

Durham
Trails and Greenways
Master Plan



2011



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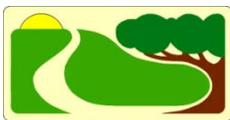
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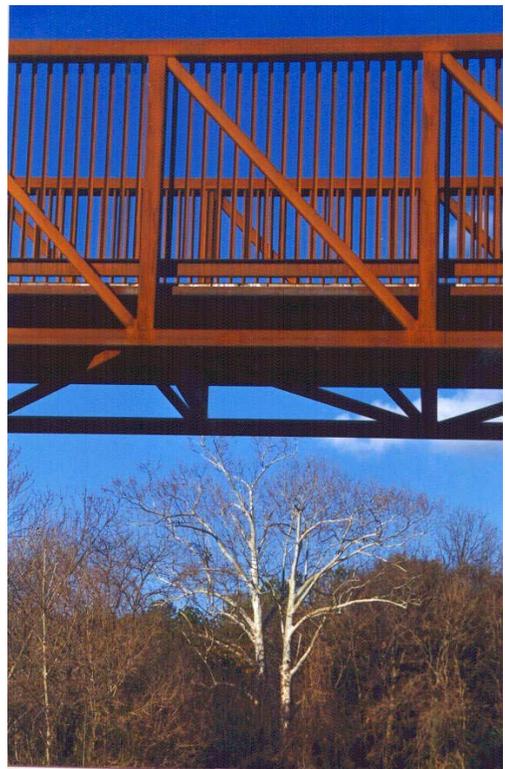
Mike Woodard



The Durham County Board of Commissioners initially adopted the Durham Trails and Greenways Master Plan on June 11, 2001 and the Durham City Council initially adopted the Durham Trails and Greenways Master Plan on September 17, 2001.

This update of the Durham Trails and Greenways Plan was adopted by the Durham County Board of Commissioners on December 12, 2011, and by the Durham City Council on December 5, 2011.

Durham Trails and Greenways Master Plan



Updated 2011

Durham City-County Planning Department

Contents

I.	The Greenways and Trails.....	7
A.	The Plan Maps.....	7
B.	The Trails.....	27
C.	Trail Route Selection.....	27
II.	Goals and Implementation	33
A.	Goals and Policies	33
B.	Priorities for Development	37
C.	Implementation	43
III.	Standards	51
A.	Types of Greenways and Trails in the System	51
B.	Trail and Greenway Names.....	54
C.	Trail and Greenway Standards.....	56
D.	Maintenance and Management	62

Maps

Map 1,	Trails and Greenways System-wide Map	9
Map 2,	Location of Greenways, Index 1	10
Map 3,	Location of Greenways, Index 2	11
Map 4,	Rocky Creek/Pearsonstown Greenway.....	12
Map 5,	New Hope Greenway.....	13
Map 6,	Lick Creek Greenway	14
Map 7,	Little River Greenway	15
Map 8,	Crooked Creek Greenway.....	16
Map 9,	North/South Greenway, Southern Section	17
Map 10,	North/South Greenway, Northern Section	18
Map 11,	Roxboro Rail-Trail Greenway, North Section	19
Map 12,	Roxboro Rail-Trail Greenway, South Section.....	20
Map 13,	Eno River Greenway	21
Map 14,	Little Lick Creek Greenway	22
Map 15,	American Tobacco Trail Greenway.....	23
Map 16,	Northeast Creek Greenway	24
Map 17,	Page Branch Creek Trail.....	25
Map 18,	Regional, State and National Trails in Durham.....	26

Contents Explained

Durham Trails and Greenways Master Plan

Section I, Plan Maps

The Master Plan contains maps showing the location of existing and proposed trail facilities around the City and County. It also contains a comprehensive listing of all the trails in each greenway and their status at the time of Plan adoption.

Section II, Goals and Implementation

The Master Plan includes goals, policies, and recommendations for developing the trails and greenways system.

Section III, Standards

The Master Plan includes standards for how trails should be designed and built, how and what they are named, and how they are managed and maintained.

Under Separate Cover

Durham Trails and Greenways Master Plan

Appendices

Appendix A, Connections and Constraints

The appendix on Connections and Constraints explains what local plans and regulations impact the way trails are developed and what state and federal regulations must be addressed. It also provides information on connections between the Durham system and other regional trail systems.

Appendix B, Durham Greenway History

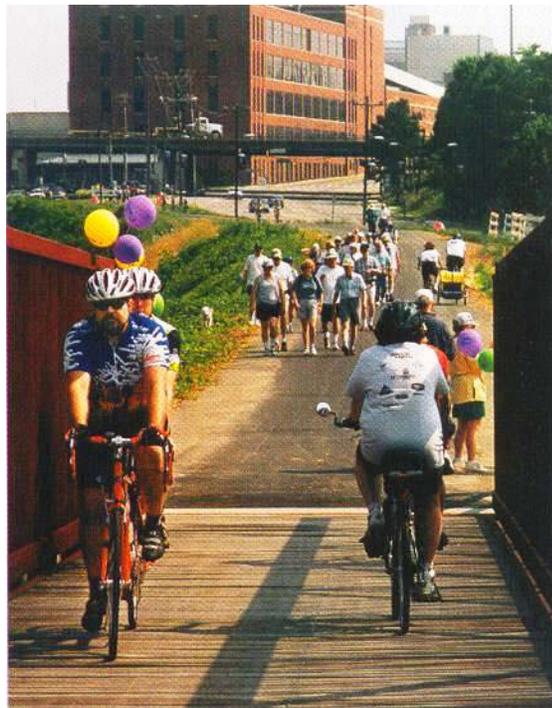
The appendix on Durham Greenway History offers a look at Durham's original greenways plan from 1988, what that original plan has accomplished, other adopted plans that discuss greenways and trails, and how citizens have energized the work over the years.

Appendix C, Historical Documents

The final appendix provides the texts of some original documents that have been crucial to the growth of the trails and greenway program in Durham.

“Everything is connected to everything else.”

Aldo Leopold



I. The Trails and Greenways

The Durham Trails and Greenways Master Plan is a guide to the development of a comprehensive trail system in Durham. The Plan contains policies that guide how trails should be developed. It depicts a series of greenways and trails in and around major stream corridors in the City and County. It also shows the individual trails and how they interconnect with each other and serve various important destinations, like schools and parks. Since the maps showing the location of the trails in the community are the most sought after components of the Plan, they are shown near the beginning of the document.

The document is divided into two sections. The first is the policy guide with Recommendations, Goals and Implementations. The second is a set of appendices that gives some history with a few updates of how Durham's trails have evolved.

A. The Plan Maps

The first three maps are the key for the trail route maps that follow. The first map shows the countywide trails system. The second and third provide an index to locate particular greenways. Maps 4 through 17 display the trails within a particular greenway system, and indicate whether those trails are built, under construction, or proposed. Street trails are also shown on the maps as connectors between greenway trails. All trail routes are described in Table 1, Greenways and Trails, which is located after the Plan Maps.

Map 18 shows regional, state, and national trails through Durham County. These trails follow a combination of the routes of local trails indicated on the earlier maps. Their points of entry into and exit from the County are also indicated. Exact on-ground location of the future trail routes indicated on these maps will be determined at the time of land acquisition and construction design. The City Department of Parks and Recreation produces maps for trail users that include the most current information on trail status, trail head locations, parking, and facilities.

B. The Trails

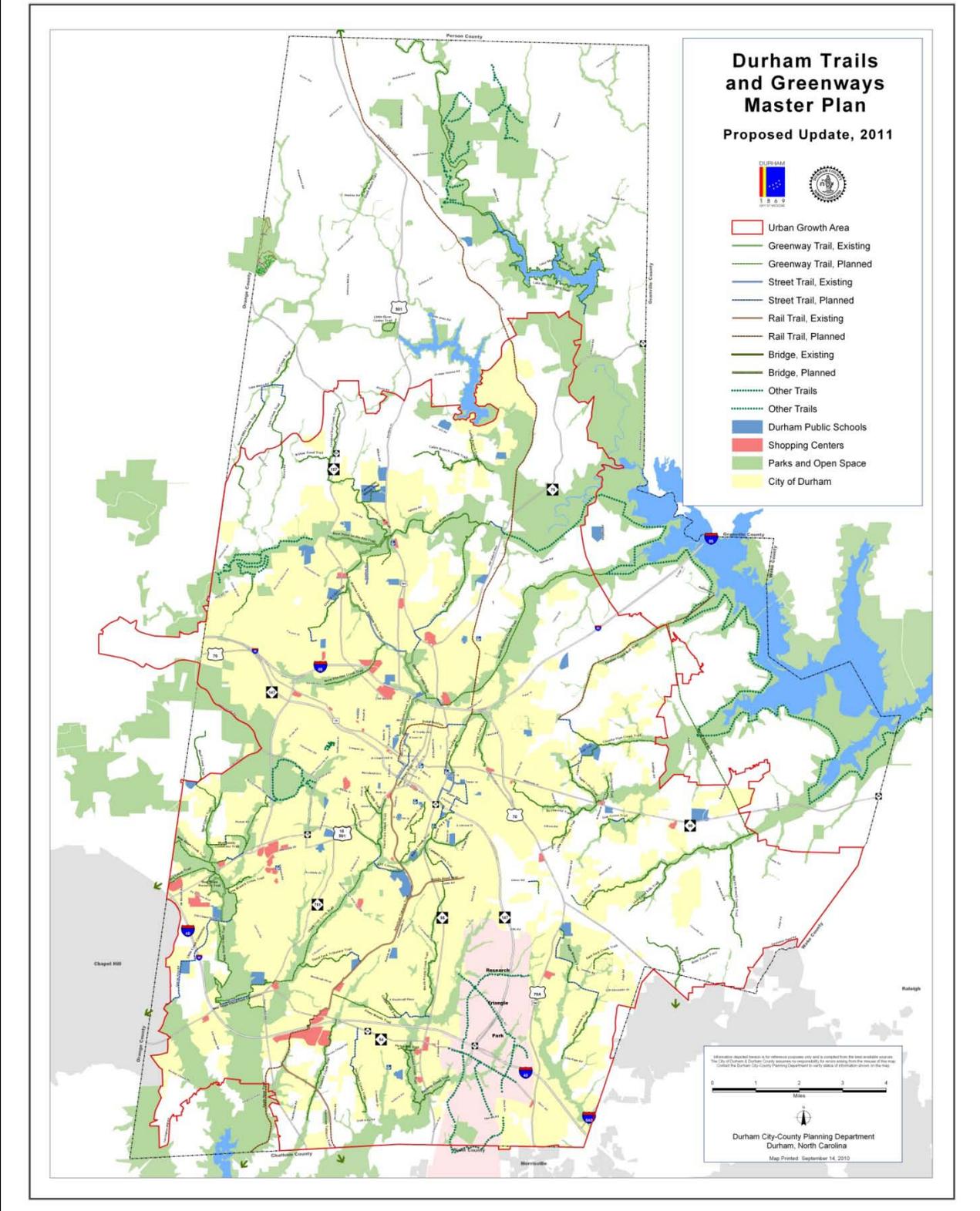
Table 1, beginning on page 27, lists each greenway and its associated trails. The table indicates the location of the trails, from beginning to end, and the trail's length. It also indicates the status for each trail. Some are completed and in use, while others are planned for future construction, although the specific date for trail development is undetermined. While this information is current as of plan adoption, it will grow outdated as new trail construction changes the status.

C. Trail Route Selection

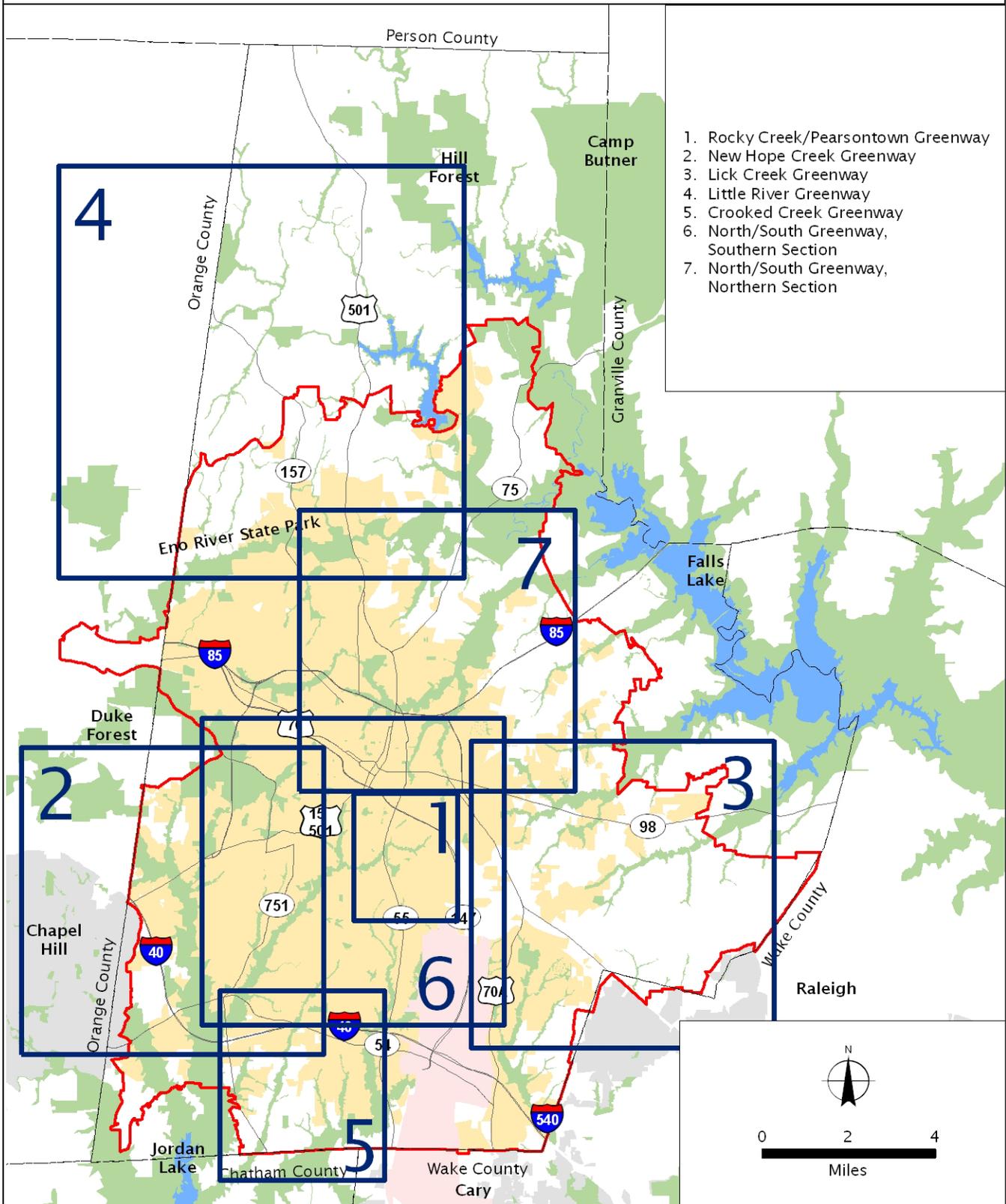
The trail routes designated on these maps honor as much as possible the routes designated by previous versions of the Durham Trails and Greenways Master Plan. Most of those routes are still desired for greenways and trails for Durham citizens. They reflect an excellent distribution of routes throughout the City and County, and they add a level of protection to important riparian corridors beyond that provided by the Unified Development Ordinance. Changes in the routes reflect several basic principles of selection:

1. Trail routes designated on the property of some other government entity, such as the Army Corps of Engineers, are not mapped unless a route has been agreed upon by all entities involved. The Plan policy section notes that such routes can function as continuations of City and County trails and are highly desired but will be settled on a site-by-site basis with the relevant agencies. One exception: “unalterable” routes like RR corridors will be shown despite underlying ownership, even though they may not become the final trail route.
2. There is an attempt to locate Durham trails to connect with other systems’ existing routes, including bicycle and pedestrian routes in Research Triangle Park; trails in Duke Forest, Hill Forest, and Eno River State Park; and trails in neighboring jurisdictions.
3. Routes shown on the 1988 plan have been eliminated from this Plan when un-buildable for one or more of the following reasons: they cross an interstate or divided highway where there is no road or culvert, they cross an active rail line where there is no road crossing, or they pass through a large number of existing and/or developed individual parcels.
4. Trail routes are connected to proposed Triangle Transit (TT) stations to increase their potential transportation use.
5. Given the distances between destinations, routes in the County are usually loop trails in defined areas such as parks.
6. Trail routes shown in the river corridors designated by the County for further study (Little River, Flat River, New Hope Creek, and Little Lick Creek) are preliminary; more specific routes indicated by plans prepared for those corridors supersede those indicated in this Plan.

