraints for Potential Trail Development

1. One parcel of land is in private ownership.
2. It would be necessary to build a portion of the trail on the existing park and ride lot property.
3. It would be necessary to negotiate a crossing access with the Norfolk Southern Railroad to allow trail access to Millhouse Road.

Summary of Factors Favorable for Potential Trail Development

1. The land has little topographical relief.
2. Most of the corridor is in Town ownership.

Recommendations

1. The Town should work with the one remaining owner or developer to acquire the last required easement.
2. The Town should work with the Norfolk Southern Railroad to acquire rights to cross the railroad right-of-way at Millhouse Road.

3. In the event that the Norfolk Southern Railroad attempts to abandon the railroad spur, the Town should work to see that it is banked and used for trail purposes until a need for a rail use arises in the future.

CONNECTOR TRAILS

Connector Trails are important components to the Chapel Hill greenway system providing continuity to open space corridors and increasing overall accessibility to Town's trails. Connector Trails may be major trails or minor neighborhood connectors. They may help link the greenway network with other Town recreation areas, public facilities and residential areas.

As greenway trails along the primary stream corridors become developed and evolve into major recreational amenities, it will become increasingly important to ensure pedestrian access to neighboring residential areas. Connector trails along minor tributaries, creeks and other linear features may provide such a means. Effective connecting routes may also be made by utilizing abandoned road rights of-way, sidewalks, bridges, pedestrian tunnels or designated bicycle routes to complement the greenway trail system. Efforts to preserve, acquire and develop these important connectors should be given high priority.

Future connector trails leading to the major greenway corridors or other Town facilities should be reviewed on the following criteria:

- The desire of neighborhoods to be connected.
- The existence of land or sidewalk facilities available for connection.

As part of the Town's subdivision approval process, all Connector Trail corridors should be required to be on Town-owned property or be controlled by a homeowners association, rather than on easements crossing private residential lots. Recent history has shown that many easement situations have become unworkable over time and inaccessible to the public.

PARK TRAILS

Previous greenway related documents did not deal directly with the importance or existence of trails within parks. Park trails provide important resources for neighborhood connectivity and recreation. Following is a list of current and planned trails within parks:

CEDAR FALLS PARK

Completed, Class 3 natural surface trails located within the 51-acre Cedar Falls Park. The main trail totals approximately 1.2 miles and provides important neighborhood connections to the park's recreational facilities as well as passive recreation opportunities.

The main loop trail has some steep slopes and rocky areas and a boardwalk section over a creek tributary. It merges with the park's internal network of unpaved paths and paved accessways. One of these paths is the .6 mile long Jo Peeler Nature Trail. The nature trail was dedicated in 1980 and is jointly maintained by the Town and the Lake Forest Garden Club.

Trail spurs to the main Cedar Falls Trail loop connect the Lake Forest neighborhood at Lakeshore Lane and Cedar Falls neighborhood at Roundtree Road, Cedar Fork Trail and Village Lane. The trail and park offer an open space link northward to the campus of East Chapel Hill High School.

Recommendations

1. Cedar Falls is criss-crossed with numerous informal, unmarked trails. The large number of these trails coupled with the generally poor soils has produced erosion in several areas and an unattractive look. The Town should close redundant trails and sign those that remain.

2. Erosion and drainage problems should be addressed.

JONES PARK

Completed. A short Class 3 natural surface trail links the active recreation area of the park to the rear of the adjacent Community Church and Purefoy Road.

Recommendations

1. The trail should be re-routed so that it exits onto Purefoy Road at a location that is more acceptable to the church.
2. Problems caused by repeated storms, erosion and poor drainage should be addressed.

PRITCHARD PARK

Completed. A one mile long Class 3 natural surface trail circles the Library. Volunteers are used on a regular basis to upgrade sections of the trail. The long range plan envisions the trail system to be part of a passive park. The plan also envisions a significant public art component to be included throughout the park including the trail system.

Recommendations

1. Continue upgrading the trail as volunteers are available.
2. Complete the trail system and install art as soon as possible. This work would likely be tied to decisions related to expansion of the Chapel Hill Library and the adjacent Siena Hotel.

SOUTHERN COMMUNITY PARK

Completed. Currently a 1.5 mile long Class 3 natural surface loop trail circles the property. When the park is developed some of the old trail system will likely be replaced with a paved greenway trail that will allow park users to access the various park amenities.

Recommendations

1. Extend the existing Fan Branch Trail to at least Dogwood Acres Drive as part of Phase I of the park development.
2. Improve the remaining Class 3 trails to eliminate erosion and drainage problems.
3. Add Class 3 trails as need dictates after completion of Phase One of the park.

CURRENT CAPITAL RENOVATION NEEDS

The following existing trails have large enough maintenance needs that they exceed the ability of the Town's Public Works Department to address the issues as part of routine maintenance. Rather the costs would be large enough to fall within the realm of capital expenditures. Most of these trails are natural surface, which tend to have greater maintenance needs than paved trails.

❶ BATTLE BRANCH TRAIL

Most of the bridges and boardwalk sections on this trail are nearing the limit of their useful life span.

❷ BOLIN CREEK TRAIL

The trail suffers from damage related to several storms. Although not severe in any one place the repair of all erosion areas would constitute a capital renovation project if dealt with in one effort.

❸ CEDAR FALLS PARK TRAILS

The park requires a complete trail renovation effort including a variety of solutions depending on location that include: relocation, closure, and renovation. After work is complete proper signage would make it easier to walk the trails and manage the property.

❹ TANYARD BRANCH TRAIL

This trail contains several areas impacted by excessive erosion that could be controlled with proper drainage. The damage is severe in places and has resulted in the loss or near loss of steps.

Park trails provide important resources for neighborhood connectivity and recreation.

Critical NCDOT and Town Road Intersections

TRAIL	INTERSECTION	RECOMMENDED SOLUTION
Bolin Creek	Martin Luther King Jr. Blvd.	Underpass- use existing culvert if possible. Install new pedestrian culvert if necessary
Bolin Creek	Fordham Boulevard	Underpass. If underpass is not technically feasible provide pedestrian refuge.
Bolin Creek	Estes Dr. Extension	New underpass.
Bolin Creek	Pritchard Avenue and Umstead Drive	The potential need for underpasses or other solutions should be determined in the concept plan study anticipated to start in 2005.
Dry Creek	Erwin Road	Provide pedestrian crossing and pedestrian refuge at the point the Dry Creek Trail crosses Erwin Road.
Dry Creek	Erwin Road and I-40	Expand the Erwin Road Bridge over I-40 to include sidewalks and bicycle lanes.
Lower Booker Creek	Franklin Street	Underpass to link WCHL tower property with Eastgate Shopping Center
Lower Booker Creek	Elliott Road and Fordham Boulevard	The best solution would be a rebuild that would eliminate the Elliott Road culvert and would provide a pedestrian underpass of Fordham Boulevard. A temporary solution for pedestrian crossing should include a pedestrian refuge.
NC 54 Bicycle Paths	Fordham Boulevard and NC 54	An engineering study should be performed to determine what improvements related to bicycle and pedestrian safety could be made to the intersection and the approaches to the intersection.
North Trail	NC 86 and Eubanks Road	An engineering study should be performed to determine what improvements could be made to allow safe pedestrian/bicycle crossings of NC 86. An at grade crossing utilizing pedestrian activated signals and a pedestrian refuge may be the most feasible method of crossing the road.
North Trail	I-40 between Sunrise Road and Erwin Road	Secure permission to build a Class 3 trail within the I-40 ROW to avoid private property of Chandlers Green.
North Trail	Sunrise Road	Pedestrian/bicycle crossing with pedestrian refuge.
Horace Williams Trail	Seawell School Road	Pedestrian/bicycle crossing with pedestrian refuge.
Horace Williams Trail	Homestead Road	Pedestrian/bicycle crossing with pedestrian refuge.
Horace Williams Trail	Eubanks Road	Pedestrian/bicycle crossing with pedestrian refuge.

REGIONAL AND LOCAL COORDINATION

Linkage with Regional and Local Trail Systems

The proposed Chapel Hill trail network can be extended beyond the borders of the Town by connecting into regional and statewide trail systems being planned by other agencies and organizations. The major trails being planned include:

TOWN OF CARRBORO

The Town of Carrboro, in its 1994 *Recreation and Parks Comprehensive Master Plan*, identifies potential greenway linkages with the Chapel Hill system. In addition, new opportunities have been identified since the adoption of the 1994 Report. Carrboro is currently in the process of revising its master plan.

Carrboro's proposed Morgan Creek Greenway is envisioned to extend approximately 3 miles along the banks of Morgan Creek. The Carrboro trail would connect with Chapel Hill's Morgan Creek Greenway at Smith Level Road and present an opportunity to link University Lake with Merritt Pasture.

It might be possible to provide a link from the Fan Branch Trail in Southern Village in Chapel Hill to the Chapel Hill/Carrboro City Schools third high school site in Carrboro.

The Bolin Creek Greenway is planned to stretch approximately seven miles through Carrboro, connecting various future park sites. The trail would connect with the Town of Chapel Hill Bolin Creek Greenway at two locations: Seawell Elementary School and at Estes Drive Extension.

It would be possible to connect the Bolin Creek Trail system to Carrboro via Chapel

Hill's Tanyard Branch Trail. Recently acquired Chapel Hill property would allow the Town to extend a portion of the Tanyard Branch Trail into Carrboro's portion of the Northside neighborhood.

CHATHAM COUNTY

Currently, Chatham County does not have an active greenways plan or program. In the event that Chatham begins such a program the Town should be in a position to discuss options.

DURHAM CITY-COUNTY URBAN TRAILS AND GREENWAYS SYSTEM

Greenway connections linking Chapel Hill's system with the Durham City-County Urban Trails and Greenways System are possible in two locations: Dry Creek and along Highway 54.

Dry Creek Connector: As described in the New Hope Corridor section above it would be possible to link Chapel Hill's trail system with Durham's via Dry Creek. If both jurisdictions make critical linkages it would be possible to access the New Hope Trail which lead toward the Korstian Division of Duke Forest and the proposed Hollow Rock Trail access area. The proposed Mud Creek Greenway would provide a connection with Duke Forest and the proposed Erwin- Cornwallis Regional Park. Sandy Creek Greenway would offer potential connection with the Durham Division of Duke Forest and the Third Fork Greenway, once built, would extend northward to downtown Durham.