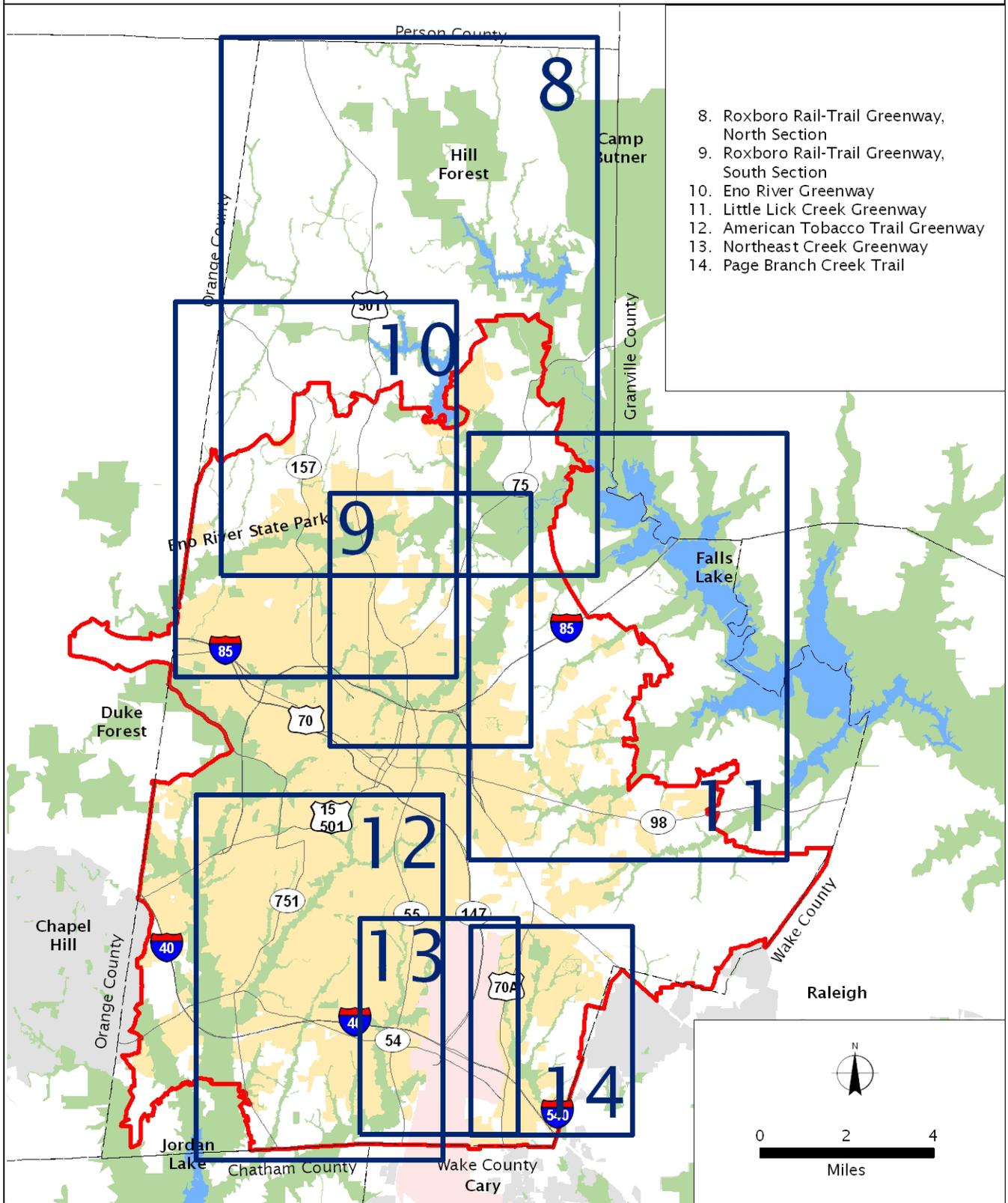
Map 1, Trails and Greenways System-wide Map



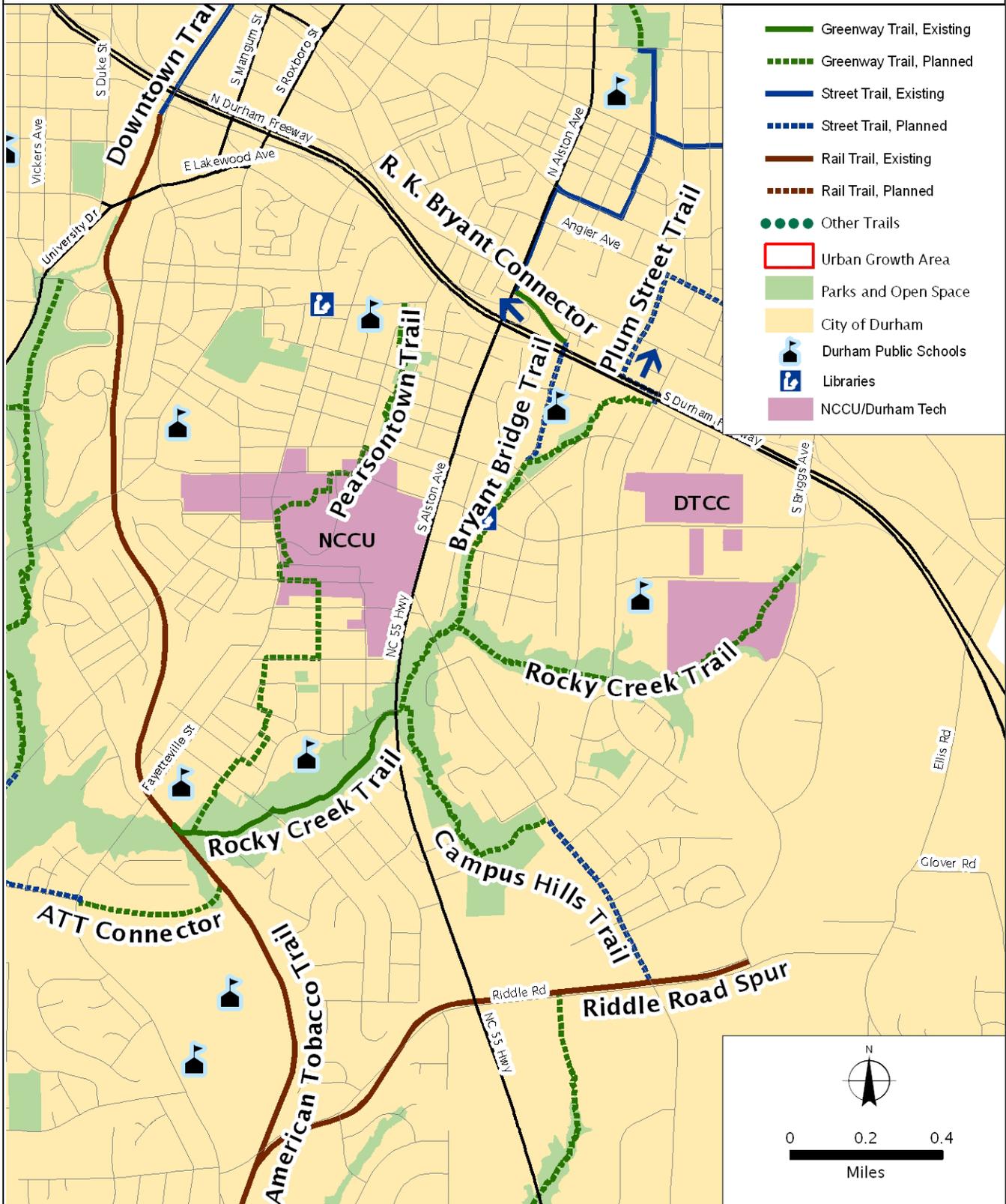
Map 2, Location of Greenways, Index 1



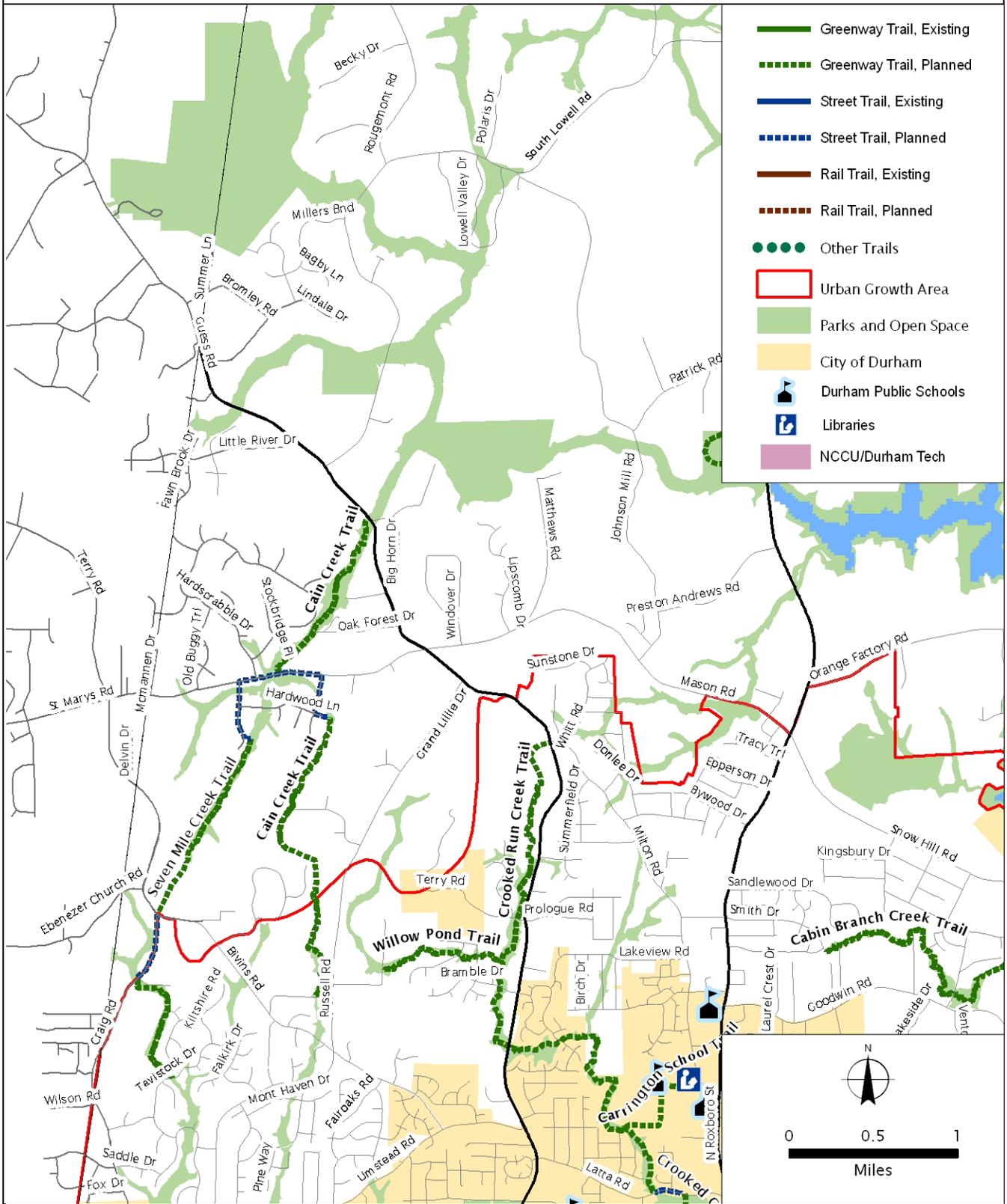
Map 3, Location of Greenways, Index 2



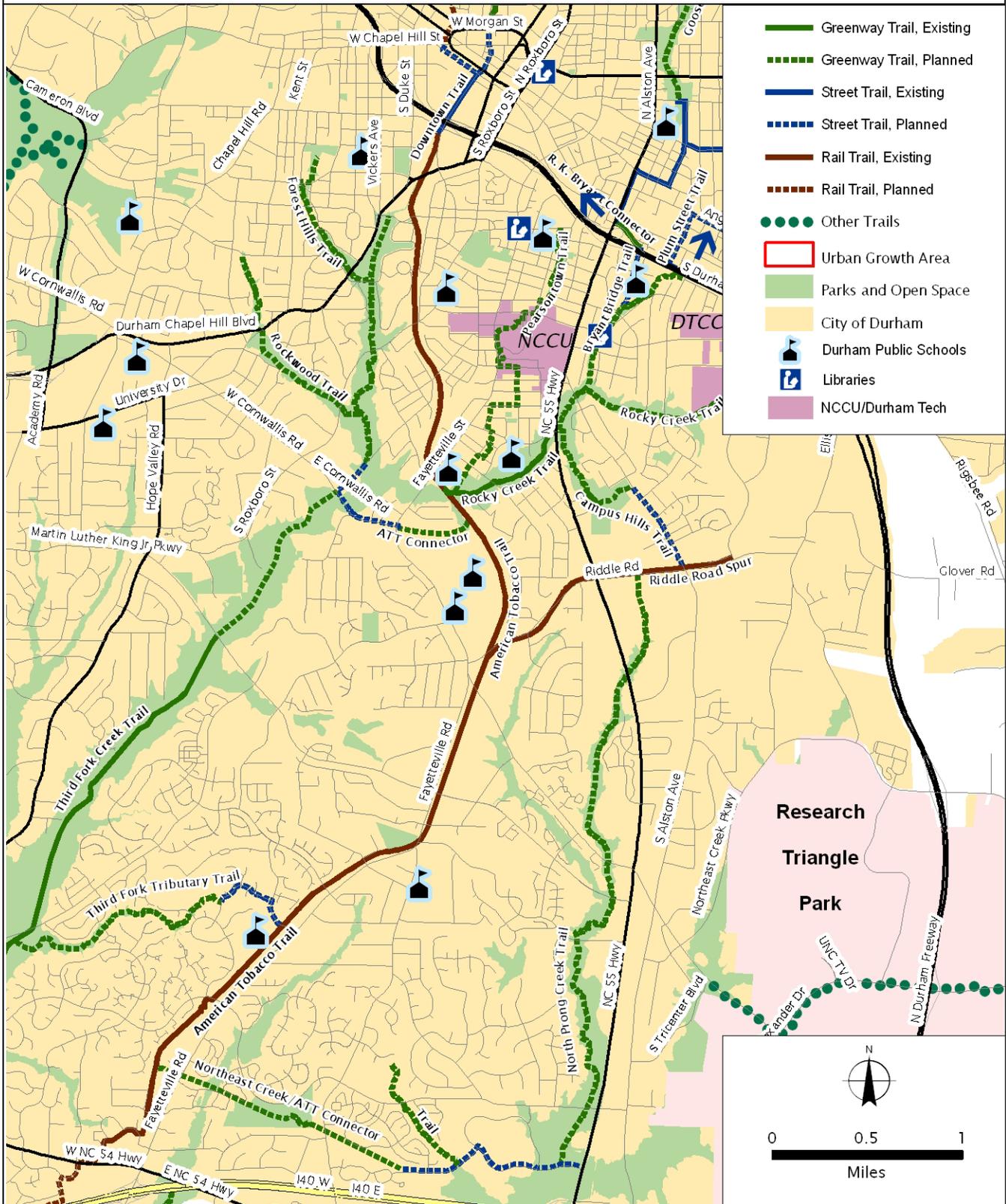
Map 4, Rocky Creek/Pearsonstown Greenway



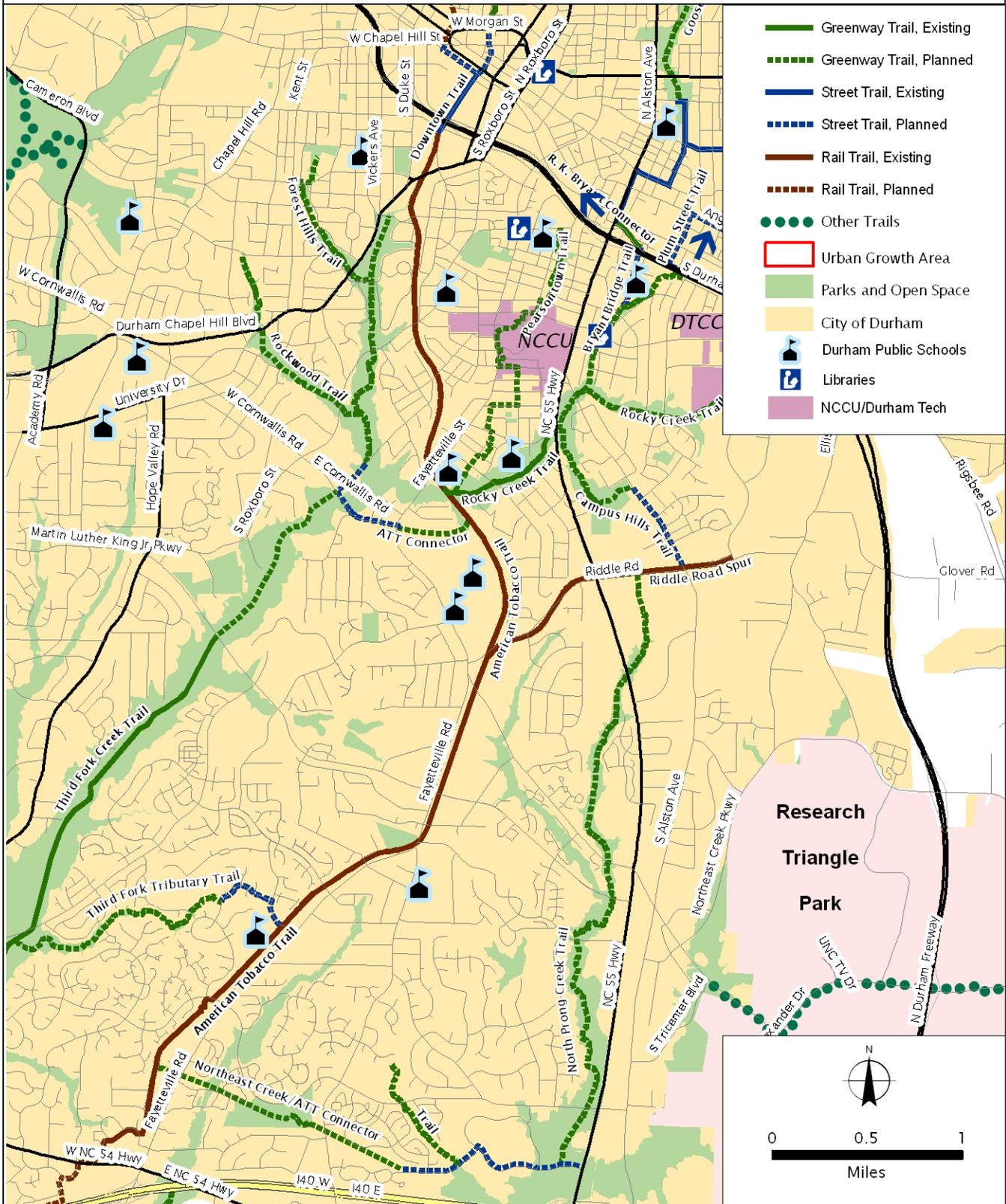
Map 7, Little River Greenway



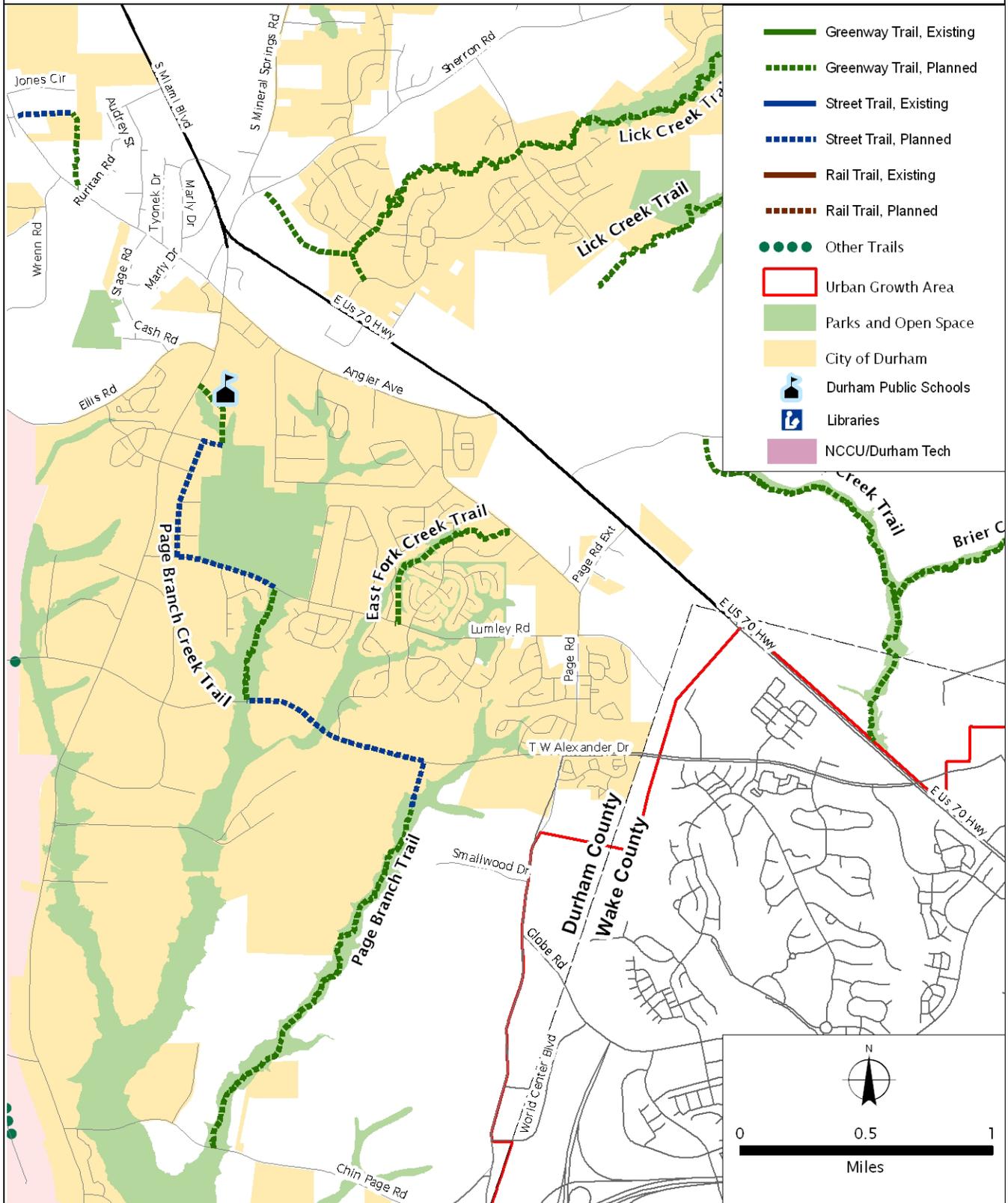
Map 9, North/South Greenway, Southern Section



Map 15, American Tobacco Trail Greenway



Map 17, Page Branch Creek Trail



Map 18, Regional, State and National Trails in Durham

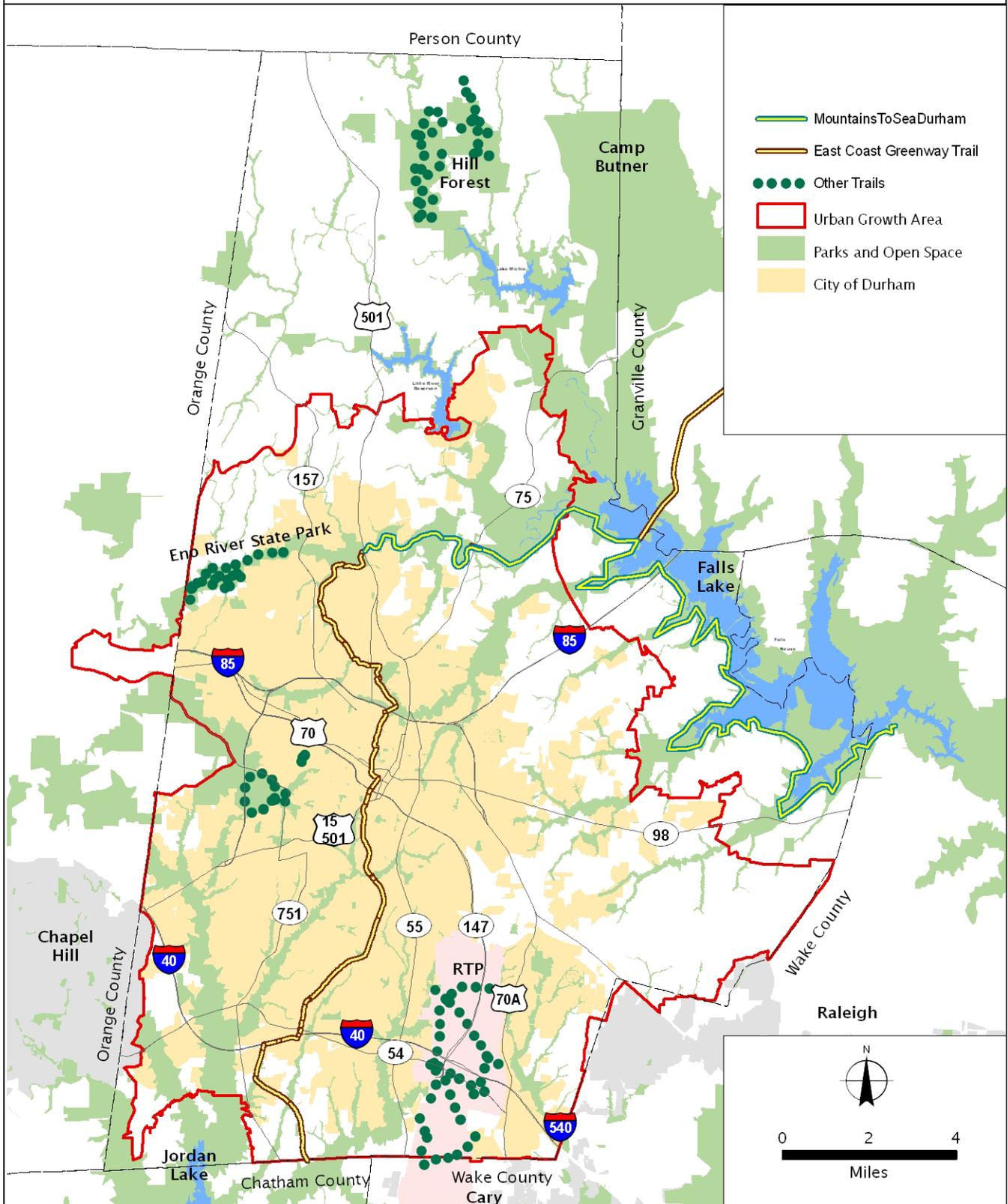


Table 1, Greenways and Trails

Trail	Location	Type Paved: P Improved: I Natural Surface: NS Sidewalk: S	Status	Trail Length
North-South Greenway				
1. Warren Creek Trail	Whippoorwill Park to West Point on the Eno (trail may be natural surface if located in an environmentally sensitive area and paved or improved surface where needed for bike access.	P or NS, depending upon the location	Complete from Whippoorwill Park to Horton Road; future project for Horton Road to West Point on the Eno	1.9 Miles
2. Stadium Drive Trail	Broad Street to Whippoorwill Park	S	Complete	1.9 Miles
3. Crystal Lake Trail	Carver Street to Warren Creek Trail	S, P	Future Project	1.9 Miles
4. Ellerbee Creek Trail	Olympic Avenue to West Club Boulevard (contains Bronto Trail section)	P	Complete	1.2 Miles
5. South Ellerbee Creek Trail	West Trinity Avenue to West Club Boulevard	P	Complete	1.4 Miles
6. West Club Boulevard Trail	Washington Street to Ellerbee Creek Trail	S	Complete	0.3 Miles
7. North Ellerbee Creek Trail	West Club Boulevard to Glenn Road, connection to MST Trail	NS, I	Future Project	4.6 Miles
8. West Ellerbee Creek Trail	Hillandale Road to Stadium Drive	P	Complete from Albany Drive to Guess Road	1.9 Miles
8. Duke Park Trail	Duke Park (Acadia Street) to Washington Street	P	Complete	0.3 Miles
9. Downtown Trail	American Tobacco Trailhead to West Trinity Avenue	S, P	Complete	0.9 Miles
10. Duke Beltline	Goose Creek Trail to Chapel Hill Street	S and Rail Trail	Acquisition under negotiation	2.8 Miles
13. Third Fork Creek Trail	East Forest Hills Boulevard to NC 54 south of Garrett Road Park – shared route with ATT north of MLK Jr. Parkway	P, NS	Phase 1, Southern Boundaries Park to Garrett Road Park complete (P)	7.0 Miles
14. Forest Hills Trail	Third Fork Creek Trail to Lyon Park	P	Future Project	0.9 Miles
15. Rockwood Trail	Third Fork Creek Trail to Ward Street	P	Future Project	1.2 Miles
16. Third Fork Creek Tributary Trail	Fayetteville Road to Third Fork Creek Trail	P	Future Project	0.8 Miles
Subtotal				29.0 Miles