Highway 54 and the American Tobacco Trail: The American Tobacco Trail is a partially completed off-road bicycle trail that would be located on the abandoned Norfolk Southern railroad corridor. It will eventually run for approximately 30 miles in a north to south direction connecting downtown Durham (at the Durham Athletic Park) to its terminus at the Chatham County Line. Connections are proposed to various parts of the Durham Urban Trail and Greenways system and the New Hope Corridor

Trail. We believe the best way to tie Chapel Hill to the American Tobacco Trail would be off-road pedestrian/bicycle paths along Highway 54. The Town has provided the first phase of this facility as part of the Meadowmont development.

NEW HOPE CORRIDOR

In 1989, the Town of Chapel Hill agreed to share the costs of a study of the New Hope Creek corridor. The intent of the study was to investigate the entire New Hope Creek, Mud Creek and Dry Creek corridors, stretching from Duke Forest north of Chapel Hill and southward along Durham County's western boundary to Jordan Lake.

The study made recommendations to preserve certain key portions of the corridor as open space, including the historic Leigh Farm near the intersection of Interstate 40 and NC 54 as well as recommendations for trail development. Proposed is the acquisition of over 1,800 acres of land and the construction of approximately 20 miles of recreational trails

The only trail connection identified in the New Hope Open Space Master Plan that was directly relevant to Chapel Hill was along Dry Creek, from its juncture with New Hope Creek to its headwaters in Chapel Hill. A detailed description of the connection is available in the trail descriptions of the Dry Creek Trail and the North Trail . (See pages 53 and 59).

The Town has acquired all land needed to complete the Town's portion of the project except for one tract north of I-40. The Town has purchased or accepted donations over 201 acres of land along Dry Creek.

The Town has also started to build trails in the corridor. The Dry Creek Trail is now complete from San Juan Road to Perry Creek Road. The trail is also expected to be

completed from San Juan Road to East Chapel Hill High School by 2005. A bridge could be installed as early as 2005 that would allow trails to be developed eastward to Erwin Road.

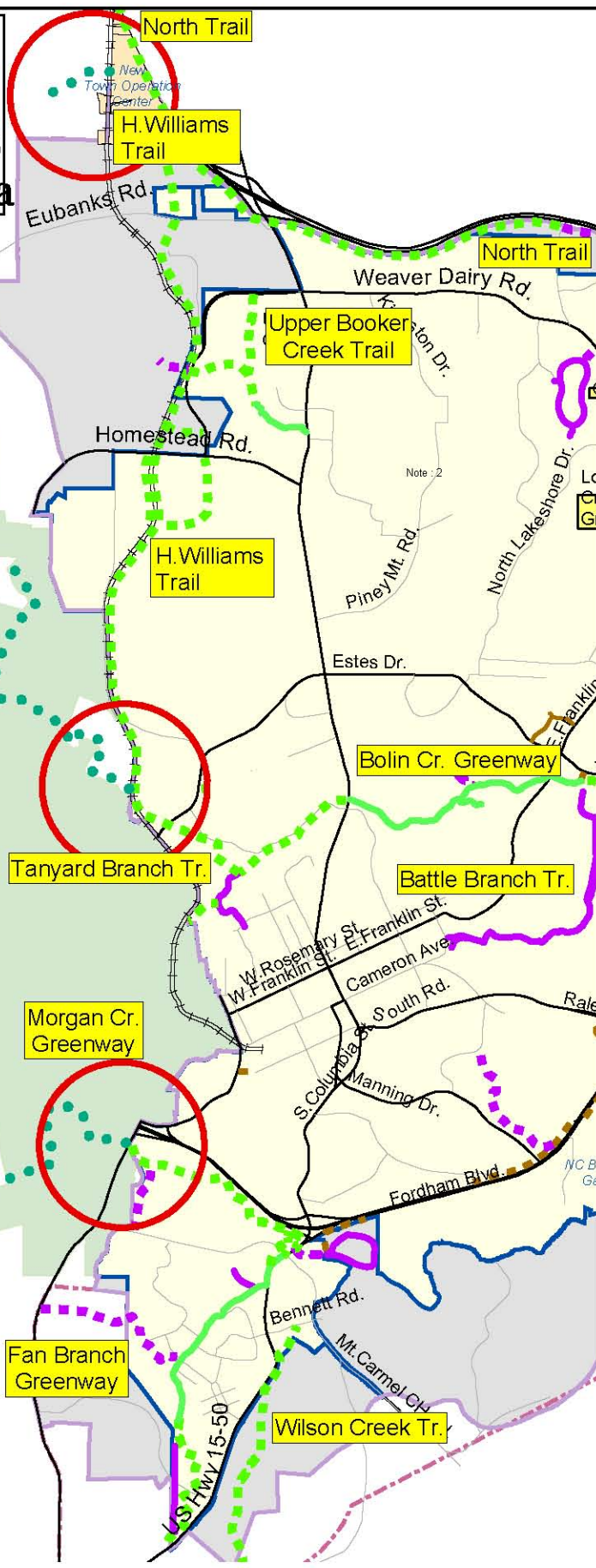
TRIANGLE GREENWAY COUNCIL

This private, non-profit organization is promoting the concept of a regional trail network throughout the Triangle. The system would link the various trail systems of each governmental jurisdiction in order to have trail interconnectivity through the region. The Council secures land, builds trails, and coordinates its efforts with various greenway agencies. Chapel Hill is an integral part of this proposed trail network.

ORANGE COUNTY

Orange County has developed an active program of open space acquisition and trail planning since the adoption of the Town's 1998 Greenways Master Plan. The Parks Element of the Orange County Comprehensive Plan was adopted in 1988. Revisions to the plan were made in 1999 (Joint Master Recreation and Parks Work Group report) and 2001 (Lands Legacy Action Plan. These plans have identified a possible series of trails that would link to the Town's Horace Williams Trail in Chapel Hill's northwest area and into the Bolin Creek Trail that would serve the County, Carrboro, and Chapel Hill. An update to the Parks Element is scheduled for 2005 as part of the larger Natural and Cultural Systems Element of the Comprehensive Plan.

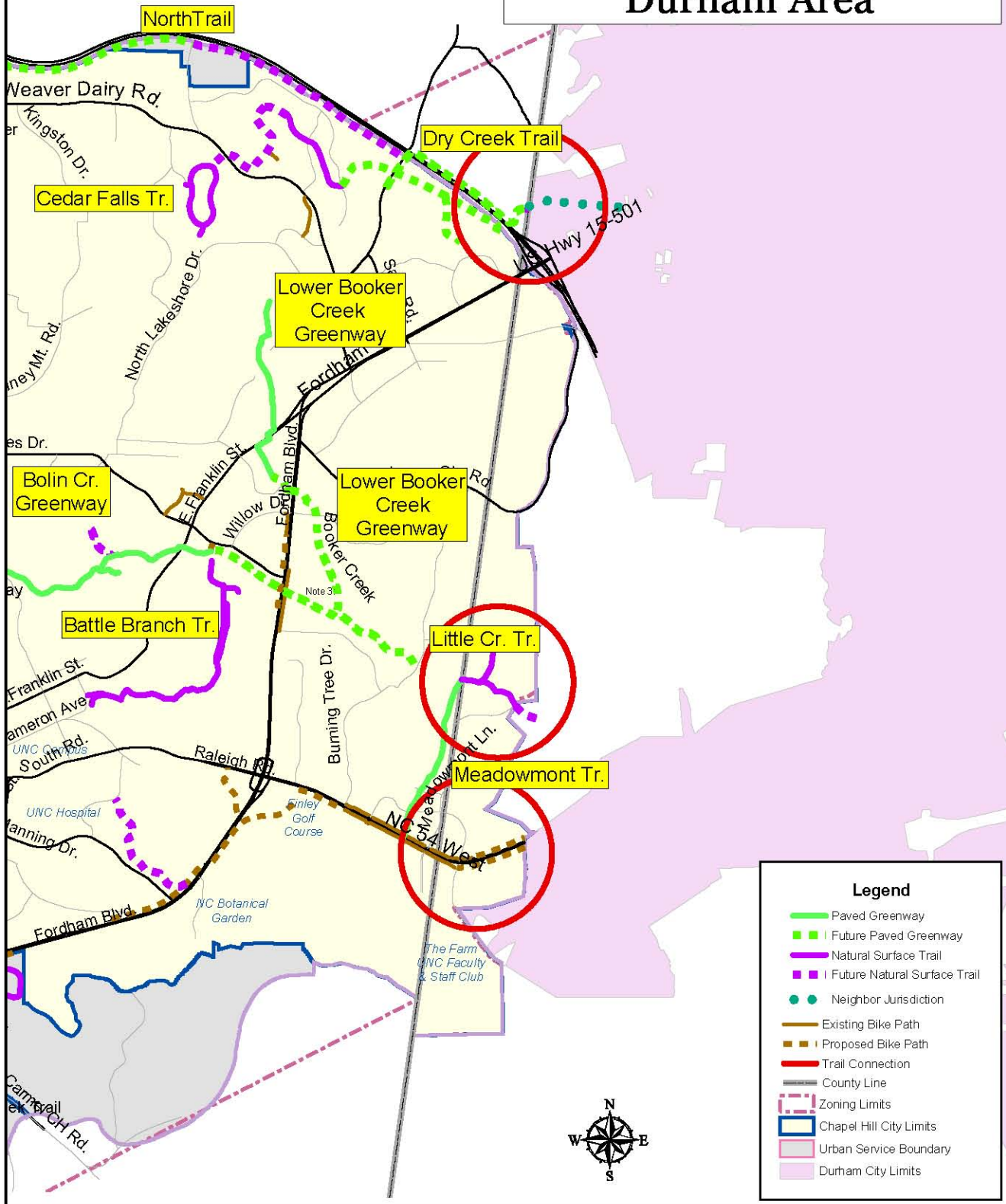
Potential Trail Linkage with Regional System and Neighboring Communities Carrboro / Orange Co. Area



Legend

- Paved Greenway
- - - Future Paved Greenway
- Natural Surface Trail
- - - Future Natural Surface Trail
- Neighbor Jurisdiction
- Existing Bike Path
- - - Proposed Bike Path
- Trail Connection
- County Line
- Railroad
- New Town Operation Center - public property
- Zoning Limits
- Chapel Hill City Limits
- Urban Service Boundary
- Carrboro City Limits

Potential Trail Linkage with Regional Systems and Neighboring Communities Durham Area



Connections with Town Alternative Transportation Plans

As additional land in Chapel Hill is pressured by residential and commercial growth, transportation rights-of-way expanded to accommodate road widenings and extensions, and formerly “leftover” tracts of land within subdivisions become developed, the use of sidewalks, bicycle lanes and dedicated paths as part of the overall greenway system will become increasingly important.