Table 1, Greenways and Trails

Trail	Location	Type Paved: P Improved: I Natural Surface: NS Sidewalk: S	Status	Trail Length
American Tobacco Greenway				
17. American Tobacco Trail (Phases A-D)	NC 147 to NC 54	Rail Trail, P	Complete	6.6 Miles
18. Riddle Road Spur	American Tobacco Trail to Briggs Avenue	Rail Trail, P	Complete	1.5 Miles
19. ATT Connector	Third Fork Creek Trail to American Tobacco Trail	S, P	Future Project	0.8 Miles
20. American Tobacco Trail, Phase E (including I-40 Bridge)	NC 54 to Chatham County	Rail Trail, P	Anticipated completion in January 2012	4.1 Miles
21. Eagle Spur Trail	American Tobacco Trail at Stagecoach Rd. to the Durham County Line	Rail Trail, I	Future Project	0.4 Miles
Subtotal				13.4 Miles
New Hope Creek Greenway				
22. New Hope Creek Trail	Durham-Orange County line to Leigh Farm Park and NC 54	NS	Future Project	6.0 Miles
23. New Hope Creek Preserve Trail	Loop trail adjacent to Githens Middle School and Old Chapel Hill Road Park	NS	Complete	2.0 Miles
24. Sandy Creek Trail	Cornwallis Road to Sandy Creek Park, Sandy Creek Park to Garrett Road connector	P, NS	Complete from Sandy Creek Park to Pickett Road	2.0 Miles
25. Dry Creek Trail	New Hope Creek to Durham-Orange County line (connecting to Chapel Hill Dry Creek Trail)	NS	Future Project	1.2 Miles
26. Mud Creek Trail	Cornwallis Road to New Hope Creek Trail	NS	Future Project	3.7 Miles
27. Sandy Creek-Mud Creek Connector	Sandy Creek to Mud Creek	S, NS	Future Project	1.3 Miles
28. Long Branch Creek Trail	New Hope Creek Trail to Old Chapel Hill Road	NS	Future Project	0.8 Miles
29. New Hope-Third Fork Connector	New Hope Creek Trail to Third Fork Creek Trail	S	Future Project	0.7 Miles
30. Little Creek Connector	Old Chapel Hill Road to Meadowmont Drive	S	Future Project	2.8 Miles
Subtotal				20.5 Miles

Table 1, Greenways and Trails

Trail	Location	Type Paved: P Improved: I Natural Surface: NS Sidewalk: S	Status	Trail Length
Little Lick Creek Greenway				
31. Chunky Pipe Creek Trail	Cheek Road to Fletchers Chapel Road	P	Future Project	2.3 Miles
32. Twin Lakes Trail	Twin Lakes Park to Little Lick Creek Trail	P	Future Project	1.3 Miles
33. Birchwood Trail	NC 98 at Junction Road to Mineral Springs Road	P	Future Project	2.7 Miles
34. Little Lick Creek Trail	Pleasant Drive to Birchwood Trail	P	Future Project	1.1 Miles
35. Oak Grove Trail	NC 98 to Holder Road	P	Future Project	1.5 Miles
36. Panther Creek Rail Trail	Junction Road to Redwood Road	Rail Trail, I	Future Project	4.8 Miles
37. Geer-Panther Creek Rail Trail Connector	East Geer Street to Junction Road	S	Future Project	2.0 Miles
38. Southern High School Connector	Twin Lakes Park to Chunky Pipe Creek Trail	S	Future Project	1.0 Miles
39. Cheek Road-NC 98 Power Line Trail	Panther Creek Rail Trail to Lick Creek Trail	P, I	Future Project	4.1 Miles
Subtotal				20.8 Miles
Lick Creek Greenway				
40. Lick Creek Trail	Mineral Springs Road to Corps land east of Kemp Road	P	Future Project	5.2 Miles
41. Lick Creek Tributary Trail	Northern Durham Parkway to Lick Creek Trail	P	Future Project	1.6 Miles
42. Glover-Angier Connector	Angier Avenue to Glover Road	P	Future Project	0.5 Miles
43. Martin Branch Creek Trail	Kemp Road to Carpenter Pond Road	P	Future Project	2.6 Miles
45. Brier Creek Trail West	Leesville Road to Wake County Brier Creek Trail	P	Future Project	1.6 Miles
46. Brier Creek Trail East	Brier Creek Trail West to Leesville Road	P	Future Project	1.1 Miles
Subtotal				12.6 Miles
Pearsonstown-Rocky Creek Greenway				
47. Pearsonstown Trail	Elmira Avenue Park to Hayti Heritage Center	P, S	Complete from Elmira Avenue Park to NCCU(P,S)	2.1 Miles
48. Rocky Creek Trail	American Tobacco Trail to NC 55,with connector to Briggs Avenue	P, NS	Complete from ATT to NC 55(P)	1.0 Miles
49. Campus Hills Trail	NC 55 to Riddle Road	I	Future Project	1.2 Miles

Table 1, Greenways and Trails

Trail	Location	Type Paved: P Improved: I Natural Surface: NS Sidewalk: S	Status	Trail Length
50. Burton Park Trail	Rocky Creek Trail to Bacon Street (NC 147 vicinity)	I	Future Project	1.2 Miles
51. Bryant Bridge Trail	Burton Creek Trail to Alston Avenue via Bryant Bridge with connectors to the north and west downtown trail	S	Future Project	1.0 Miles
Subtotal				6.5 Miles
Roxboro Rail-Trail Greenway				
52. Roxboro Rail Trail	Durham-Person County line to Goose Creek Trail	Rail Trail, I	Future Project	17.7 Miles
53. Goose Creek Trail, West	Liberty Street to the Roxboro Rail Trail with connectors to the Bryant Bridge Trail via Alston Avenue and the neighborhood	P, S	Future Project	1.3 Miles
54. Goose Creek Trail, East	Roxboro Rail Trail to South Miami Boulevard	P	Future Project	1.6 Miles
Subtotal				20.6 Miles
Little River Greenway				
55. Cain Creek Trail North	Guess Road to St. Mary's Road	P	Future Project	1.2 Miles
56. Cain Creek Trail East	Hardwood Lane to Kelvin Drive	P	Future Project	2.0 Miles
57. Cain Creek Sidewalk Trail Connector	Dunnegan Road, St. Mary's Road, Redpine Road, and Hardwood Lane	S	Future Project	1.2 Miles
58. Seven Mile Creek Trail	Tavistock Road to Durham-Orange County line	P	Future Project	1.0 Miles
59. Craig Road Street Connector	Bivins Road to Seven Mile Creek Trail	S	Future Project	0.4 Miles
60. Quail Roost Trail	Hopkins Road to Quail Roost Road	P	Future Project	0.7 Miles
Subtotal				6.5 Miles
Eno River Greenway				
61. Croasdaile Trail	Stoney Brook Drive to Hillandale Road	P	Future Project	0.6 Miles
62. Croasdaile Sidewalk Trail	West Carver Street to Croasdaile Farm Parkway	S	Future Project	0.4 Miles
63. Cub Creek Trail	Duke Lane to Eno River	I	Future Project	2.5 Miles
64. Cub Creek Sidewalk Trail	Olympic Avenue, North Roxboro Street, and East Carver Street	S	Future Project	1.4 Miles
65. Cabin Branch Creek Trail	Smith Drive to Northern Athletic Park	P	Future Project	2.7 Miles
66. Crooked Run Creek Trail	West Point on the Eno to Guess Road at Milton Road	P	Future Project	4.2 Miles

Table 1, Greenways and Trails

Trail	Location	Type Paved: P Improved: I Natural Surface: NS Sidewalk: S	Status	Trail Length
67. Willow Pond Trail	Winkler Road to Crooked Run Creek Trail	P	Future Project	0.9 Miles
68. Carrington School Trail	Crooked Run Creek Trail to Roxboro Road	S	Future Project	0.7 Miles
69. Nancy Rhodes Creek Trail	Bracada Drive to Rivermont Road and Valley Springs Park	I	Future Project	1.1 Miles
Subtotal				14.5 Miles
Northeast Creek Greenway				
70. Northeast Creek Trail	NC 54 to County Wastewater Treatment Plan	NS	Future Project	2.3 Miles
71. Piney Woods Trail	American Tobacco Trail to Northeast Creek	P	Future Project	2.5 Miles
72. North Prong Creek Trail	Riddle Road to Northeast Creek-American Tobacco Trail Connector	P	Future Project	3.4 Miles
73. Burdens Creek Trail	Trail to South Alston Avenue	NS	Future Project	1.1 Miles
74. Copper Creek Trail	Forest Ridge Drive to Northeast Creek-American Tobacco Trail Connector	P	Future Project	0.7 Miles
75. Parkwood Trail	Meredith Drive to Euclid Road	P	Future Project	0.5 Miles
Subtotal				10.5 Miles
Flat River Greenway				
76. Flat River Trail	Durham-Person County line to Lake Michie	NS	Future Project	7.1 Miles
77. Lake Michie North Trail	On the north side of Lake Michie from the dam to the Flat River	NS	Future Project	8.5 Miles
78. Lake Michie South Trail	On the south side of Lake Michie from the dam to the Flat River	NS	Future Project	6.6 Miles
Subtotal				22.2 Miles
Trails Not a Part of a Greenway				
79. Southwest Creek Trail	NC 54 to Scott King Road	P	Future Project	2.7 Miles
80. Herndon Creek Trail	Scott King Road to Drive NC 54	P, S	Future Project	1.1 Miles
81. Page Branch Creek Trail	Chin Page Road to Bethesda Elementary School	P, S	Future Project	4.4 Miles
82. East Fork Creek Trail	Lumley Road to Page Road	P	Future Project	0.8 Miles
Subtotal				9.0 Miles
Total				186.1 Miles

Table Notes

1. Some of the Greenway Trails could be started as natural surface trails and improved later.
2. Improved surface trails could include granite screenings, for example, as used on the ATT in Wake County. Trails could also be constructed to AASHTO size standards without being completely paved, to facilitate more frequent multi-modal use with fewer financial and environmental constraints. Some of the Greenways could be constructed in this fashion to provide the citizens of Durham with trails sooner and at a lower cost than waiting for full funding of a paved trail. Projects funded with public money must, however meet federal accessibility standards.
3. The legend for the maps corresponds to the defined trail types in the table.
4. The ability to amend this table in the DTAG plan is essential, especially considering the financial constraints of trail construction and its process. If Durham is seeking more public-private partnerships for construction of new trails, then both the status of a trail and its priority ranking needs to be more fluid in order to accommodate citizen needs and market and construction demands. An amendment to this table may be proposed by DOST, Planning, or Parks and Recreation; however, any amendment must be approved by the governing boards.
5. Several trail routes in some areas are still being negotiated and may be altered slightly as the trails become more definitive. They are:
 - a. The Alston Avenue widening project area, the east-west and north-south connectors to the North East Central Durham area from the R. Kelly Bryant Bridge, the Goose Creek West section; and
 - b. The New Hope Creek Master planning area.

II. Goals and Implementation

A. Goals and Recommendations

The citizens of Durham want more places to walk and bicycle in their community and have shown themselves willing to support this desire with both money and their own volunteer time. Many plans have portrayed a future for Durham that includes an enjoyment of nature, physical exercise, and bicycle and pedestrian commuting. Therefore, the vision that guided earlier trails and greenways plans remains the underlying principle of this revised edition. That general goal is as follows:

The City and County of Durham will have a system of trails and greenways that connects people and places in the community while preserving and enhancing the region's natural environment.

Within that broad goal are a series of more focused goals that guide its implementation. Just as the term "greenway" itself has been evolving over the past decade, so too have the specific goals evolved that Durham selects to implement its system of trails and greenways. The crucial elements in the system now are cooperative efforts between the Plan for greenways and trails and other needs and visions in both the local community and the larger regional community. A greenway system plan is one that must link with various other plans, including park and recreation plans, transportation plans, open space preservation plans, watershed protection plans, and even historic district plans. The following specific goals reflect that holistic vision of the community's development.

Just as goals guide trail planning, implementation recommendations turn those goals from a wish list into a day-by-day implementation of projects. The following recommendations are for policies to help make the associated goals into realities. When the Plan is adopted, staff will turn these recommendations into implementation items.

The trails and greenways identified in this document may vary in terms of surface type. In general Durham's greenway system can incorporate three different types of trails: natural surface, (trails that are not paved or improved), improved surface, (trails that have been graded and may have a surface such as crush and run or gravel), and paved trails or sidewalks. Depending upon the location of the trail and the user needs, different surface types may be used. A good example of this is the different surface types that are found in the New Hope Creek trail system.

1. Goal 1, Connectivity

Plan trails and greenways with origins and destinations, to link residential areas with schools, parks, institutions, and shopping. Tie into the City’s and County’s systems of sidewalks, on-road bicycle routes, and transit to allow citizens a choice in their recreation and work commuting, and be consistent with adopted bicycle and pedestrian facility plans. The Durham network will connect with regional, state, and national trail systems wherever possible.

Recommendations

- a. City and County staff will continue to participate in state and regional planning for trails and greenways systems. Incorporate State, regional, and national trails that pass through Durham County into Durham’s trails plans.
- b. Trails and greenways plans will be coordinated with pedestrian plans, bicycle plans, public transit plans, parks and recreation plans, and other relevant land use and development plans. These include among others, the *Durham Walks Pedestrian Plan* and the *Durham Comprehensive Bicycle Transportation Plan*.
- c. Encourage institutions, commercial districts, and neighborhoods to build local connections to Durham’s main trail routes, and add these to the Plan by amendment.

2. Goal 2, Accessibility

Durham’s urban, paved greenways will be fully accessible to persons with disabilities. Unpaved trails in the system will be accessible to a level similar to their surrounding environment. Greenways and trails will also be available across the community; one priority will be balancing that development across the City and County.

Recommendations

- a. Design all paved trails in Durham for accessibility; all improved trails will be as accessible as possible and signed as to their level of difficulty.
- b. Continue to select trail construction priorities to ensure that all areas of Durham have access to the greenway and trails system.
- c. Plan trails to serve as many types of trail users as the location and environmental setting of each warrants.

3. Goal 3, Right-of-Way Preservation

In a rapidly urbanizing area such as Durham, land is increasingly valuable. The City and County should preserve trail and greenway corridor rights-of-way in anticipation of future trail development, even during periods when funding for actual trail construction lags.

Recommendations

- a. The City and County will match their decisions on greenway and trail development priorities with funding for trail right-of-way acquisition, whether through bond issues, inclusion as Capital Improvement Projects, maintenance of a designated funding source to match grant awards, or all or the above.
- b. The City and County will consider adopting a policy to require that an easement for trail use be routinely acquired as part of any other easements that the City or County acquires that includes trail routes, such as easements for utility lines or for roadway right-of-way.
- c. Retain and strengthen language in the Unified Development Ordinance that requires greenway right-of-way dedication in new developments.

4. Goal 4, Water Quality Protection

Since many of Durham’s greenways follow stream corridors, protection of the water quality in those streams is of key importance. Greenway and trail construction in those corridors will follow best practices for environmental protection, will not seek exceptions to State and Federal regulations, and will include stream bank enhancement as necessary.

Recommendations

- a. Do not construct greenway trails within the thirty-foot strip adjacent to streams in Durham unless runoff mitigation or stream bank restoration techniques are also part of the construction.
- b. Whenever possible, do not construct greenways that require boardwalks and/or bridges in floodways. Do not construct greenways that require fill in floodways or wetlands. Utilize areas disturbed by previous work for trail construction as possible.

5. Goal 5, Open Space Preservation

Green corridors are crucial for wildlife and native plant survival in an urbanizing area. One priority criterion for greenway corridor acquisition

will be those areas in Durham that are both environmentally sensitive and threatened by development. In the most sensitive areas, design trail construction for minimum impact.

Recommendations

- a. Land acquisition for a greenway or trail in an environmentally sensitive or unique area may include preservation of a wider trail corridor than would be acquired in a less sensitive area.
- b. Not all land acquired for a greenway will have a permanently constructed trail associated with it; some land may be used for recreational activities such as bird watching or wildflower identification.

6. Goal 6, Community Education

Inform and educate citizens about the trails and greenways programs and about the role of the Durham Open Space and Trails Commission (DOST) at regular community events. City and County organizations and agencies should create greenways maps and brochures, educational programs, and events to explain and promote the system.

Recommendation

- a. DOST will attempt to secure grants to fund educational programs and brochures to explain and promote the trail and greenways system. DOST will create a program to take to community groups on request to explain and promote the trails and greenways system.

7. Goal 7, Community Involvement

Encourage all the citizens of Durham to become involved in further development of the greenways and trails system through (a) the establishment of community-inspired neighborhood connector trails, (b) Matching Grant Program initiatives, and (c) citizen “adoption” of established trail sections for assistance with maintenance and surveillance.

Recommendations

- a. The City Department of Parks and Recreation (DPR) and the City General Services Department will continue to manage an “Adopt a Trail” program to encourage citizens to be actively involved with trail maintenance and surveillance.

- b. Establish a source of funding to assist citizen groups to build trails in their neighborhoods for local connections or to connect to the City's and County's trails and greenways system. These neighborhood trails can be adopted into the City's and County's system by amendment. The County's existing Matching Grants program is a possible source of funds for this kind of neighborhood trail.

B. Priorities for Development

1. Initial Priorities

The 1988 Durham Urban Trails and Greenways Master Plan (DUTAG) stated that the priority of the first five years of the trails and greenways program would be "the completion of a trail from I-40 on Third Fork Creek to West Point on the Eno Park, i.e., a route crossing through the entire City, from north to south." It noted that, "other major trail development opportunities may occur due to railroad abandonment" and suggested watchful monitoring of the rail line to Roxboro, the downtown rail corridor, and the line "from downtown to Woodcroft and Jordan Lake."

That Plan specifically noted that by 1993 (that is five years after the Plan's adoption), the trails that should be in place included Phase I of the Burton Park Trail, the Lower Cub Creek Trail, both upper and lower sections of the Third Fork Creek Trail, and the South Ellerbee Creek Trail, for a total of 5.6 miles of greenway trail on the ground.

With the passage of the 1990 bond fund issue, the Durham Trails and Greenways Commission modified those recommendations. They proposed a motion to the City Council, which was approved on March 2, 1992, to establish the following priorities:

- a. Completion of the north-south trail, from the Eno River to NC 54;
- b. Spending \$750,000 in southwest Durham (primarily in the New Hope Creek Corridor) for land acquisition and volunteer support, with a suggested first trail at Sandy Creek; and
- c. Construction of a trail in the eastern part of Durham, in impact fee zone 2.

The motion concluded with the instruction that "the highest priority is the north-south trail".



The American Tobacco Trail in southern Durham County.

How have these priorities worked out? See Table 2, which shows the status of various trails.

These trail priorities are proceeding much as that original Commission-inspired resolution dictated. The North/South Greenway has remained the top priority. That trail is nearing completion, with Durham Central Park complete; the one remaining gap is the final connection into the south side of West Point on the Eno Park from Horton Rd. Volunteers have built trails in the New Hope Creek Corridor on County-owned land; the first City trails in the New Hope will be the Sandy Creek Trail in conjunction with the City Park and a wetland restoration project on the site of the old wastewater treatment plant.

The American Tobacco Trail has leapt into prominence in recent years, but it's first few miles actually complete a section shared with the North/South Greenway, and its construction has been heavily supported by State and Federal transportation dollars with limited bond fund expenditure.

Table 2, Trail Development Priorities

Trail Rank	Greenway and Trail Name	Comments
Trail surface types may vary depending upon the area, Paved, Natural Surface, and Improved Trails are further defined at the end of this table.		
1	North/South Greenway: Phase 2 of Warren Creek, the Downtown Trail, Duke Beltline and West Ellerbe Creek	The North/South Greenway has been the top trail priority for years, and is the spine of the system. The downtown section is completed and The Duke Beltline would connect the downtown portion, and the West Ellerbe Creek segment providing connectivity of the entire system.
2	Eno River Greenway: Eno River Trail, Crooked Run Creek Trail, Cub Creek Trail	This greenway not only serves a rapidly growing part of Durham, it is a connector for a state and a regional trail. This natural surface trail serves as a connector to the Mountains to Sea Trail and the East Coast Greenway.
3	Rocky Creek/Pearsontown Greenway	This greenway is partially completed; completing the sections between NCCU, The Hayti Heritage Center, and Durham Tech would create valuable transportation linkages to the Briggs Avenue Garden.
4	New Hope Creek Greenway	Mud Creek Trail and Sandy Creek Trail (east) would make vital connections in this very important area. Dry Creek Trail and Sandy Creek Trail (west) would create some needed E/W routes in the New Hope Corridor
5	Goose Creek and the R. Kelly Bryant Bridge connector trails.	The Goose Creek Trail and R. Kelly Bryant bridge connectors are trails that use sidewalks and other types of surfaces. They will serve as connectors to the Rocky Creek and Pearsontown greenways and will provide much needed access to the North East Central Durham area and downtown via the newly constructed bridge.
6	Little Lick Creek Greenway	Trails are needed in this part of the County; Panther Creek makes a good connection to the Falls Lake Project lands
7	Crooked Creek Trail, Herndon Creek Trail	Connections for a rapidly growing part of Durham
8	Lick Creek Greenway	Connections for a rapidly growing part of Durham
9	Roxboro Rail-Trail Greenway	This trail would offer a long-distance and multi-use recreation and transportation opportunity in the near future for northern Durham
Street Trails (Sidewalks)		
1	NC 54	Major E/W trail connector route in southern Durham County
2	Erwin Rd. to Main St., to Iredell Ave., to Club Blvd.	Route heavily used by local bicycle and pedestrian commuters
3	Club Blvd at Hillandale to Washington St.	Route heavily used by local bicycle and pedestrian commuters

Work on the Little Lick Creek Trail supplanted the earlier DUTAG priority of the Cub Creek Trail in an attempt to balance trail development more equitably across the City and to spend impact fee money in that zone. However, the initial Little Lick Creek Trail route for which land was acquired was difficult to construct due to wetlands. The emphasis was shifted to a more northerly route, still in the eastern part of the City; and work was begun in 1999 to acquire land to connect the Little Lick Creek route with the Panther Creek Trail.

The Rocky Creek Trail was one of the City's first trail sections, built in 1988 to connect Fayetteville Street Elementary School, Elmira Park, and Shepherd Middle School. Its extension northward from Elmira Park towards NC Central University and the Hayti Heritage Center—as a separate trail called the Pearsonstown Trail—was made easier by the discovery of almost-forgotten public easements connecting blocks through a redeveloped residential neighborhood.

This progress shows two things clearly. First, the growth of a trail system takes patient years of land acquisition to prepare for a burst of construction. Second, the priorities set by the DUTAG and the earliest Commissions have successfully guided the program to its current position.

2. New Trail Priorities

While those early recommendations have been amended somewhat, with the Intermodal Surface Transportation Equity Act (ISTEA) grant which included the American Tobacco Trail (ATT) into the City's expenditures, those initial priorities for the construction of the ATT are close to being accomplished with the last "Phase E" out for bid in 2011. This will complete the last 5 miles of the trail and the bridge over I-40. All the funding from those early bonds has been spent or encumbered on these priority projects.

In 2001, the Durham Open Space and Trails Commission (DOST) looked at the budget allocations of the City and County for trails and greenways (and looked as well at the recommendations of the new Little River Park Advisory Committee, the 2000 Parks and Recreation Master Plan, and ongoing Open Space Corridor plans) and recommended the next priorities for the trails program. Those priorities have been included in Table 2. And will guide acquisition and development for the future. Funding will determine the rate at which these priorities can be turned into rails on the ground.

These recommendations for trail development priorities come with two development policy recommendations as well:

- a. Neighborhoods and developers are encouraged to look for connections to the trails and greenways system and linkages between sections and to bring recommendations forward to DOST for consideration and possible inclusion into the master plan. This might help provide greater connectivity among the trails and neighborhoods (established and planned). DOST also recommends that if grant monies are available for trail construction that these types of trails be considered for those funding streams.
- b. This trail development priority list may be amended as circumstances warrant. If, for instance, the Roxboro Rail-Trail corridor becomes available, DOST would want to advance that trail's ranking on the priority list.

Funding to build the approximately 188 miles of off-road trail proposed by this plan update is a long-term undertaking. The timetable for construction of the next trail priorities depends entirely upon the funding streams allocated to the program. An annual funding allocation of \$1,500,000, for example, would allow the City to construct approximately two and a half miles of greenway trail per year. The County's yearly allocation must cover both open space acquisition and trail construction. State and federal grants, such as the City and County have been receiving, would shorten that period, as does combining sidewalk and street trails with transportation construction. Any bond funding would also shorten the time until the completion of construction. The City and County staff will continue to acquire trail right-of-way through development dedication, purchase, and easement acquisition.

The recommendation for funding priorities emphasizes the completion of projects already begun, such as:

- a. **North/South Greenway.** Complete the remaining incomplete sections after expenditure of all bond funding; Third Fork Creek Trail Phase 2, and W. Ellerbee Creek Trail Phase 2.
- b. **Rocky Creek/Pearsontown Greenway.** The section from Elmira Park to NCCU is complete; however, the section north to Hayti Heritage Center is not yet built, consisting of 1.2 miles.
- c. **New Hope Creek Greenway Trails.** Sandy Creek Trail from Sandy Creek Park to Pickett Rd. is complete, leaving 0.75 mile between Pickett Rd. and Cornwallis Rd. Park and the section from Sandy Creek Park, along the sewer easement, to the service road along 15-501. This entire trail will be paved. Mud Creek and Dry Creek to Erwin Rd., 4.5 miles; Mud Creek will be constructed mostly by volunteers after land is acquired. The majority of these trails will

be natural surface trails with improved surface trails in some locations and some conversion to paved trail where the service road along US 15-501 connects to Sandy Creek Park.

One of the ongoing fiscal commitments of a trails program is maintenance and management. The average total maintenance cost—including drainage control, regular cleaning, regular mowing, minor repairs, and equipment and staff time—is approximately \$6,500 per year per mile of paved trail.

Communities with an established greenway program have noted some substantial community-wide returns in the form of reduced flooding costs, reduced costs of water quality improvement, increased tourism revenue, decreased transportation costs, decreased health care costs, and decreased criminal activity.

Durham citizens have begun to demand more flexible transportation routes and alternative forms of transportation such as bicycling and walking. In addition, there has been more demand for new subdivisions that are adjacent to or encompass a greenway system that connects them to the surrounding community. It is important to remember how much new and planned greenways contribute to Durham’s development activities and how integral they are becoming to new development.

Prioritizing trails for Durham can be a difficult task as funding availability and needs change. The DOST have prioritized the trails in Table 2 in an effort to focus on the areas where needs are the greatest or where funding sources may come sooner rather than later. These may change frequently and may be changed upon the advice of the entire Commission. Trail priorities are listed along with attached definitions of trail surface types.

Trails Surface Types

Trail surface types may be defined in several different ways. There was much discussion regarding surface types that reflect both the needs of the users and the environmentally sensitive areas they may be passing through. Paved Surface trails are defined as standard 8-10 feet wide asphalt or concrete trails with multiple uses. Improved Natural Surface trails are defined as 6-8 feet wide trails with compacted surface material, low grades, and multiple uses. Natural Surface trails are defined as less than 6 feet wide, dirt surface, suitable for hiking, or other specifically designed uses. For mapping purposes, the term “Greenway” remains in use with the map legend with further definitions established under section III. A.

C. Implementation

1. Acquisition

Trails and greenways are constructed to serve public recreation or transportation purposes. Therefore, the owner and manager of most of the trails and greenways is the City of Durham or Durham County. There are a significant number of trails under other ownership and management in Durham, including trails on federal, state, and private lands. While the trails and greenways in this plan will make connections wherever possible with those trail systems, they remain outside the scope of its recommendations.

Local governments obtain their property for trails and greenways by various methods. The City primarily uses fee simple purchase, exaction, and easement dedication. The American Tobacco Trail is a major exception since most of it is constructed on land leased from the North Carolina Department of Transportation (NCDOT).



Students from R. N. Harris Elementary School at a Walkable Communities design workshop.

The County uses those methods as well, but also holds some conservation easements on land where trails are not the primary purpose. Both local governments have received donated land and the County has obtained some land—especially in the New Hope Creek

Corridor—through bargain sale. The City can condemn land for a trail, but it has used its power of eminent domain rarely (see Appendix F).

The land acquired for a greenway or trail, whatever its acquisition method, must be wide enough to accommodate the construction and maintenance of the trail. In most cases it will be desirable to have a trail corridor wide enough to preserve natural vegetation, provide a scenic route for trail users, buffer nearby developments from trail use, and preserve undisturbed stream buffers. Environmental protection regulations necessitate as wide a corridor as possible in some riparian areas to avoid potential conflict with trail construction requirements. Guidelines for greenway easement acquisition are as follows:

- Adjacent to streams with mapped floodplains in non-urbanized areas, the 100-year floodplain or a minimum of 100 feet is the desired width;
- In developed urban areas, an easement of 50 feet is the minimum desired width; and
- When a greenway easement is to be located on a sanitary sewer easement, the desired greenway width extends from the adjacent stream bank to the edge of the sewer easement farthest from the stream.

a. Fee Simple Purchase

Fee simple is an outright purchase of a parcel of land and all the rights associated with it allowing for full use of the land and any level of public access deemed appropriate by the managing agency. It does remove land from the property tax rolls, and it can be expensive. Less than a third of the City's trails are on land it owns in fee simple; but since the County generally buys larger parcels for open space protection, most of its trails are on County-owned land.