The role of sidewalks and bikeways as interconnecting routes within the greenway system cannot be overstated. Providing useful links of neighborhoods to parks, other neighborhoods, schools and public buildings, these connectors are fundamental to providing pedestrian and bicycle access throughout Town. The acquisition of greenway easements and construction of sidewalk and other connector paths should be closely coordinated among Town departments.

Chapel Hill produced its first Bikeway Plan in 1977 and has since developed roadside bike paths and bike lanes. The first off-road bicycle path in Chapel Hill was built parallel to Fordham Boulevard near the Rainbow Soccer fields. Phase I of the Bolin Creek Greenway, created the first multi-use, combined bicycle and pedestrian greenway in Town. Existing bikeways have been mapped in relationship with the Town’s existing and planned greenways.

In 1993, Chapel Hill, as part of the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization, adopted “The Regional Bicycle Plan for Durham and Orange Counties”. The plan presented options for bicycle connector routes throughout the area, including urban and rural bicycle routes. Connections from Chapel Hill to Durham, Research Triangle Park and Hillsborough were proposed utilizing a

combination of roadside bicycle lanes and off-road bicycle paths.

Several major trails within the Chapel Hill greenways system are planned for pedestrian as well as off-road bicycle use. Potential connections with the planned Booker Creek Greenway as well as the continued development of the Bolin Creek Greenway create the most immediate opportunities for the Town greenway system to link with Town and regional bicycle planning initiatives.

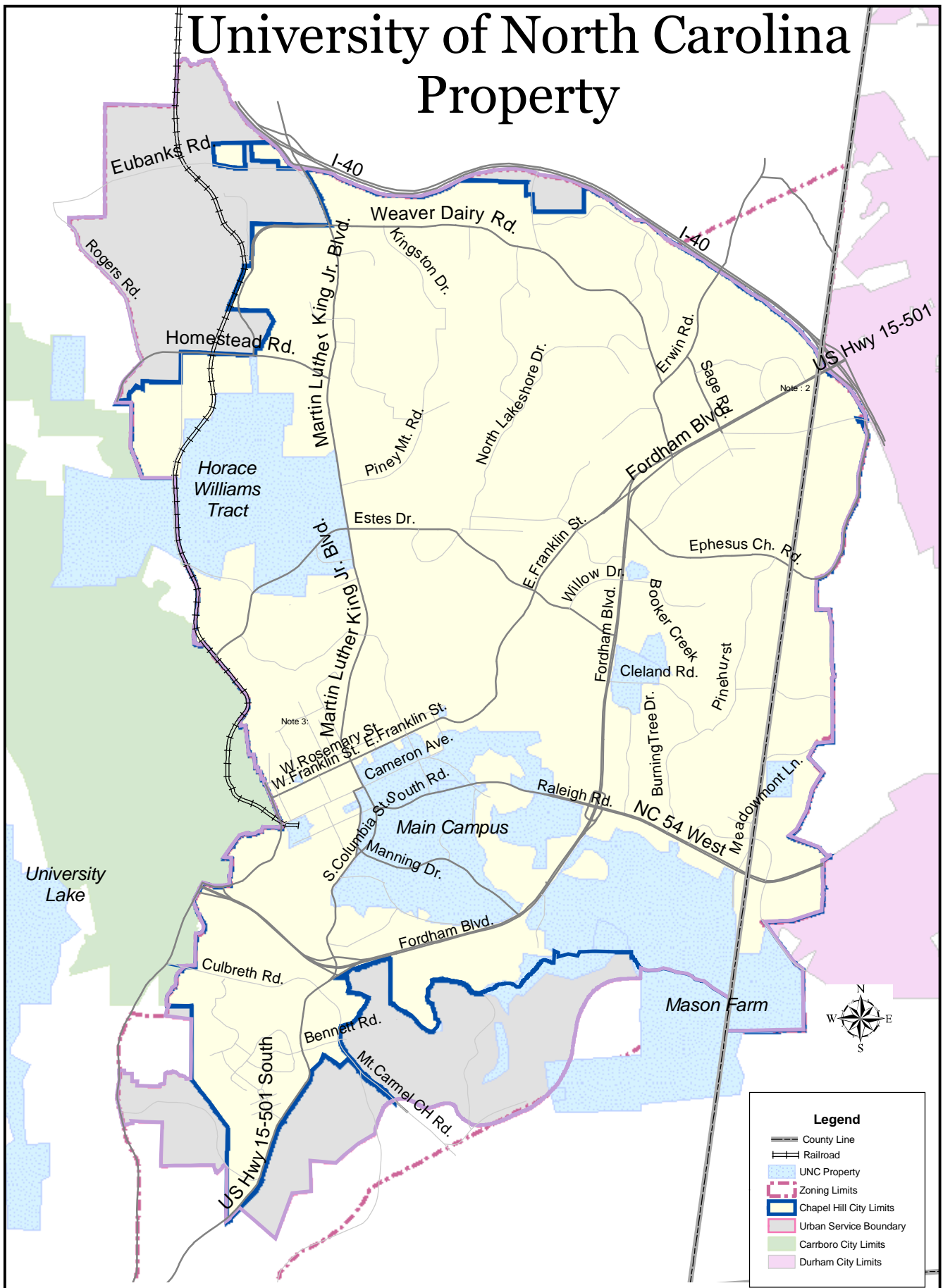
There are several specific linkages which may potentially increase connectivity among the Town’s greenways and bikeways. Future off-road pedestrian/bike paths along NC 54 could provide valuable connections between the proposed Little Creek Greenway and proposed Durham trails. (See Figure 18). Continued development of Town bikeways could present additional alternative transportation options.

The Town adopted a *Bicycle and Pedestrian Action Plan* that presents a comprehensive look at non-motorized transportation in Town. The plan includes an overview of the greenway system as well as sidewalks and bicycle facilities. It is the Town’s chief planning document for non-motorized vehicle transportation.

Cooperation with the University of North Carolina

The largest single landowner within the Chapel Hill planning district is the University of North Carolina at Chapel Hill. The University controls significant landholdings along the proposed Horace Williams Trail, Bolin Creek, Booker Creek, Morgan Creek, Chapel Creek, and Meeting of the Waters Creek corridors. Because of the tremendous amount of land involved, a complete, town-wide trail system would require cooperation with the University.

University of North Carolina Property



The University has directly cooperated with the Town on one trail project, allowing the Town to construct a bridge and a short boardwalk for the Battle Branch Trail within Battle Park.

Carolina North (formerly known as the Horace Williams Tract), Battle Park, and Mason Farm are major undeveloped tracts of University-owned land, which may present opportunities for cooperative University/Town, open space and greenway interests to be pursued.

Carolina North is proposed to be a mix of University academic and support facilities. This property appears to be the most significant University tract in relation to the construction of a unified and contiguous trail system. Failure to provide trails across this large and vital property would result in a severed transportation system. If the University provides a trail connection across the property for the Horace Williams Trail a trail of about 4.1 miles in length could be built that would link almost all of Chapel Hill from the Millhouse Road/I-40 intersection to Pinehurst Drive. Failure to secure trails across the property would result in a bisected trail system.

Battle Park currently contains the Battle Branch Trail, a class 3 trail that has served the area for over 40 years. The trail currently requires capital renovation at a minimum. Discussions have also addressed the possibility of paving the trail to serve as a transportation link to the UNC campus. The Town and the University are the two landowners that share the Battle Branch Trail. A cooperative effort should be made to first determine the level of improvements that would be suitable. Once the level of desired improvements is agreed upon the two entities should then develop a joint plan to implement improvements.

The Mason Farm property is planned to remain primarily as a biological preserve. If opportunities for trail development arise the Town should work with the University to implement trail development to serve non-motorized vehicle transportation needs.

IMPLEMENTATION POLICIES

Meshing of Goals: Land & Trails

The Chapel Hill greenways program has two ambitious goals. First, the program would preserve an extensive network of open spaces. Second, the program would provide walking and bicycling trails within some of these linear open spaces.

The public perception of a greenways program is often that of a trail building effort only. In Chapel Hill, the Town Council appointed the Greenways Commission to work toward achieving the above goals which encompass the preservation of land, water, quality of life, wildlife, and the charm of Chapel Hill as a community that lives well with the natural environment.

Trail building and land acquisition are inherently interrelated. Without adequate land, trails cannot be built. However land that deserves protection of important ecosystems may not be the best land for recreational trails. Trail building is an exciting aspect of the greenways program, and is one that requires coordination with a variety of goals set forth by the Council. Further, the greenways program will find itself in perennial competition for allocation of funds needed for park land, athletic fields and other public purposes.

Land Acquisition Procedures and Policies

A consistent approach to the acquisition of public land and easements is important for the creation and preservation of greenway corridors and connectors and the creation of urban trails. The Town should be prepared to sustain a long-range land acquisition program until the goals of the greenway program have been met.

In its efforts to acquire land and easements for greenways, open space, and trail building, the Town must deal with land availability, high land costs, and competitive bidding with private developers. Chapel Hill has one of the most expensive real estate markets in North Carolina. Land in Chapel Hill tends to be in high demand for private development, which results in premium real estate prices. These high prices tend to remain elevated even during periods of relative recession.

The Town's ability to compete for land depends on its ability to raise or maintain the cash reserves necessary to purchase key parcels of land as they come on the real estate market. If cash reserves earmarked for the purchase of land are low, the Town may not have the financial means to purchase land at the critical moment that it is available for sale. In such a case, the land may be lost to private development.

Substantial tracts of land and easements are needed to complete the greenways system. While outright purchase is the only practical method for the acquisition of some lands, many other acquisition options exist. It is fortunate that the very types of lands that are important for greenways and trail development are often considered marginal or unusable for private development. Lands needed for the Town's greenways system may be located in the Resource Conservation District (RCD), or on steep slopes. Such

lands may on occasion constitute a tax burden to some landowners. The Town may take advantage of this situation by the use of alternate land acquisition methods that could benefit the Town and the private landowner. Several important acquisition methods are listed below:

1. Fee simple Purchase

The outright purchase of property is an important method for acquiring greenway land.