Recommendation. The City should attempt to spend each year the money collected as the open space impact fee or accumulate those funds to accommodate larger projects. That money can be a continuing and reliable source for property purchase as needed in the various districts of the City. The County has already allocated a continuing amount for open space acquisition in its capital budget; that fund should not be reduced.

b. Exaction

Durham requires that developers pay an impact fee or dedicate an easement to the public for open space or recreation. All subdivisions in Durham City and County are required to dedicate land for a greenway if

their property includes part of a trail route from the adopted master plan. Many non-residential developments do dedicate trail right-of-way as part of the site or development review process, though they are not required to do so by the Unified Development Ordinance.

Recommendation. The City and County should consider either (1) linking exactions for greenways to a transportation requirement as well as a recreational one so that development in all land use zones would be required to dedicate easements, or (2) using reservation and a set payment rate to acquire greenway corridors from non-residential uses. Multi-family residential development should be required to dedicate open space for recreation use, this for greenways when indicated on a plan.

c. Recreational Use Easement

One right belonging to a piece of property—the right to access and use for a trail—can be separated out from a parcel and sold. Most of the City’s trails in developed areas are on easements that owners have sold to the City for the specific purpose of a trail. The City pays the surveying and legal costs and pays the owner a percentage of the land’s value for the right of access and use. The County has only one trail, inside the City limits, which is built partially on an easement.

Recommendation. The City should consider adopting a policy that encourages its Public Works Department to acquire joint use easements. Easements acquired for various utilities, such as sanitary sewers, should also be written to accommodate recreational use when those acquisitions follow a route on the adopted trails and greenways master plan.

d. Lease

The NCDOT purchased under its rail banking authority the rail corridor that the City leases for the American Tobacco Trail. The City pays only a nominal fee for the use of the corridor, but the arrangement does have the inherent risk that the NCDOT can reclaim the corridor for rail use at some point. Since the corridor is 100 feet wide at most points, the City would probably try, if the corridor were reclaimed by NCDOT, to establish a trail parallel to any new rail line that was built in that same corridor.

Recommendation. Leasing does not protect a trail corridor the way ownership or easement does, but it is the best way to acquire access to rail banked corridors. The NCDOT should be encouraged to purchase rail corridors in Durham and to lease them to the City or County for interim trail use. Durham should take the lead with local governments statewide

to work with NCDOT to create a policy for shared-use trail and rail corridors, anticipating a time when NCDOT can move to restore rail service in any corridor.

e. Conservation Easement

Like a recreation easement, a conservation easement is one right of a piece of property that can be separated out and sold or given away. In this case, the right protects the natural resources on the property—water, forest, land—from being used. The County has itself given conservation easements to the State on lands buffering rivers and creeks, which it has purchased with Clean Water Management Trust Funds. An easement to protect working farmlands or scenic views is a specialized type of conservation easement. Often conservation easements do not include a right of public access and trails are not a part of their use.

Recommendation. The County continues to hold more conservation easements than the City, since the most sensitive natural areas are outside the City. All conservation easements must be assessed carefully to make sure any trail use will have a minimum impact on the site's resources. For more intensely developed areas, the County should consider including public access for trails as a part of any cluster development or transfer of development rights legislation.

There are other situations for trail development that can be explored. Since some trail and greenway routes are on roadways or sidewalks, development through transportation improvements is certainly a facet of trail growth. NCDOT is now routinely including bicycle and pedestrian improvements on projects on State roads; the City should consider following suit. The County should encourage NCDOT to follow its own published guidelines on State roads in the County as well: roads with an Average Daily Traffic Count (ADT) between 4,000 and 8,000 should have two-foot paved shoulders; roads with an ADT over 8,000 should have four-foot paved shoulders. This one improvement would make the County roads significantly more bicycle-friendly and make connections between off-road trails much easier.

2. Funding

Money is the catalyst to turn plans into realities. A trails and greenways program needs funding for acquisition of land, trail design and construction, and maintenance and management. Because a greenways and trails program is a function of the local governments, some of those functions are rolled into the costs of other programs. Acquisition by dedication, for instance, is included in the development plan and site plan review process; maintenance and management for trails get included in overall parks facilities budgets.



The old rail line to Roxboro is proposed for a rail-trail in northern Durham; this view of the corridor is from Hamlin Road.

Some costs are large and visible: acquisition by purchase of easement and fee simple rights-of-way, design consultant fees, and actual construction costs. The 2007 per mile cost of trail in the City of Durham, depending upon site conditions, was \$500,000 to \$1,000,000. A successful trails and greenways program needs predictable funding, through any of several possible sources, to keep a steady course through the years-long process from initial landowner contacts until a trail ribbon-cutting. Some of those sources and recommendations on how greenways and trails might be included in them are discussed below.

a. Capital Improvement Project (CIP)

The City Council and Board of County Commissioners should consider funding a trail project for each fiscal year and include the project (or at least some phase of that project) into the CIP budget. It can be funded by any of the techniques the local governments use for funding their long-term community facilities—including bond issues and impact fees. Since the CIP is a long-term budget, financing for trails can also simply be set at a yearly amount and specific projects identified year by year.

b. Bonds

Durham citizens in the 1990s approved City and County general obligation bonds which included nearly \$8 million for trails and greenways. As noted in earlier sections, that funding was either spent or

encumbered by 2001. When the City or County elected officials make a decision on another bond issue, funding for trails and greenways should be a portion of it.

c. Impact Fees

Durham currently collects impact fees—a one-time charge on new development—for open space, recreation, and transportation. Higher fees on new development could be considered to pay back more of the costs it imposes on the local governments. An increase in the recreation impact fee should be considered as a way to increase greenways and trails construction. Incremental increases in impact fees are being used as a methodology to increase these fees and impact fees were raised in 2009. However, with the current economic climate it may be some time until those percentages of impact fees are changed. Also, the transportation impact fee currently is dedicated solely to roadway improvements only. A small percentage of that fee could be re-directed to alternative transportation improvements—including on-road and off-road pedestrian and bicycle routes.

d. Grants

Substantial grants for trail and greenway construction do exist, primarily from the state and federal governments. Durham has been very successful in winning specific trails grants:

- Intermodal Surface Transportation Equity Act (ISTEA) money for the American Tobacco Trail;
- Transportation Equity Act for the 21st Century (TEA-21) money for the Eno River Trail;
- National Recreation Trails Fund (NRTF) money for the New Hope Nature Trail; and
- Parks and Recreation Trust Fund (PRTF) money for the trails at the Little River Regional Park and the Sandy Creek Trail.

While it is not a grant, getting the southern portion of the ATT into the very competitive TIP process as earmarked Surface Transportation Policy/Direct Attributable funds (STP/DA) is also a plus. Most state and federal grants, and the STP/DA funding, also require some level of matching local funding. The City and County need to keep an amount of funding in reserve to match trails and greenways grants so that staff can try to bring more of these monies into Durham.

Sources of grant funding other than the obvious recreation/transportation links need to be pursued as well. For instance, Community Development Block Grants can help fund trails in

redevelopment neighborhoods and water quality grants can help fund trails that include stream bank restoration features.

d. Public/Private Partnerships

Private funding can augment local funding sources for greenways and trails and can provide the required matching funds for state or federal grants. The members of the Durham Open Space and Trails Commission should take the lead in searching out potential private grant sources, including local businesses, corporate giving programs, contributions with recognition (such as the embossed bricks in front of the Durham Bulls Athletic Park), and private environmentally-focused foundations. While there are significant private environmental groups who fundraise in the Durham community (such as land trusts and environmental lobbying groups), and even fundraising trail organizations (such as the Triangle Rails-to-Trails conservancy), there may be a niche for a Durham friends-of-the-trail organization to channel individual donations into greenway and trail work.

e. Ongoing Support

The sources discussed above are mostly one-time funding opportunities, geared towards getting a greenway or trail built. Ongoing costs for maintenance and management are generally included in larger City or County operations budget. However, maintaining a trail at an outstanding level or even providing it with trail amenities such as educational signage, benches, and water fountains may be outside that operations budget.

Special events held on a trail, dedicated fund-raising events, and volunteer work by service clubs can fill in the gaps. Both the City and County—as their trail miles increase—should look toward organizing volunteers to assist with trail needs. City trail volunteer work should be a program in the Department of Parks and Recreation. The County has a land manager who works with trail volunteers.



American Tobacco Trail ribbon-cutting on June 3, 2000, with Deputy Secretary of Transportation David King and Durham Mayor Nick Tennyson doing the honors.

III. Standards

A. Types of Greenways and Trails in the System

Greenways and trails are planned to serve multiple purposes, so it is logical that their function and design can take any one of a number of forms. According to definitions in the past few years, a “greenway” can be any of the following:

- A linear open space that parallels some natural feature such as a stream or a ridgeline; it may or may not have a trail associated with it;
- A transportation right-of-way that has been converted to recreational use, such as a rail corridor or a canal towpath;
- Any natural or paved right-of-way intended for bicycle, pedestrian, and/or equestrian use;
- Any open space corridor linking parks, natural reserves, neighborhoods, etc., and
- Anything that a community designates as a “greenway” for its own purposes.

Corridors acquired for conservation purposes, such as habitat and biodiversity, may have no trails or low-impact natural surface trails. Greenways built with ISTEA or TEA-21 funding are by definition transportation corridors; they are paved and built to transportation standards with wide shoulders and regulatory signage. City urban trails are somewhere in between, depending upon their location.

Recommendation: The following terminology should be used consistently by the City and County in its planning and in its dealing with landowners and developers.

Greenway: A system of trails in the City or County, which may be made up of trails, sidewalk trails, and/or nature trails—example, the North/South Greenway.

Trail: A discrete section of paved pathway, generally between major trailheads, which may or may not be included in a greenway system and may include a section of sidewalk trail—example, the Third Fork Creek Trail of the North/South Greenway. Trails may also be natural surface or improved surface where necessary. Trails will be designed for the least possible environmental impact, especially in the County’s Corridor System routes. Paved Surface trails are defined as standard 8-10 feet wide asphalt or concrete trails with multiple uses. Improved Natural Surface trails are defined as 6-8 feet wide trails with compacted surface material, low grades, and multiple uses. Natural Surface trails are defined as less than 6’ wide, dirt surface, suitable for hiking or other

specifically designed use. For mapping purposes the term “Greenway” remains in use with the map legend.

Sidewalk Trail Section: An 8 to 10 foot wide paved section within or immediately adjacent to a roadway right-of-way. Most sidewalk trails are included within a trail and thus do not have a separate name. An example is the Club Boulevard sidewalk section of the South Ellerbee Creek Trail.

Street Trail: A designated connector between trails or greenways, consisting of a standard 5 foot wide sidewalk and a wide outside lane or bike lane on the roadway. Street trails in more rural areas may consist of a paved roadway shoulder only.

Recreation Trail: These may vary depending upon the area, but a recreational trail is typically an unpaved trail which may or may not be part of a greenway. It may serve for hiking, equestrian use, or mountain biking or a smaller paved trail contained within an urban park. An example is the New Hope Creek Nature Trail.

Rail-Trails: A special category when it comes to acquisition and development, but as part of Durham’s larger plan, rail-trails fit in as one of the types above. Thus the entire American Tobacco Trail *system* is, despite its name, a greenway. It consists of the main north/south route, also individually named the American Tobacco Trail, plus the Riddle Road Trail and various short connector trails.

1. “Blueways”

Blueways is a term that has come into use recently to indicate rivers and streams and their adjacent land uses that support recreational Activity. Obviously, a river itself does not need to be improved for a canoe or a kayak to use it, but management of public access points and scenic and/or conservation easements along a river corridor does make a river or stream into a blueway. Parts of the Eno River within the State Park and adjacent to West Point on the Eno City Park are already managed as a blueway. Durham County has some other potential blueways along the Little River, Flat River, and sections of New Hope Creek.

Recommendation. The County’s Open Space Corridor Plans need to include plans for public access to these waterways and include recreational use of the water itself into management plans for the corridors. These plans need to be coordinated with all relevant land management agencies.

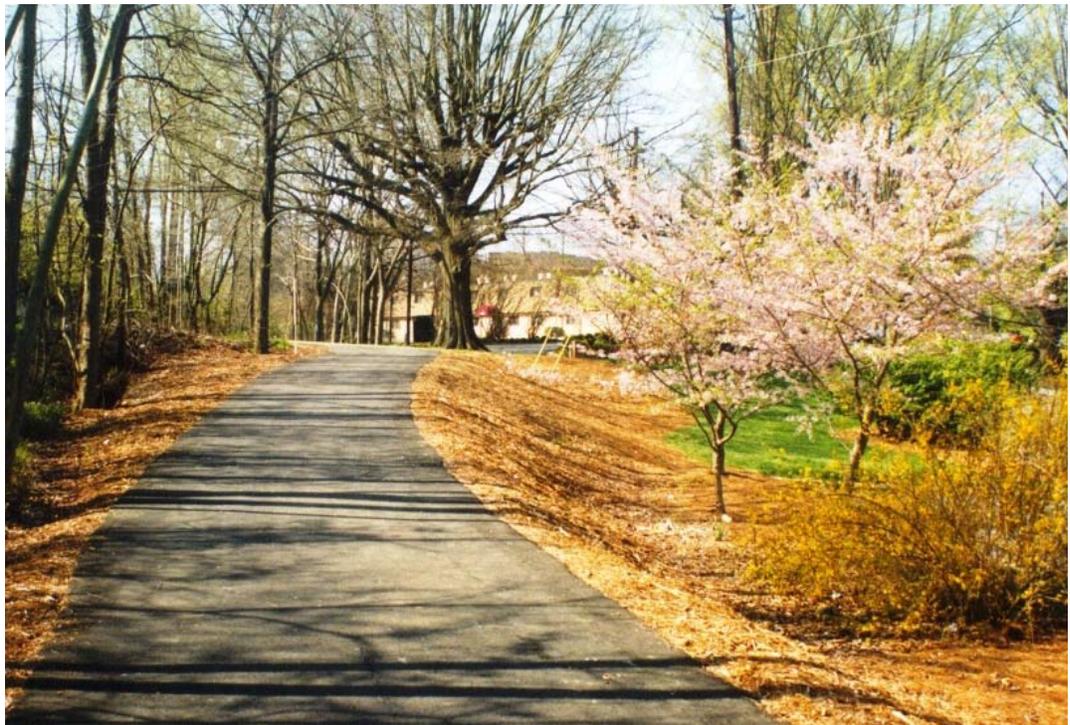
2. Off-Road Vehicle Trails

Off-road vehicles (ORV), including dirt bikes and All-Terrain Vehicles (ATV) not licensed for on-road use, are very popular in North Carolina. However, in Durham and in the larger Triangle region there are no legal

public trails for ORV use. Trails which are not intended for ORV use, such as the New Hope Nature Trail and the Panther Creek Trail, are sometimes used by people on ORVs. The result is frustrated neighbors and some amount of environmental damage.

Recommendation. Durham should develop trails for ORV use, either alone or jointly with surrounding counties. While motorized vehicles on trails are sometimes not popular with other outdoor recreationists, ORV users as a group are as responsible trail-users as other interest groups such as hikers or equestrians. The National Off-Road Highway Vehicle Conservation Council (NOHVCC) and its North Carolina chapter have set rules and standards of behavior for themselves that other trails groups could emulate.

Durham does contain at least one site that would make a good ORV park with several miles of a trail system. The capped landfill and surrounding floodplain southeast of the channelized portion of Ellerbee Creek has sufficient land area, is not close to residential development, has no sensitive environmental areas, and is in public ownership. Work with local ORV advocates could turn this area into a popular ORV trail system even if were to be used on an interim basis.



North/South Greenway at Trinity Avenue

B. Trail and Greenway Names

A trail system needs a simple pattern of naming to make its public use easier. The trail naming system proposed by the original DUTAG has been already been altered in various ways, for instance, by the combination of the “Third Fork Creek Greenway” and the “Ellerbee Creek Greenway” into the current North/South Greenway. However, the basic principles of naming that the plan proposed are still sound. It recommended the following:

- Names of relevant natural features are the preferred names for a trail.
- Parks or other community features are appropriate names of trails as they are likely to be familiar trail origins and destinations.
- Historic names may be appropriate in some cases.
- Emphasis will be placed on naming trails so that users can identify their location without confusion.

In 2000, DOST recommended that one other criterion for naming trails, bridges, or sections of trails could be a name given as a memorial to someone who had made a contribution to the trails program in Durham.

The following tables show the names and locations that are proposed for the various types of trails identified in this Master Plan. Names in parentheses are “placeholder” names for trail routes that have not yet had sufficient acquisition or development to have been named. Table 3 describes the trails. While there may be sidewalk trail sections within these named trails, they are considered simply part of the trail. They are not called out as separate named sections of a trail and have different requirements from street trails.

Table 3 is a list of recreation trails. Most of the recreation trails, existing or planned, are either in the County or in City parks. Those in City parks are often loop trails used for nature study or quick out-and-back hikes from the parking lot. However, as noted in Section IV, there is a public request for more trails in parks and for those trails to have more accessible surfacing. Individual trails in parks will not be identified by this Master Plan, but both DOST and this plan recommend that park trails be considered as part of the larger trails and greenway system for available funding and for making linkages and trailheads.



*Trail workday at New Hope Creek,
April 1998*



Work on Rocky Creek Trail in 1999

Table 3: Recreation Trails

Individual Trails Within Greenway	Trail Description
Little River Greenway (Additional trails to be determined by Little River Corridor Plan)	
Quail Roost Trail	Between Hopkins Rd. and Conference Rd.
Reservoir Trails	Loop trail(s) developed on public land next to Little River School Community Complex at NC 501
Little River Park Trails	Loop trail(s) developed in Little River Park at Durham/Orange co. line
Cain Creek Trail	From Sevenmile Creek Trail at Craig Rd. north to Guess Rd.
Cane Creek Tributary Trail	From Kelvin Rd. to Saint Mary’s Rd.
New Hope Creek Greenway	
New Hope Creek Nature Trail	Loop between Watkins Rd. and Old Chapel Hill Rd. and between Chapel Hill Rd. Park and Leigh Farm Park
Mud Creek Trail	From junction with Dry Creek to Erwin Rd.
Sandy Creek Trail	From Sandy Creek Environment Education Center Park west to New Hop Creek, trails within park
Leigh Farm Park Trails	Trails within Leigh Farm Park
Lone Branch Creek Trail	From New Hope Nature Trail east to University Dr.
City Park Trails	
Various, within City Parks	

C. Trail and Greenway Standards

Once the trail or greenway right-of-way has been acquired, plans can begin for the development of the trail facilities. The available funding and the City Council and Board of County Commissioners approved priorities will guide the order of construction. Each of the types of trails described and named in the previous section will have its own design requirements and standards.

The City’s practice has been to hire a professional consultant to do the design work on a trail project. The consultant writes the specifications for bidding and acts as project manager for the actual construction process. Both the City and County should continue that practice for trails. Trails are paved (or hard-surfaced); must meet ADA accessibility criteria; often have structures such as bridges, boardwalks, or retaining walls, often must get Federal Emergency Management Act (FEMA) or United States Army Corps of Engineers development permits, and frequently have busy street crossings. In addition, trails being constructed with funding from state or federal transportation programs must be approved by those agencies as meeting their particular specifications. Managing all those issues competently requires a licensed professional.

Recreation trails, on the other hand, can often be constructed by volunteers under the direction of a trained professional or trained volunteer. The trail layout needs to be designed by someone who can read the landscape and select a route that will have minimum impact on the natural resources, regardless of

the expected trail use. Construction may be largely done by volunteers with hand tools.

Following are general trail design standards for trails, street trails, and recreation trails. Any of these standards, of course, can be altered by an agreement among relevant City or County staff and design professionals when a particular site requires it.

1. Trails

Trails are generally preferred in an urban or suburban location where use by bicyclists and urban pedestrians is expected—including such uses as roller blades, wheelchairs, scooters, and strollers. Useful guidelines for development standards include the 1999 *Guide for the Development of Bicycle Facilities* (American Association of State Highway and Transportation Officials, AASHTO) and the 1994 *North Carolina Bicycle Facilities Planning and Design Guidelines* (NCDOT, Division of Bicycle and Pedestrian Transportation). However, since both these guides offer standards primarily for bicycle transportation routes, their recommendations may be altered for urban trails that are anticipated to be used by both transportation and recreation users.

A minimum trail width of ten feet is recommended to assure safe two-way traffic. Exceptions may be allowed in some sections of trail to protect existing natural resources or existing development. The cleared trail corridor



Work at Rocky Creek on the American Tobacco Trail

should be no more than an additional ten feet on either side of the trail tread; in an area where the existing vegetation is scarce, there should be re-vegetation in the right-of-way outside this thirty-foot expanse.

Trails in seasonally or permanently wet areas may need to be boardwalked. Trail design must address issues of on-site and off-site surface and subsurface runoff and drainage associated with the trail's construction and use.

The pavement choice for a trail should be decided by its design load—generally the gross weight of a maintenance or emergency vehicle—as well as by the underlying soil and its compaction, the level of wetness of a trail location, and the expected use. There will be occasions to use alternative paving materials or some other hard-surface materials for a trail, but in general the trail standard paving material will be asphalt.

2. Sidewalk Trail Section

Sidewalk trail sections are ten foot wide paved sections within or immediately adjacent to a roadway right-of-way. They link sections within a particular trail and thus should continue its width for user safety and convenience. They may be reduced to eight feet wide in some sections if necessary to protect existing natural resources or existing development.

Sidewalk trail sections are generally surfaced with concrete because they also function as a regular sidewalk—often they are expansions of an existing sidewalk.



Construction of the North/South Greenway at Club Blvd.

Utility poles, signs, fire hydrants, etc. should be re-located outside of a sidewalk trail section to ensure the safety of wheeled traffic using the trail; if re-location is not possible, these obstacles should be painted a warning color. The City and County should encourage residents not to leave garbage and trash containers for pick-up on these sidewalk trail sections.

3. Street Trail

The street trail is a designated connector between trails, usually consisting of a standard five foot sidewalk and a wide outer lane or bike lane on the adjacent roadway. The City or County may request an easement for additional sidewalk width on portions of these street trail sections if conditions warrant it, (e.g., heavy vehicle traffic which could threaten some bicyclists or a back-of-curb sidewalk along a busy roadway).

The street trail cross section on page 66 illustrates a cross section of some possible manifestations of a street trail: a sidewalk (ideally separated from the roadway by a planting strip) paralleled by either a wide outer lane for bicycle traffic or an actual striped bicycle lane. A roadway travel lane should be increased by four feet over the design width for motorized vehicles to be a safe wide outer lane for bicycle traffic; a striped bicycle lane needs to be at least five feet wide. No roadway would have both of these treatments in the same location. Street trails in rural areas may consist of a wide paved roadway shoulder only.

4. Recreation Trails

Recreation trails are far more varied in their design requirements than hard-surfaced urban trails. The design of each recreation trail is the solution to a unique set of site-based needs and situations: land features, resource constraints, anticipated use, and possible management and maintenance strategies. Paved trails in urban parks must connect recreation facilities within that park.

Information on those points will guide the design in its configuration on the land, the type and width of the trail tread, the necessary clearing limits, and specific construction needs such as erosion control features or creek crossings. Once those decisions are made, there are established reference for directions on building the desired trail cross section, including the following recommended works:

- *The Complete Guide to Trail Building and Maintenance.* Carl Demrow and David Salisbury, Appalachian Mountain Club. Boston, MA. 1998.
- *Trail Construction and Maintenance Notebook.* US Department of Agriculture, Forest Service Technology and Development Program, Missoula Technology and Development Center. Publication No. 4E42A25-Trail Notebook, 1996.
- *NPS Trails Management Notebook.* US Department of the Interior, National Park Service, Denver Service Center. US Government Printing Office Document NPS-2023, 1992.
- *Lightly on the Land—The SCA Trailbuilding and Maintenance Manual.* Robert C. Birkby, Student Conservation Association. Seattle, WA, 1996.
- *Trail Development and Construction for Mountain Bicycling.* Gary Sprung, ed., International Mountain Bicycling Association. Boulder, CO, 1995.



New Hope Trail workday

These descriptions and cross sections are intended as general standards for the various types of trails that exist in Durham. Each trail is a unique construction and must be fitted onto the land in a way that will both enhance its usefulness and beauty and protect the natural environment. The relevant City and County staff members and the consultants they employ will make final determinations as to trail location within acquired rights-of-way and trail design specifications.

5. Signage

As a general rule, signs used for the trails and greenways system will be for the purpose of providing users with the following information:

- The name of the greenway system and the particular trail;
- Permitted uses and other necessary rules;
- A map of the trail; and
- Any other information which may be necessary for the safety and convenience of the trail user.

A **major entrance sign** will be placed at points of entry to each trail where users will access the trail, ideally where parking is also available; a **minor entrance sign** will be placed at points limited to bicycle and pedestrian access with adjacent parking.

An **information sign** will be used to provide information to trail users about permitted use and rules of behavior and will include a map of the trail and its location within a greenway system.

A **blaze and stop sign** will be placed on both sides of a street where ever the trail crosses a street.

Directional signs will be used as needed to direct trail users at route intersections or direction changes.

Trail connection signs will provide information on connections between trails via street trails.

Bollards will be placed in the trails at road crossings to block trail access to motorized vehicles. A central bollard should be designed as a fold-down or breakaway type to permit access by maintenance vehicles.

Other types of signs may be used when staff and consultants determine that there is a need for them. For instance, routes constructed with funding from NCDOT may be required to have additional roadway bicycle and pedestrian markings. A trail in an historic district or a natural setting may include interpretive signage. If trails are “adopted” by volunteer groups for maintenance, they may install a sign noting their trail adoption that will be in place for the duration of their service. Trails that are part of some larger regional system may have signage indicating that fact.

Other than signs for special situations as noted in the preceding paragraph, signs in the Durham system will be as consistent as possible in graphic design, coloration, and logos used.

D. Maintenance and Management

Building a trail is time and labor intensive; it can take years from the first conception of a trail route until an actual trail is on the ground and open for use. But a trail's *real* life is just beginning when the ribbon is cut and the first user walks or rides out. Maintenance and management specifics are not within the scope of this plan. Making those decisions is and should be the job of the City or County agency that must implement them. However, some general recommendations about maintenance and management strategies are within the scope of this plan and will be discussed below.

Recommendations

1. The City and County should address maintenance and management strategies early in any trail planning process. Choices made during the design phase have implications for operational issues later, in both maintenance costs and trail user safety and associated risk management costs.
2. The City and County should involve regional travel and tourism entities in trail planning at some point, since the operation of actual trail facilities and related businesses can have an effect on economic development.
3. The City and County should develop a mechanism for establishing standards of trail maintenance and for sharing trail operations duties—both between themselves and potentially with other agencies and jurisdictions in the region on trails that cross jurisdictional boundaries.
4. The City and County should actively recruit volunteer assistance in trail maintenance and management and should designate a staff liaison to work with volunteer groups. “Adopt-a-Trail” and “Friends of the Trail” type groups should be encouraged with recognition and some level of support (such as provision of hand tools for trail work days).
5. All plans for trail management must address trail security issues as well including physical security features (such as emergency phones, lights, and fences) and dedicated personnel (policy, sheriff deputies, park rangers).

Trail maintenance exists in a continuum from work that must be done by professionals with heavy equipment to trash pick-up that can be done by children. But there are some general recommendations that can be made about trail maintenance that must be addressed for a successful greenways and trails system. They include work that must be done routinely and work done on an as-needed basis.

Recommendations:

Maintenance work to be done on a regular, scheduled basis:

- Trail safety inspections (and documentation of the inspection);
- Trail sweeping and trash removal;
- Trailside vegetation mowing;
- Upkeep of trailside trees and shrubs; and
- Trail maintenance needs inspection and scheduling.

Maintenance work to be done on an as-needed basis:

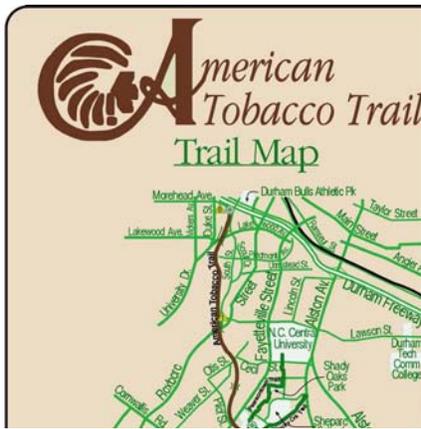
- Trail surface repair;
- Trail feature replacement (such as a bridge or steps);
- Snow or ice removal;
- Drainage control;
- Invasive plant control; Trail signage repair, update, or replacement; and
- Habitat enhancement

In addition to these tasks which are specific to any particular trail or recreation trail, there are tasks for the department managing the entire trails and greenways program, including:

- Volunteer coordination;
- Trails mapping and map production;
- Education and interpretation;
- Trails event planning and implementation;
- Coordination with law enforcement for trail safety;
- Keeping expense records to generate good trail program budgets; and
- Training employees in trail maintenance techniques.