2. Mandatory Dedication of Recreation Areas

The Town's Land Use Management Ordinance (LUMO) requires developers of major subdivisions to dedicate a portion of a project's dry and flat land for active recreation purposes. Greenways land may be substituted for high and dry land when appropriate. The Town has been very successful in acquiring land and protecting greenways through the provisions of the Development Ordinance (which predated the LUMO). Several creative methods of using the LUMO exist:

- A. **Payment-in-Lieu** - The LUMO contains a provision that allows payment of money in-lieu of dedication of land. Under certain conditions the Town may not desire the dedication of land on certain construction sites. In some cases the Town would be better served if money were received in-lieu of land dedication. The money received from payment-in-lieu could be used to buy land in other nearby locations or make improvements. The payment-in-lieu option outlined in the LUMO has been used in only a few isolated cases.
- B. **Off-Site Dedication** - The LUMO contains a provision that allows developers to dedicate land off-site. With this method the developer would provide land of equal value at another location. In many situations, the developer of a tract may own land that is dry, level, and entirely developable. If the property is near a park; has little or no importance as open space, greenways, or park land; or would be difficult to develop as

a park or greenway due to size or configuration constraints, it may be in the best interests of the developer and the Town to consider off-site dedication. The Town greenways program has already benefited from this method by acquiring important parcels along the Dry Creek, Bolin Creek and Tanyard Branch greenways. The Town should encourage off-site dedication when appropriate.

3. Gift

In the past, the Town has benefited greatly from gifts of land or easements. A North Carolina State tax credit is available to persons donating land to governmental agencies. Gifts should be pursued whenever possible. In some cases gifts may come with simple or extensive conditions for use of the land.

4. Exchange of Land

In some cases, it may be possible to exchange unused Town-owned land for private property or property held by other governmental agencies. In this way, the Town may be able to trade idle land for property, which is desired for open space, greenways, and parks purposes.

5. Purchase or Gift of Easement

Easements are legally recorded rights to use land in a specific way; such as the right to locate sewers, electric power lines, gas lines, roads, and other purposes. Three types of easements are of special concern to the greenways program:

- Conservation easements are usually given by landowners to prevent development.
- Pedestrian, motorized wheelchair, and non-motorized vehicle easements are granted to allow the public to walk or ride wheelchairs and bicycles across private land.

- Construction easements are usually temporary and allow access for construction activities.

It is important to realize that one form of easement does not automatically include another use. For instance, sewer easements cannot legally be used for public pedestrian purposes unless that right is specifically given to the public by the owner of the property.

The donor or seller of an easement retains title to the land, pays taxes on the property, and may use the land for any purpose not inconsistent with the use of the easement. For example, the owner of the property may not build a fence across a public pedestrian easement. Easements may be given for a specific number of years or in perpetuity. A person donating an easement may be eligible for substantial tax benefits from both the state and federal governments.

The Town has acquired many public pedestrian and non-motorized vehicle easements on various greenways segments. By acquiring easements, the Town can avoid the costly process of buying land. Easements leave the lands in private hands for private purposes, allowing the Town to continue to receive taxes on the property. Some landowners are more receptive to the idea of donating or selling easements rather than selling fee-simple title to land.

6. Reserved Life Estate

Reserved life estates are gifts of land that the donor may use until he or she dies. In most cases, donors continue to live on a tract of land until their death. Reserved life estate agreements are usually structured such that heirs may not inherit or use the property after the donor's death. This form of gift has tax benefits, but is generally used only by persons who are absolutely certain they do not wish to pass on property to relatives or friends after their death. This method has not been used in Chapel Hill as of this time; however it has been used by other governmental agencies with some degree of success.

7. Bargain Sale

In this form of sale, the owner of the property sells it at a price below market value. The lost capital gain, which is the appraised value less the sale price, is taken as a tax deduction. Persons interested in aiding the greenways program may do so and benefit from a reduction in taxes. North Carolina State tax credits can be used with bargain sales under certain conditions.

8. Rent and Leaseback

It may be possible to purchase land well in advance of its need as a park or greenway. In some cases it may be possible to lease or rent the land back to its previous owner, or another party, for use until it is needed. The activity allowed under the lease should be consistent with its future use as park or greenway. For example, several houses on the Pritchard Park property were rented after purchase by the Town. The Town should take advantage of rent or leaseback opportunities whenever possible.

9. License to Use

The Town may wish to use or protect a property for a short period of time. A license to use may provide a temporary easement until such time as the Town can raise the necessary funds to purchase the land.

10. Condemnation

The Town of Chapel Hill has the right of eminent domain by which it may condemn a piece of property or an easement if all other attempts to acquire the land have failed. This process is adversarial and requires the Town to force the owner of a property to sell against his will. The process requires that both parties submit evidence and allow the judicial system to set the price at which the land will be sold. The nature of the process makes it a difficult, time consuming, and expensive way to purchase land. The use of condemnation should be used only after all other possible solutions have proved unsuccessful.

11. Tax Foreclosures

Occasionally lands useful for open space and greenways may be foreclosed due to failure of the private landowner to pay property taxes. This method may allow the Town to purchase land at a very low price.

FINANCING THE GREENWAYS PROGRAM

The establishment, growth, and maintenance of the Chapel Hill greenways system, its land and facilities, require both capital and operational funding. The extensive program of land acquisition and development of trails proposed in this Master Plan will entail large capital investment. Operation and maintenance will require annual budgeting of additional sums. Because of the magnitude of financial resources required, no single source of funds may be adequate and participation by a variety of entities and funding sources may be required.

Traditionally, financing for greenways property, easements and trails have come from the Town's general Capital Improvement Fund, bond initiatives, grants from various State agencies and programs as well as from contributions from Town citizens. In addition to these sources, the demands placed by future building programs will require the Town to explore alternative programs and combinations of sources to meet future demands.

Current Funding for Greenways

Following are charts showing potential funding for the greenways program over the next few years. Chart 2 shows anticipated funds by category. Chart 3 shows anticipated funds by project.

CHART 2. Anticipated Greenways/Open Space Program Funds by Funding Agency (2004 - 2014)			
FUNDING AGENCY	SOURCE	PURPOSE	AMOUNT
Town of Chapel Hill	Capital Improvements Fund ¹	General Greenway Development	\$540,000
Metropolitan Planning Organization	Direct Allocation Funds ²	Dry Creek Trail (\$624,000) Morgan Creek Trail (\$720,000) Upper Booker Creek Trail (\$640,000)	\$1,984,000
Town of Chapel Hill	Open Space Bonds ³	Purchase open space property and easements	\$100,000
Town of Chapel Hill	2003 Parks Bonds ⁴	Bolin Creek Trail (\$2,308,000) Dry Creek Trail (\$289,000) Morgan Creek Trail (\$2,235,000) Upper Booker Creek Trail (\$168,000)	\$5,000,000
Orange County	2001 Parks Bonds	Bolin Creek Trail	\$1,000,000
Total Funds by Agency			\$8,624,000

¹These amounts are shown in the long range Capital Improvements Fund planning document. These amounts are preliminary and can be changed during each year's budget process. This represents \$60,000 per year for nine years.

²Direct allocation funds are currently programmed for these projects. All funding requires a 20% Town match. Town matches are anticipated to come from 2003 Parks bond funds.

³The original bond authorization was \$2,000,000. About \$1,900,000 of Open Space bonds have already been spent.

⁴The Council has agreed to a spending plan for only \$300,000 including the Bolin Creek Trail (\$100,000), Dry Creek Trail (\$125,000), and the Morgan Creek Trail (\$75,000). All other funding is preliminary and must be approved by the Council during subsequent bond sales.

CHART 3. Anticipated Greenways/Open Space Program Funds by Project (2004 - 2014)		
PROJECT	SOURCE(S)	AMOUNT
Bolin Creek Trail Phase (III)	Orange County 2001 Parks Bonds (\$1,000,000) Chapel Hill Parks Bonds (\$2,308,000)	\$3,308,000
Dry Creek Trail Phase (II)	Chapel Hill Parks Bonds (\$289,000) Metropolitan Planning Organization (\$624,000)	\$913,000
Morgan Creek Trail	Chapel Hill Parks Bonds (\$2,235,000) Metropolitan Planning Organization (\$720,000)	\$2,955,000
Upper Booker Creek Trail	Chapel Hill Parks Bonds (\$168,000) Metropolitan Planning Organization (\$640,000)	\$808,000
Open Space Acquisition ¹	Chapel Hill Open Space Bonds (\$2,000,000)	\$1,000,000
Miscellaneous Small Projects ²	Capital Improvement Program	\$540,000
Total Funds by Project		\$8,624,000

¹The original bond authorization was \$2,000,000. About \$1,900,000 of Open Space bonds have already been spent.

²CIP funds are usually used for capital maintenance, grant matches, small new trail construction, and materials for volunteers.

No-Cost Preservation of Greenway Corridors

The protection of most undeveloped greenways corridors has been accomplished at no cost to the Town because of a variety of existing development regulations. The Town has adopted regulations that limit the development of floodplain areas, steep slopes, entranceway areas, and a corridor along Interstate 40. Although this protection is not perfect, and limited development and clearing may be allowed in these areas, the degree of protection is very high considering that it is achieved at no cost to the public. As long as these regulations remain in force, the majority of the Town's greenways corridors should remain relatively protected.

If the courts, the federal government, or the State legislature take actions that weaken the Town's ability to regulate development, these lands may once again be subject to development pressures. Only a small percentage of the Town's greenways are in Town ownership or direct control. The cost to acquire them in fee simple would likely be beyond the ability of the Town.

The following protection and acquisition methods can maximize preservation of greenway corridors:

- Continue to rely on Town ordinances to protect stream corridors, steep slopes, entranceways, and the Interstate corridor.
- Use the provisions of the Land Use Management Ordinance (LUMO) to acquire greenway lands and easements wherever developments occur along identified greenways.
- Use the payment-in-lieu of recreation area provision of the Land Use Management Ordinance (LUMO) where appropriate to raise money for the purchase of greenway land and easements.

- Use of off-site dedication provisions of the Land Use Management Ordinance (LUMO) where appropriate.
- Encourage donations of land and easements.
- Trade unneeded Town land for needed easements or property.

Trail Construction Costs Paid by Others

The Town's development requirements have also contributed to the number of trails available to local residents. Most of the trails built as requirements of the development process are located on property owned by local homeowners associations. Some of these trails are or will be public. For example, the developers of the 300+ acre Southern Village and the 400+ acre Meadowmont projects constructed paved greenways suitable for bicycle traffic. These trails enhance and add value to the private developments while simultaneously adding to the public greenway system.

Low-Cost Trail Construction

Short segments of less intensively used unpaved trails and small connector paths have been implemented by volunteer groups in cooperation with the Town. In these efforts by groups such as Boy Scouts of America, the Town's obligation is typically limited to the cost of construction materials only. These initiatives are encouraged by the Town with proper coordination to assure compatibility with the Town's greenway planning goals and construction standards.

Funding Land Acquisition and Trail Construction

Existing development regulations cannot provide for all costs of trail development and land acquisition. In most cases the cost of new trail construction cannot be passed on to land developers. A trail project in an already developed area usually requires funds for land,

labor, materials, planning efforts, a citizen input process, and maintenance. At the present time most of these costs have been borne by the Town and by agencies willing to provide construction and maintenance grants.

In order to allow the trail development program to expand, different funding sources must be explored. This is especially true if additional paved trails such as the Bolin Creek Trail are to be built; but even primitive trails may have high costs associated with the need to build boardwalks or bridges.

Possible sources for trail construction and land acquisition include:

Dedicated Funding Source

The Greenways Commission has recommended that a permanent funding source be located that could be used to fund greenways land acquisition and trail construction. The Commission has recommended that a special tax be levied to fund the program. For several years the Council earmarked cell tower lease funds for the greenways program. This brought in about \$50,000 per year. In FY 2004-05 the cell tower money was diverted from the Greenways portion of the Capital Improvement Program to pay debt service on parks bonds.

General Obligation Bonds

In 2003 Chapel Hill voters approved the sale of \$5,000,000 in Parks bonds (designated by the Council for Greenway development) and \$2,000,000 in bonds for purchase of open space. These funds should allow new construction of greenways until about 2009. Open space bond funds have been largely expended.

Capital Reserve

Capital reserve funds have traditionally been used for capital repair and renovation projects and for grant matches. These funds are raised through the General Fund. The greenways program must compete for these funds with other Town capital needs including parks, sidewalks, building improvements, capital construction, and purchase of capital equipment.

Grants

The Town's major source of funding for paved trails has been through the NC Department of Transportation (NCDOT). These funds are requested through the Town's Transportation Improvement Program (TIP) each year. In addition the Town has received a NCDOT Enhancement Program grant. The Town currently has two active NCDOT projects : Booker Creek Linear Park and the Morgan Creek Trail .

The North Carolina Park and Recreation Trust Fund (PARTF) grant program is available to all counties and municipalities in the state. Annual 50% matching grants up to \$250,000 are possible for land acquisition, park and greenway projects.

Construction by Private Developers

The Town has required developers to provide trails within some large planned developments. It would be in the best interest of the Town if greenway trails proposed as part of major private developments were constructed to standards established by the NCDOT Bicycle Program and the American Association of Safety and Highway Traffic Officials (AASHTO). The trails built within the Meadowmont and Southern Village developments follow this precedent.

It should also be a goal of the Town to require a commitment for the construction of trails as part of the development plan approval process. This requirement would be similar to the current requirements that require developers to extend sewers and roads to their property lines. This method of financing construction may warrant further exploration by the Council.

Part 5

ACTION PLAN

Criteria for Land Acquisition and Trail Construction

The total acreage of easements and land needed to complete the greenway system is significant. In addition, the program projects an eventual trail program that will require construction of over 28 miles of both unpaved and paved trails to be used for recreation and transportation purposes. The needs outlined in this Plan will require a sustained land acquisition and trail construction effort that will spread the costs over many years.

The Town should look at the need to acquire open space and trails in both the developed portions of Town and in the few remaining areas anticipated to be developed in the future. There are few remaining opportunities for acquisition of large tracts of land. However, at the time of this report some opportunities remain; especially in the rural buffer and in areas within Orange County but outside the Town's jurisdiction.

Land Acquisition Priorities

At the time that this report was prepared the Town had about \$1.5 million available from an Open Space bond approval in 2003. Recommended considerations for future land acquisition are listed from highest priority to lowest priority:

1. Critical tracts in danger of immediate development.
2. Land needed to construct trails currently in the planning process.
3. Opportunities to take advantage of low prices or willing sellers.

4. Land that is developable but not in immediate danger.
5. Land in no foreseeable danger of development, but needed for the greenway system.

Trail Construction Priorities

Although the Town has acquired significant amounts of property, recreation area dedications, and easement dedications along identified greenway corridors these acquisitions have been spread out over the entire proposed greenways system. Only a few identified projects have enough land under Town control that they can be considered for potential development in the near future, without major land acquisition efforts.

In addition, only a select number of projects have any identified funding. Projects with funding are identified in Chart 3, page 82.

Projects that have significant amounts of land under Town control and some identified sources of funding include:

Bolin Creek, Phase III (Martin Luther King Jr. Blvd. to Estes Drive Extension)

- Planning started in 2004
- Construction anticipated for 2007

The Town controls much of the land from Martin Luther King Jr. Blvd. to Estes Drive Extension, although large gaps in property ownership do exist. The Town and Orange County agreed to spend at least \$1,100,000 on this project in 2004. Efforts to design a trail corridor from Martin Luther King Jr. Blvd. to Seawell School Road were started in the fall of 2004. Additional funds from the Town's 2003 Parks bond could be become available in 2006.

This project would likely be the single most difficult greenway section undertaken by the Town due to the significant physical constraints along this section of Bolin Creek. However, it is a vital link if the Town is to merge its trail system with the future trail systems of Carrboro and Orange County. In addition, this section is a vital link to the Town's own proposed Rail and North Trails. The combined Horace Williams Trail, North Trail, and Bolin Creek Trail system could eventually provide safe, efficient, bicycle and pedestrian transportation from the Town's northwest area to neighborhoods in southeast Chapel Hill. Eventually, major destinations would include a number of Town facilities and parks, UNC's Carolina North campus, and several commercial areas.

Dry Creek (East Chapel Hill High School to Eastowne)

- Planning for Project 1 completed, Project 2 underway in 2004, and Project 3 anticipated for 2006
- Construction anticipated for 2005 (Projects 1 and 2) and 2009 (Project 3)

Project 1, Erosion Control and Signage: A natural surface trail has been constructed from East Chapel Hill High School to Perry Creek Road. The section from the school to San Juan Drive has almost disappeared from lack of use. Use is limited because of severe erosion problems on the school property. This project is funded and should be under contract by the spring of 2005. Once the erosion is corrected the trail will be reclaimed and signed.

Project 2, Bridge over Dry Creek: This project is funded and design is underway. Construction is anticipated in 2005. This involves about 1,000 feet of gravel trail and a bicycle/pedestrian trail over Dry Creek. Once the bridge is installed volunteers will be solicited to build a series of natural series trails throughout the open space.

Project 3, Improved Trail from Perry Creek Road to Eastowne: The Town owns all of the properties needed to build these proposed trails with the possible exception of an exit onto a public street in Eastowne. Design should start in 2006 with construction possible in 2009.

Fan Branch (Scroggs School to Dogwood Acres Drive)

- Planning underway in 2004
- Construction anticipated for 2005

Construction of the Southern Community Park could allow extension of the existing Fan Branch Trail to Dogwood Acres Drive.

Morgan Creek (Merritt Pasture to Smith Level Road)

- Planning underway in 2004
- Construction anticipated in 2007

This would be an extension of the existing Fan Branch Trail, which currently ends at Culbreth Road. The main trail would extend about 1 mile to the west along Morgan Creek as a paved bicycle compatible trail. The trail would terminate at Smith Level Road. A natural surface spur trail would extend to the east to Merritt Pasture.

At the time this report was prepared the Town was in the process of planning for the project. In late 2004 the Town started a flood model exercise that should determine bridge locations and allow completion of a concept plan. The Town has acquired most of the land needed to complete this greenway segment.

Upper Booker Creek (Weaver Dairy Road to Homestead Park with a spur to Horace Williams Trail corridor)

- Planning anticipated for 2006
- Construction anticipated for 2011

The Town owns all of the properties needed to build these trails. The main trail would extend from Homestead Park's existing internal trail system north along Booker Creek to near Weaver Dairy Road. A spur trail would be constructed through the Parkside development to Weaver Dairy Road near the future Horace Williams Trail corridor.

The Greenways Program projects an eventual trail program that will require construction of over 28 miles of both unpaved and paved trails to be used for recreation and transportation purposes.

Part 6

MAINTENANCE & OPERATIONAL POLICIES

Maintenance

A cornerstone of a successful greenway trails program is the implementation of an effective maintenance program. Patrons expect a safe and aesthetically pleasing trail environment. As trail sections are built, Town residents will be watching the success of the maintenance program to determine if they will welcome trails in their own neighborhoods. Poorly maintained trails may endanger the expansion of the greenways trail system into new areas. Well-used and well-maintained trails, on the other hand, may become their best promoters.

The Parks and Recreation Department works with other Town Departments to ensure that the Town's parks, open spaces, and greenways are maintained in a safe and aesthetically pleasing condition. Maintenance should be performed in a manner that enhances the use of the land, maintains its appearance, and promotes the enjoyment and positive aspects of outdoor recreational activity.

The maintenance program should strive to attain the following goals.

1. Maintain Paved Trail Surfaces.

Trail surfaces on paved trails should be kept free of litter and debris. Cracked pavement should be repaired immediately. Paved surfaces should ideally be patrolled daily for litter pickup in order to keep the trail surface safe for bicycles and wheelchairs.

2. Maintain Natural Trail Surfaces.

Maintenance of natural trail surfaces should target removal of dangerous conditions and litter and the prevention of erosion. Ideally, routine maintenance inspections for natural surface trails should occur once a week.

Uneven trail surfaces are to be expected on these trails.

3. Keep Trails Litter Free.

Maintenance should include pickup of litter visible within 100 feet of the actual trail.

4. Maintain Trail Amenities.

All trail amenities such as bridges, picnic facilities, signs, steps, benches, and other items should continue to be inspected and repaired on a regular schedule.

5. Practice Preventative Maintenance.

Preventative maintenance should be emphasized in order to prevent future erosion problems, fallen trees, and other foreseeable problems.

6. Solicit Neighborhood Assistance.

Neighborhood adopt-a-park programs should be used whenever possible. Such programs can range from simple reporting of problems to the undertaking of heavy maintenance and repair functions. Recognition of persons involved in adopt-a-park activities should be acknowledged within the framework of the Parks & Recreation Department's volunteer recognition program.

7. Develop Community Support.

Community wide events can be organized for the purpose of large scale cleanups or light construction work. This type of project is especially useful on new trail segments. This type of program has been successfully used on both the Battle Branch and Tanyard Branch Trails.

Neighborhood Trails Program

The Town should construct new trails only at such time as it is able to provide an adequate maintenance program for each addition to the expanding trail system. If residents of a

neighborhood ask for construction of a new trail that the Town cannot properly maintain, the use of a formal Adopt-a-Greenway program should be utilized. The Town should work with Homeowners Associations, environmental organizations, Boy and Girl Scouts of America and other groups to utilize the efforts and talents of local residents in the construction and maintenance of trails. These agreements should be formal and clearly describe who is responsible for construction, maintenance schedules, and types of maintenance.

The Engineering Department currently conducts regular citizen stream clean-ups through its Adopt-a-Stream program.

Citizen Participation in the Greenways Program

The potential for a successful trail program is likely to be enhanced when citizens can assume a degree of ownership of individual trail projects through their participation in the planning process. Mechanisms for public participation in recreation planning have long been an integral part of the planning of Chapel Hill parks and greenways projects.

Each aspect of the greenways program demands a different degree and type of citizen input. The following methods of participation should continue to be encouraged:

Greenways Commission

The Commission provides a forum for direct citizen representation on matters of policy. Citizens appointed to the Greenways Commission make recommendations to the Town Council, other Boards and staff on a wide range of issues. Citizens not appointed to the Commission can also use the Commission meetings as a forum to present petitions, ideas and concerns.

Parks & Recreation Commission

This Commission advises the Council, Town manager and Parks & Recreation Department staff on all issues pertaining to community recreation. The Parks & Recreation Commission may work in concert with the Greenways Commission on certain projects.

Public Forums

This form of public input should be used in most trail planning and construction programs. Neighbors and other individuals affected by the presence of the proposed trail should be encouraged to comment in the presence of Town citizens, Greenways Commission members, and staff. Meeting formats should be designed to encourage citizens to participate in the planning process.

In most cases, at least two public meetings should be held during the planning of each proposed greenway trail. Public forums should be publicly advertised in order to attract a range of community interests. The purpose of holding public forums is to provide citizens with information and opportunities for input throughout the planning process.

Neighbors who own property close to the proposed trail could be invited to a series of smaller meetings in order to discuss details of the project. These meetings should cover such topics as landscaping, grading, removal of trees, selection of building materials and other issues pertinent to persons living close to the trail.

Concept Plan Advisory Committee

Once a decision has been made to develop a particular trail, it may be appropriate to enlist persons affected by the project to help with the planning phase. This type of public involvement can allow proponents and opponents of a trail to actively participate in the decision making process. Possible members of an Advisory Committee could include:

- Greenways Commission
- nearby residents

- property owners
- representatives of utility companies
- Town staff
- representatives of funding agencies

Promotion of Greenways

Promote public involvement in the greenway corridors to assure their conservation and to create expanding support for upgrading trail development and public use. Various means might include hiking events, trail clean-up and volunteer work days, Adopt-a Greenway programs and the publication of promotional brochures

Interagency / Regional Cooperation

Neighboring Municipalities

By its nature, the greenways concept cannot be easily contained within the jurisdiction of any single local government. Greenways tend to follow natural features such as waterways or ridges which often continue undistinguished by the political jurisdiction it occupies. In order to fully serve the citizens of Chapel Hill, it will become increasingly necessary for the Town to work closely with neighboring governmental agencies and political bodies to achieve common goals whenever possible.

It is critical for the long-term success of the Chapel Hill Greenways system to be an engaged partner in regional trail and open space initiatives. Currently, Orange County, the City of Durham, Durham County and the Town of Chapel Hill are involved in a cooperative project which may lead to preservation of the New Hope Corridor. The Chapel Hill Town Council has adopted the New Hope Corridor Task Force Report which envisions a cooperative effort among all four jurisdictions. See page ?? for further details.

Orange County government has provided funds from its 2001 Parks Bond for greenway projects that link communities within the county. Funds were used to purchase a vital piece of property along Bolin Creek within Carrboro's jurisdiction. In addition the Board of Orange County Commissioners has agreed to use \$1,000,000 from the same bond for the Bolin Creek Trail in Chapel Hill.

Other projects may be possible in the future. As other nearby jurisdictions become involved in greenways projects, the Town should work closely with them to ensure that projects can be merged to the benefit of all parties.

Orange Water and Sewer Authority

Land utilized for Orange Water and Sewer Authority (OWASA) sewer easements may sometimes be jointly used for Town greenways. The Town and OWASA have cooperated in both the planning and implementation of trails such as Phase I and II of the Bolin Creek greenway and the Lower Booker Creek greenway. The acquisition of greenway easements allowing public access and trail construction within streamside sewer easements should be closely coordinated whenever such opportunities exist.

Environmental Organizations

The Town should also work closely with other organizations supportive of the greenways program such as the Friends of Bolin Creek, Morgan Creek Alliance, Sierra Club, Triangle Land Conservancy, NC Botanical Garden, Triangle Rails to Trails Conservancy and the Triangle Greenways Council to identify greenway corridors of mutual interest and to ensure the timely acquisition of these corridors.

Security

Since the inception of the Town's greenway program in 1985, the Chapel Hill Police Department has reported sporadic incidences on dedicated trails. Reported incidents have primarily been related to non-violent sexual

assault (indecent exposure, assault by unwanted touching, and women being followed). There have also been several incidents which resulted in minor loss of property but no personal injury. Reported complaints to the Parks and Recreation Department are typically limited to the presence of dogs on pedestrian trails and vandalism. Experiences in Chapel Hill and in other communities indicate that most security problems related to greenways tend to be infrequent and non-violent.

The Town should address greenway security in two ways, through active patrol of trails and by enforcement of trail use ordinances. Regular active patrol of the trail system should enhance a sense of security to users and to citizens with property adjacent to the greenway corridor. The Town of Chapel Hill Code of Ordinances addresses a variety of issues related to security and regulation of the Town's greenway trails.

Communication with other greenway communities in North Carolina such as Raleigh, Charlotte, Durham and Cary, indicates that frequent and active use of a trail tends to decrease the number of crimes while causing an increase in relatively minor incidents such as littering, mountain bicycle infractions, and speeding on trails. The effectiveness of this "protection-by-use" approach can be enhanced by including trails in citizens watch programs.

Town maintenance crews can be an important component in the security system. Maintenance crews are frequently assigned to work along various trails, and are the Town employees most likely to view violations of the law. In addition, they are the persons most likely to offer initial assistance to citizens in need.

A well-maintained trail may discourage persons intent upon minor and major infractions of the law, and may give users a sense that the area is well-used and safe.

Mechanisms for public participation in recreation planning have long been an integral part of the planning of Chapel Hill parks and greenways projects. The following methods of participation should continue to be encouraged: Greenways Commission, Parks & Recreation Commission, Public Forums, and the Concept Plan Advisory Committee.

Part 7

DESIGN STANDARDS & GUIDELINES

The Design Standards and Guidelines section of the Master Plan provides a set of parameters for implementing a consistent physical character for Chapel Hill greenway system.

The guidelines address the following design issues:

- Corridor Width Guidelines
- Trail Classifications
- Special Trail Needs
- Trail Locations
- Trail Amenities
- Parking Areas
- Accessibility
- Naming Trails
- Signage

Greenway design standards and guidelines can help elected officials, advisory board members, and staff make decisions involving the expenditure of public funds and the enhancement of public safety. Decisions related to amounts of land or easements to be purchased, the types of trails to construct, and the location of trails can be facilitated by incorporating standards and guidelines in the greenways planning and decision-making process.

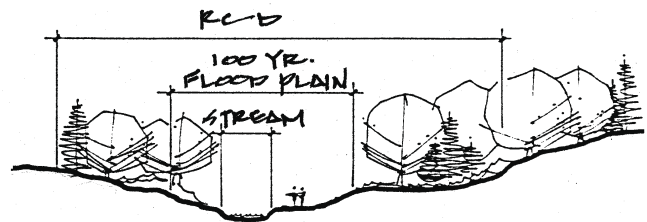
Corridor Width Guidelines

Greenway corridors in Chapel Hill vary in width according to the topography of the area, the amount of existing development, the existence of significant biological areas, and patterns of property ownership. The following guidelines are intended to balance the needs to preserve greenway corridors and connectors, provide enough land for trails when appropriate, and to provide privacy for existing residences.

The Town should make reasonable attempts to protect the following greenway corridors by restricting development, requiring greenway dedications, and purchasing land or easements.

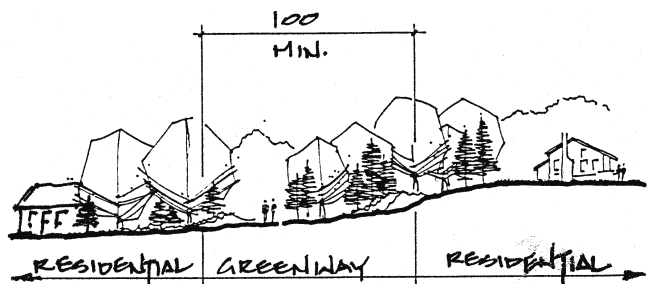
Stream Corridors:

Stream corridors may vary in width depending on the stream and the site specific characteristics of the land itself. Corridor widths should generally be as wide as can be acquired to help assure the privacy of adjacent property owners and the environmental quality of the site. Several factors which often contribute to increased corridor widths of stream-associated greenways include adjacent sanitary sewer easements, 100-year floodplain land and areas within the Town's Resource Conservation District.



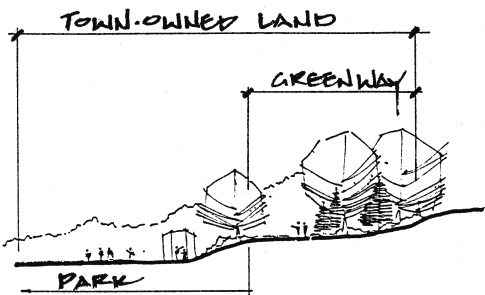
Connector Trails:

Greenway connectors not located along streams should be a minimum of 100 feet in width, if possible. This width should allow for sufficient buffering between neighborhoods, placement of trails, and adequate area for the free movement of wildlife. Smaller corridor widths, however, may be necessary in order to create trail connections between lots in subdivisions.



Greenways as Parks:

Wider greenways may be needed if the land is to be developed as a park. Parks require more land than is typically acquired for a linear greenway. Parks and greenways can share the same land, although the needs of the park may require additional lands outside of the greenway corridor.

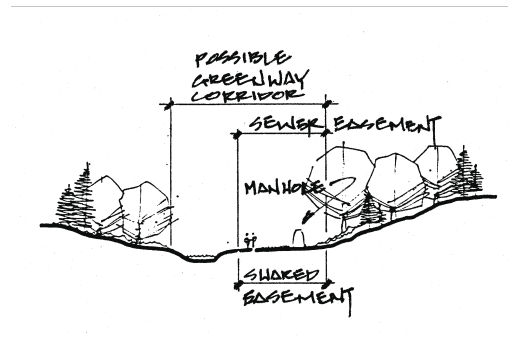


Developed Areas:

Greenway corridors or connectors should not be used for trails within areas that are currently developed if placement of a greenway trail would severely impact the privacy of existing residences. An exception would include areas where approval of the development foresaw the construction of a trail. An example is the Parkside II neighborhood where a connector trail corridor was preserved relatively close to homes. In this case the planning and land acquisition was complete prior to the construction of the first home.

Utility Easements:

Pedestrian and non-motorized vehicle easements should be coupled with utility easements when possible.

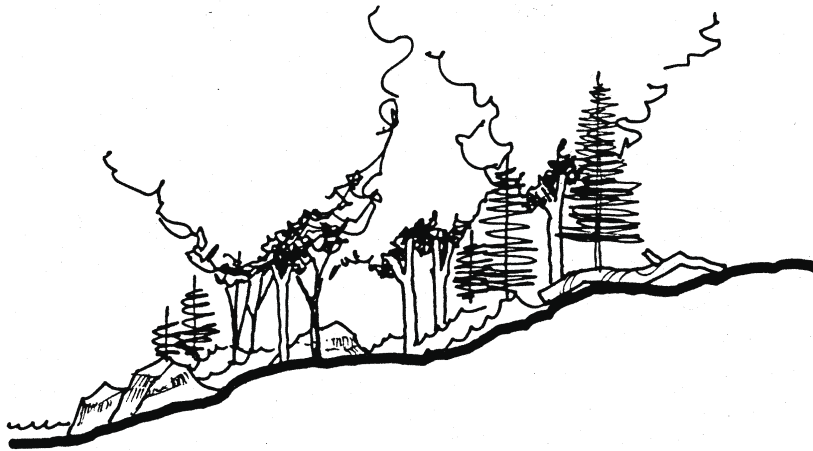


Trail Classifications

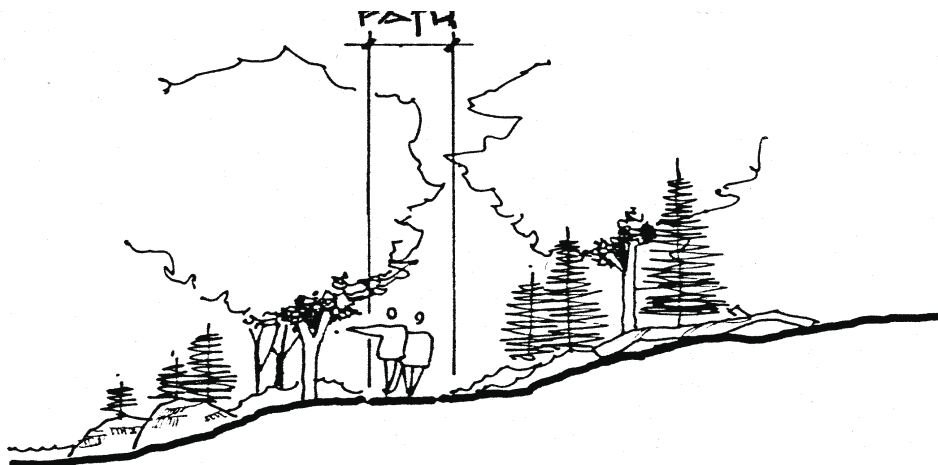
Trails proposed within the Chapel Hill Greenway System can range from primitive woodland paths designed for low intensity pedestrian travel to paved bike paths designed for bicycle and wheelchair use.

The following class system identifies different levels of trail development that were assigned to greenway segments in Part 4, “Strategic Planning”. Essentially, it is a 6-level hierarchy of trail development ranging from unimproved greenways to paved trails of varying widths to accommodate different trail uses and intensity of use.

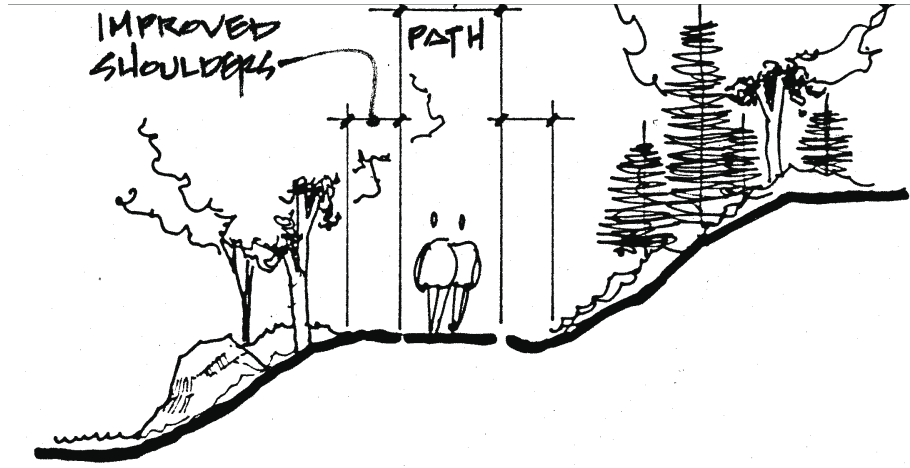
Class 1 Unimproved greenways lacking trails. No maintenance unless problems such as diseased or dying trees on Town-owned greenways that affect neighboring properties.



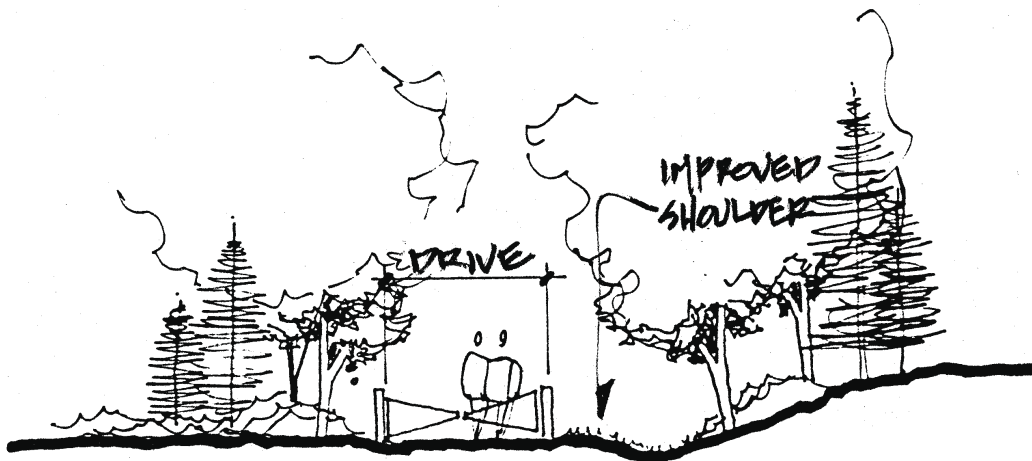
Class 2 Primitive trails created by wildlife or citizens, not maintained by the Town.



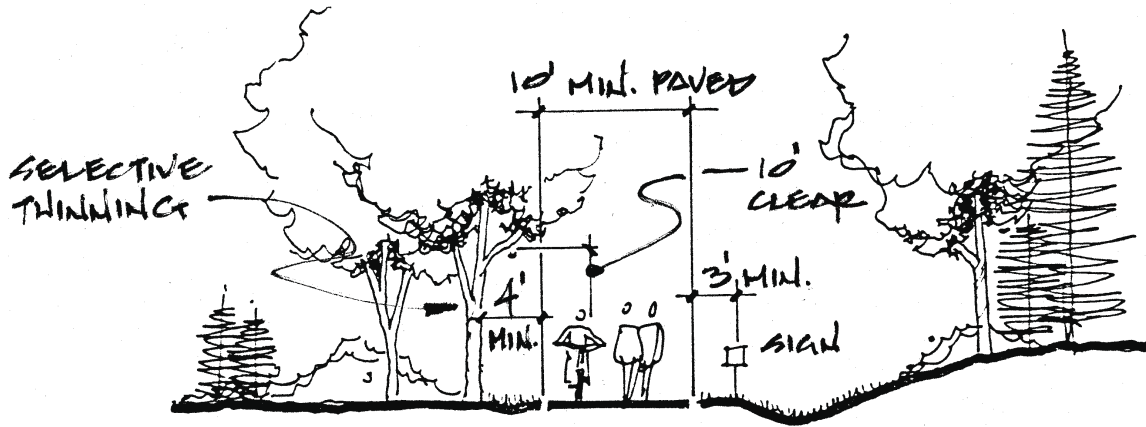
Class 3 Improved woodland trails generally with soft surface and minimal improvements. Width is generally 1.5 - 4 feet. Surface is typically natural, but may have gravel or boardwalk sections to address erosion problems and wet areas. An important goal of the soft surface trails is to safely accommodate mountain bicycles. Specific trail design should address erosion problems likely to result from mountain bicycle use. Maintenance typically includes removal of litter, removal of fallen tree limbs and trees, repair of erosion damage, and bridging of wet areas.



Class 4 Unpaved access drive with gates or bollards to prevent casual vehicle use. Suitable for pedestrians or mountain bicycle use. This class is usually a road built for other purposes and used as a trail.



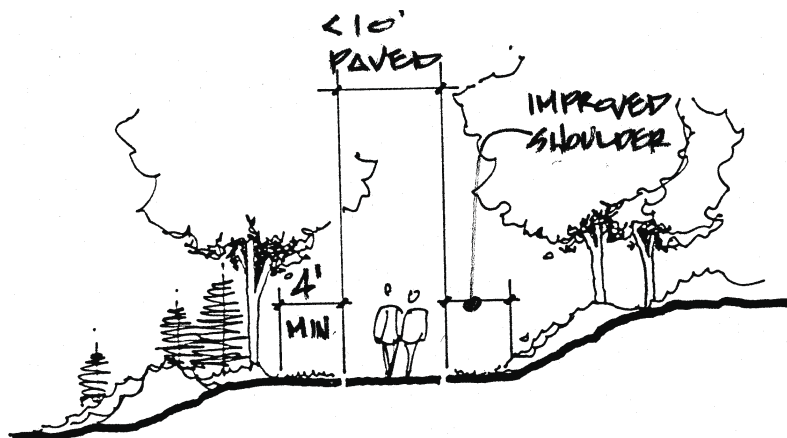
Class 5 Paved trail less than 10 feet wide. This class of trail can be used to improve short sections of Class 3-4 trail suffering from severe erosion problems. This class can also be used for pedestrian or bicycle only trails which are signed against other uses. However, in situations of difficult terrain, this class of trail can be employed for pedestrian and bicycle use, but only if signage is displayed to warn users of possible conflicts.



Class 6 Paved trail 10 feet in width or wider for mixed bicycle and pedestrian traffic. Short sections may be less than 10 feet wide if difficult construction problems exist, however these should be well signed with adequate sight-distance in order to assure the safety of trail users.

The Town's goal for all its paved trails is to be compliant with American Association of State Highway and Transportation Officials (AASHTO) and Americans with Disabilities Act (ADA) standards as much as is practicable. All Class 6 trails should be designed and constructed to the standards for off-road bicycle trails as published in the AASHTO "Guide for the Development of Bicycle Facilities" and the North Carolina Department of Transportation's, "Bicycle Facilities Planning and Design Guidelines". The editions of these publications which are current at the time of trail construction should be used by the planning team. These guidelines address design standards for trail alignment, design speeds, paving widths and clearances, slope restrictions, bridge structures and safety railings.

Class 6 trails should be designed to comply with ADA standards where possible. In attempting to provide access to the greatest extent possible for the greatest number of people, the Town's Class 6 greenways will allow handicap, elderly and very young users to more fully utilize the trails.



Special Trail Needs

There are some special trail needs that may be considered by the Town for various reasons. Some uses such as hiking and mountain bicycling may not be compatible on the same trail. Specialty trail needs should be addressed if funds, land, and public support are assured. Examples of special trail needs are listed below:

Mountain Bicycle Use

Class 3-4 trails should be designed for the use of mountain bicycles whenever possible. The extent of possible environmental damage by bicycle users should be considered on every project. Mountain bicycle use may have to be curtailed on occasion to allow natural regeneration of heavily eroded trails. Signs should be placed at all Class 3 and 4 trailheads requesting mountain bicycle users to yield to pedestrians and to refrain from using the trails in wet conditions.

Sidewalks and Public Streets

In some cases, trail connections will be on sidewalks and along public streets. In the event that off-street bicycle paths merge onto streets, provide appropriate signage and pavement markings to help safe merging. The provision of designated bicycle lanes is desirable. Where a public street provides a link in a pedestrian path, sidewalks should be provided where possible.

Interpretive Trails

Trails can meet many different needs including education. Many trails can be converted to dual recreational/educational use by placing interpretive signs and stations along the pathway. Interpretive signage may identify or provide explanations of special natural features, geographic, historic or other points of interest. Interpretive trails should not be built in conjunction with trails that are anticipated to have moderate to heavy bicycle traffic.

Measured Trails

Many individuals enjoy recreational walking and running. It is possible to measure sections of trails and to mark them for persons wishing to monitor their mileage. This type of activity is suitable on most trails, although, for fitness walking, the path surface should be relatively stable and free of obstacles.

Trail Locations

The location of trails within greenway corridors is of vital importance to greenways planners, trail users, and the citizens who must live and work in the vicinity of these trails. Greenway planners should consider the following trail location guidelines:

1. Trails should generally be located as far from residential structures as is reasonable in order to preserve privacy of nearby residents and the experience of trail users.
2. Trails of Class 5 or higher should be located no closer than 25 feet from any perennial stream bank unless absolutely necessary and no other practical location for the trail exists. Trails should be located further than 25 feet from streams if there is evidence that stream banks are eroding.
3. Stream crossings should be avoided when possible.
4. Trails should be located to ensure that minimum disruption of the trail would result from the repair or replacement of utilities.
5. Street crossings should be grade separated if possible. At grade, street crossings should be planned so that trail and road users have the greatest sight distance possible.

Trail Amenities

Certain amenities may be planned to provide for the comfort and safety of trail users and area residents. The Town may provide the following amenities within greenway corridors:

Bollards

These devices prevent automobiles from driving on greenway trails. Bollards are commonly used on trails of Class 5 or higher. Bollards should be locked so that emergency vehicles, police cars, and maintenance vehicles have access to the trail.

The current standard for a locking bollard is one with a recessed three-sided hydrant nut that can be opened with a hydrant wrench.

Observation Decks

Observation decks can be built overlooking scenic areas. These structures should not be built within floodplains, in places where they may compromise the privacy of nearby residents, or in areas not readily accessible to maintenance vehicles.

Gazebos

These small structures can be provided to allow trail users to enjoy passive recreation activities such as resting, picnicking, or reading. These structures should not be built within floodplains, in places where they may endanger the privacy of nearby residents, or in areas not readily accessible to maintenance vehicles.

Picnic Tables

Picnic tables can be located along greenway trails, however past experience has found that these amenities should not be placed at random. Picnic tables are more likely to be used when placed in conjunction with some other attraction such as a play area. These structures should not be built in places where they may compromise the privacy of nearby residents, or in areas not readily accessible to

maintenance vehicles. Picnic tables should always be accompanied with litter receptacles.

Benches

Many potential users of greenway trails are elderly or physically challenged. Benches should be placed where needed throughout the greenway trail corridor. Special care should be taken to place benches at the top of steep sections of trail.

Parking Areas

Although one of the primary purposes of greenways trails is that of providing non-motorized transportation, many individuals will use the trails for purely recreational purposes. In order to accommodate recreational users, provision of small parking areas should be a goal and should be pursued when possible. In many cases, existing parking lots within Town parks can be used.

Accessibility

The design of greenway facilities and trail amenities should provide accessibility in accordance with the American with Disabilities Act (ADA) standards to the greatest degree practicable. Many trails, however, will not be wheelchair accessible due to the constraints of existing terrain or due to the nature of soft, natural surfacing. The design process for each trail should address the priority of accessibility and provide the appropriate accommodations.

Naming Trails

Greenway corridors and trails should be named after the most prominent natural, or in some cases, man-made features in the immediate area of the trail. Trails located along streams should be named after those watercourses. In the event that non-contiguous sections of the same trail are developed it may be necessary to adopt temporary names for trail sections. As the links are joined,

the temporary names can be abandoned. Procedures set by the Council should be followed prior to naming or dedicating a trail or greenway corridor for an individual.

Signage

A coordinated and consistent signage program is important to the safety and aesthetics of Chapel Hill's greenway system. Signs serve to identify trails, orient the greenway user and assist in way finding, but also have a great collective impact on the overall visual quality of the greenway system.

Signage should be used in a consistent, selective and strategic manner so as not to clutter nor dominate the visual character of the greenway. Signs are generally to be small and unobtrusive.

Entrance Signage

Main entrance signs marking points of entry to each greenway should identify the name of the trail and display the Chapel Hill greenways program logo. The main entrance sign should be consistent in color throughout the Town system and should be constructed of a wood relief panel, wall-mounted, or attached to wood or recycled material posts.

Additional signs located at the entrances should inform users of several key facts: where the trail ends, the distance to the end of the trail, and what activities are not permitted while using the trail. Signs marking Town greenways may not be placed on University of North Carolina property.

Informational and Directional Signage

Signs located along the course of the trail should inform users of the locations of side trails, interesting features, proper direction of travel should confusing options occur, and in the case of paved trails, directions for safe trail use.

Informational and directional signs at pedestrian-only trails may be of wood panel construction mounted on wood or recycled material posts. Signs should be located at significant decision points and positioned to provide a clear line-of-sight from the point of desired reading, free from obstructions.

Bicycle Routes

Paved Class 6 trails designed for multiple uses will generally require more signage than pedestrian-only trails. These signs are used in the same manner as vehicular signage, but should be down-sized to remain in scale with the greenway. These signs are typically constructed of metal panel and placed on wood or recycled material posts.

Adequate signs and markings are essential to alert pedestrians and bicyclists to potential hazards and convey regulatory messages to vehicles at greenway crossings. Signs and pavement markings at Class 6 multi-use trails should follow the guidelines published in the "Manual of Uniform Traffic Control Devices" (MUTCD).

Trails proposed within the Chapel Hill Greenway System can range from primitive woodland paths designed for low intensity pedestrian travel to paved bike paths designed for bicycle and wheelchair use.

Part 8

CONCLUSION

Adoption of the Master Plan

The adoption of this Comprehensive Greenways Master Plan completes a process which has provided opportunities for comment and has assimilated input from a variety of sources including citizens, professional staff, Advisory Board and Greenways Commission members and the Town Council. Opportunities for citizen participation have been frequent. Several different methods of gauging public sentiment have been used, including informal meetings and formal public hearings.

The adoption of this Plan and its recommendations reflect the broad sense of participation and ownership the Chapel Hill community has with its greenway system. This positive endorsement will help ensure that the program remains a priority for its continued development and improvement.

Review and Update of the Plan

Implementation of a master plan, by definition, is a long-term process. Over the next several decades and beyond, the Town will experience an almost constant need to adapt to growth and change. Public objectives, local situations and funding opportunities are constantly in flux. In order to accommodate such changes, the Comprehensive Greenways Master Plan should be viewed as a working document. The Town should update it approximately every five to ten years to ensure the continued improvement and enhancement of the Chapel Hill Greenway System.