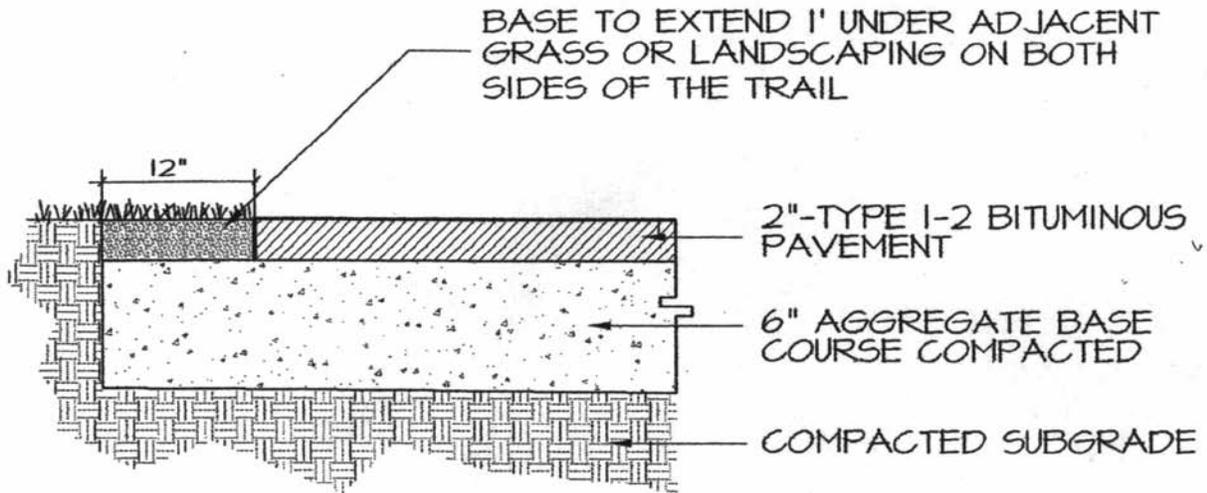
Much citizen and staff time is expended in planning, acquiring, and building greenways and trails in Durham. Once trails are on the ground and being used, the time commitment may shift to different citizens and different staff, but there is still the need to hold these facilities to high standards. Indeed, both the City and County have a commitment to maintain rights-of-way they acquire in good condition, even prior to the construction of a trail on that right-of-way. This maintenance includes the prevention of unsafe conditions from arising, including inspections of greenways for misuse such as dumping, and the response to citizen complaints.

The following are standard details for trail construction: asphalt trail, asphalt trail on poor soils, boardwalk section, concrete trail addition to existing sidewalk, and trail bollard. As noted previously, these details may be altered as needed by decisions of the staff and consultants. Details are courtesy of Coulter Jewell Thames, P.A.



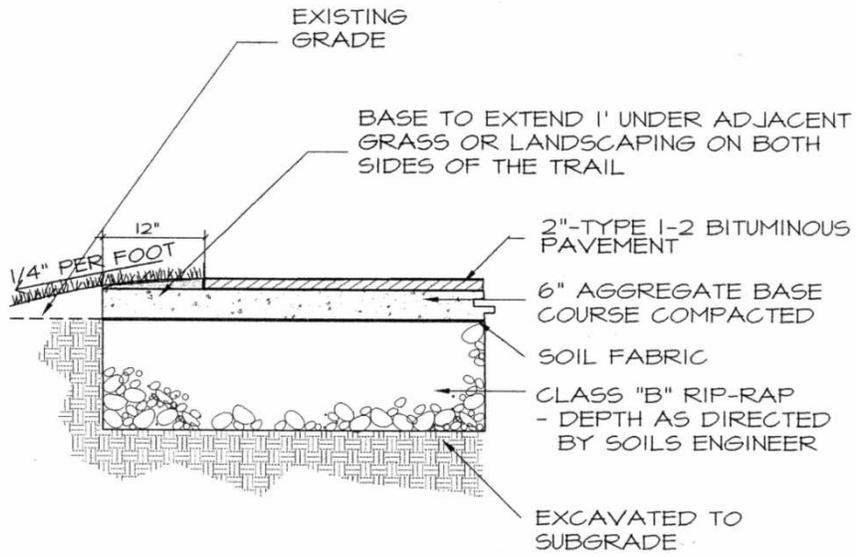
This map of the American Tobacco Trail is designed for the trailside kiosks.

Detail 1, Standard Asphalt Trail



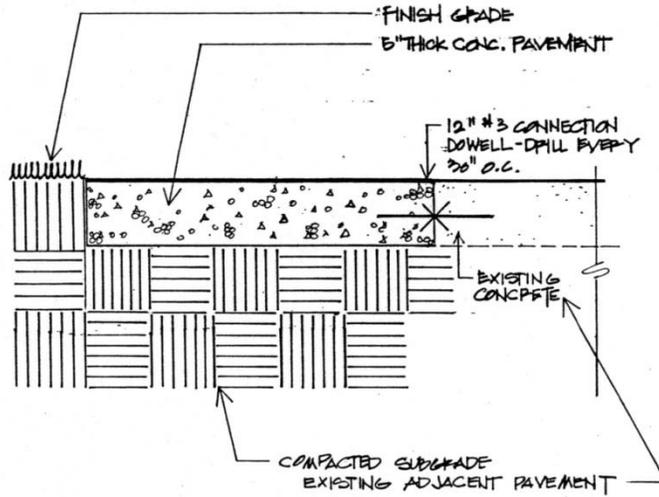
■ Bituminous Trail
NTS

Detail 2, Asphalt Trail on Poor Soils



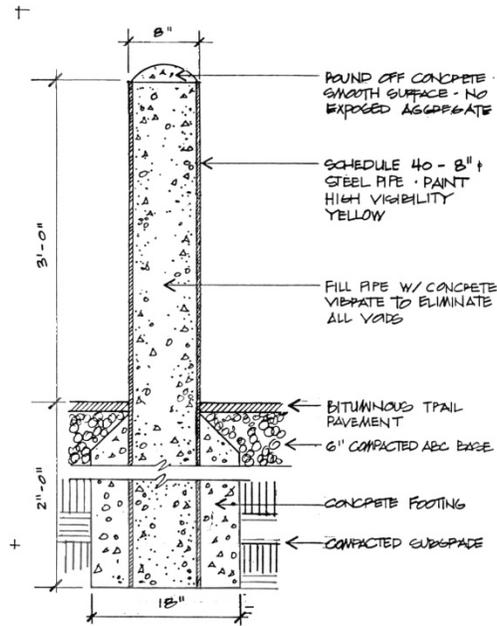
Bituminous Trail Through Poor Soils
NTS

Detail 3, Sidewalk Trail, Addition to Existing Sidewalk



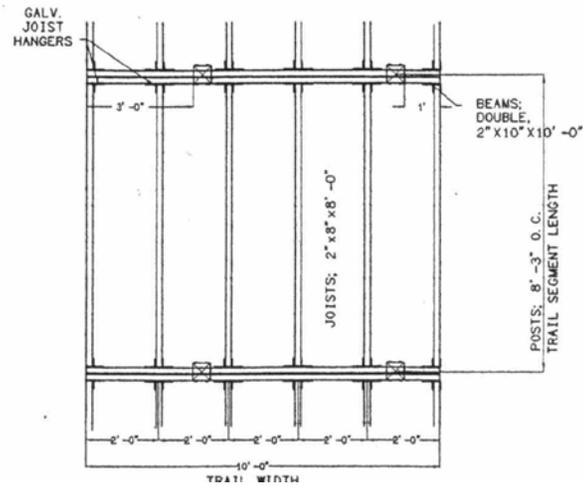
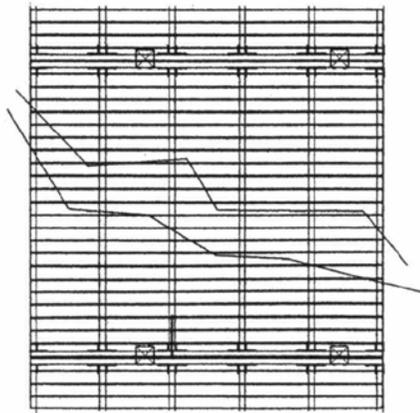
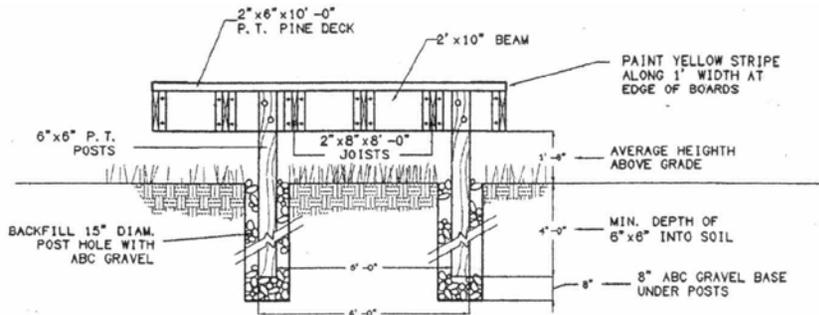
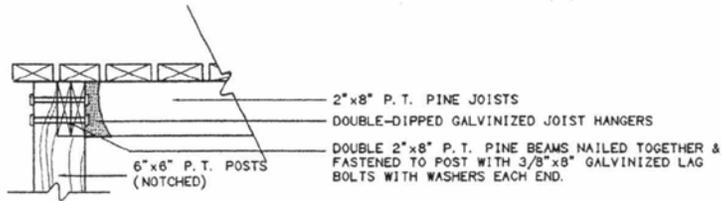
Concrete Addition to Existing Sidewalk
NTS

Detail 4, Standard Trail Bollard



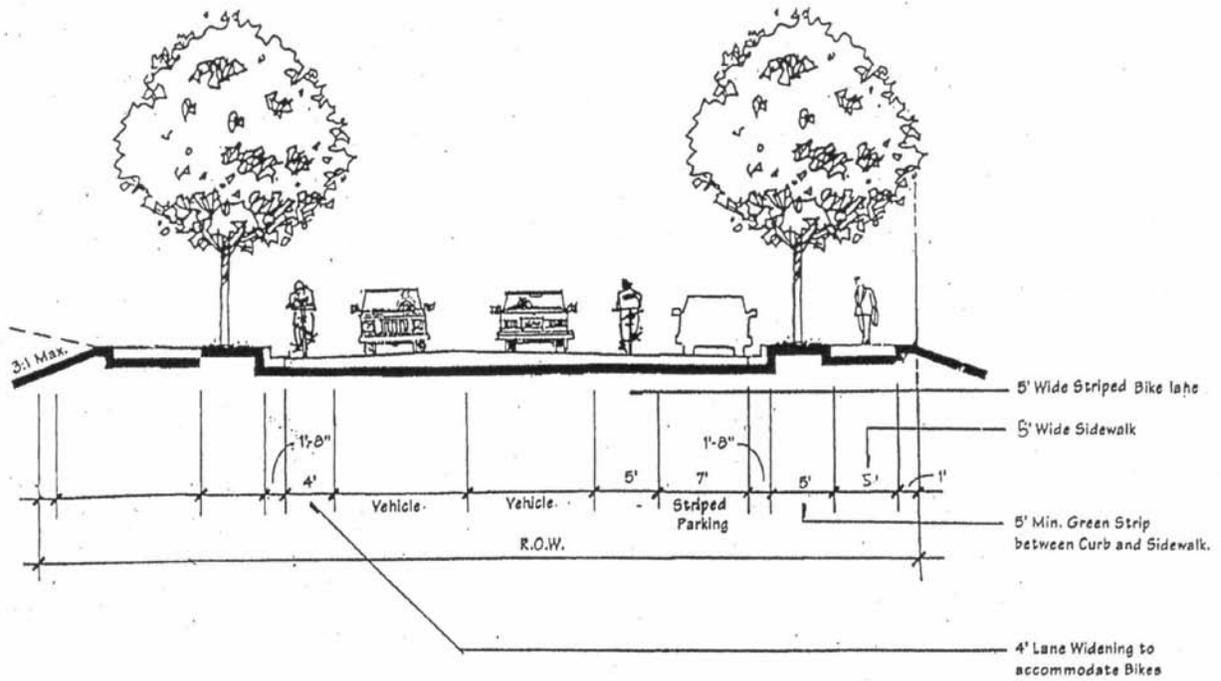
Steel Pipe Bollard
NTS

Detail 5, Standard Boardwalk Section Detail



Street Cross Section
 NTS

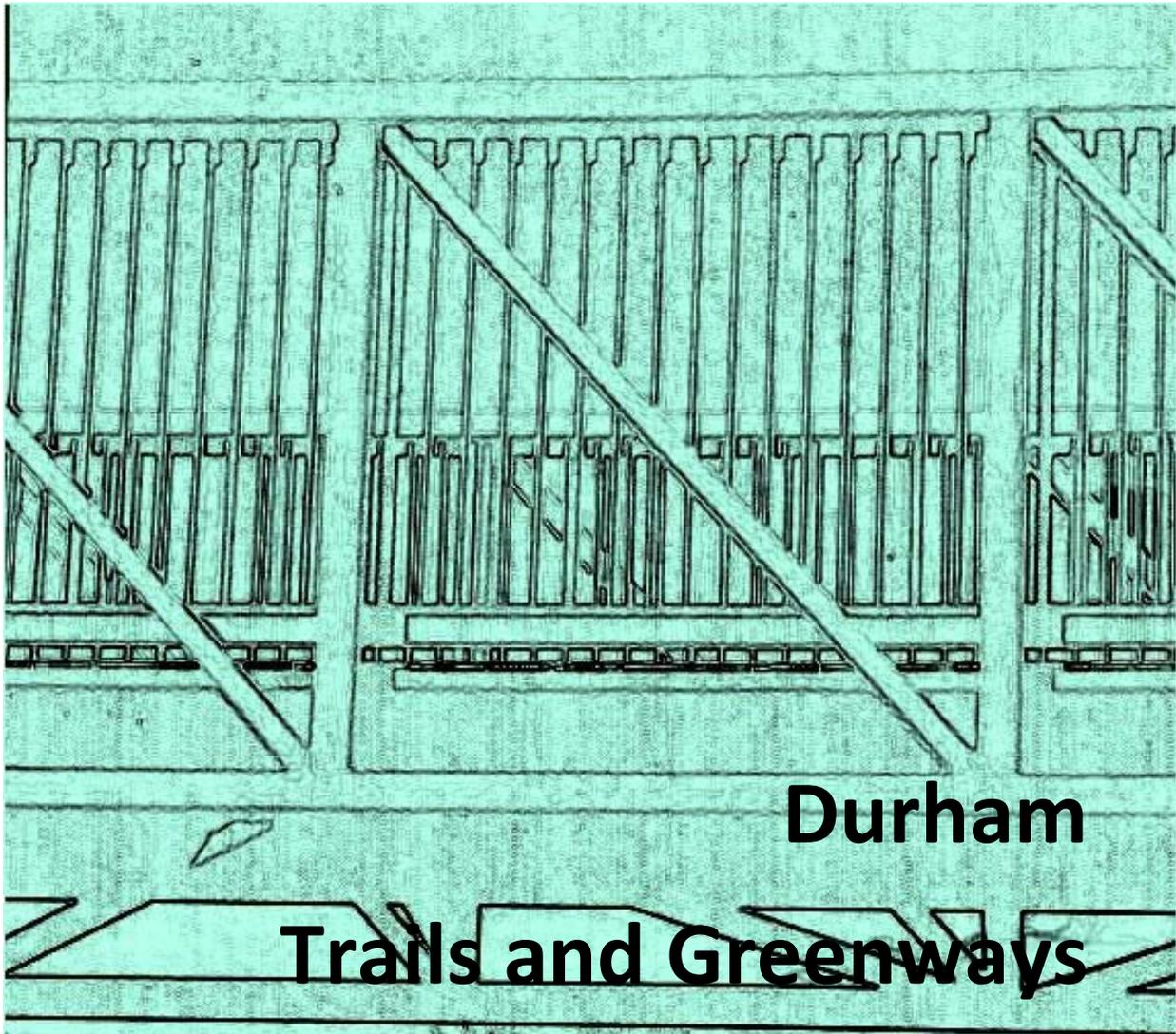
Detail 6, Cross Section, Possible Street Trail Designs



Street Cross Section
NTS



Bollards and accessible ramp onto North/South Greenway at Markham Avenue

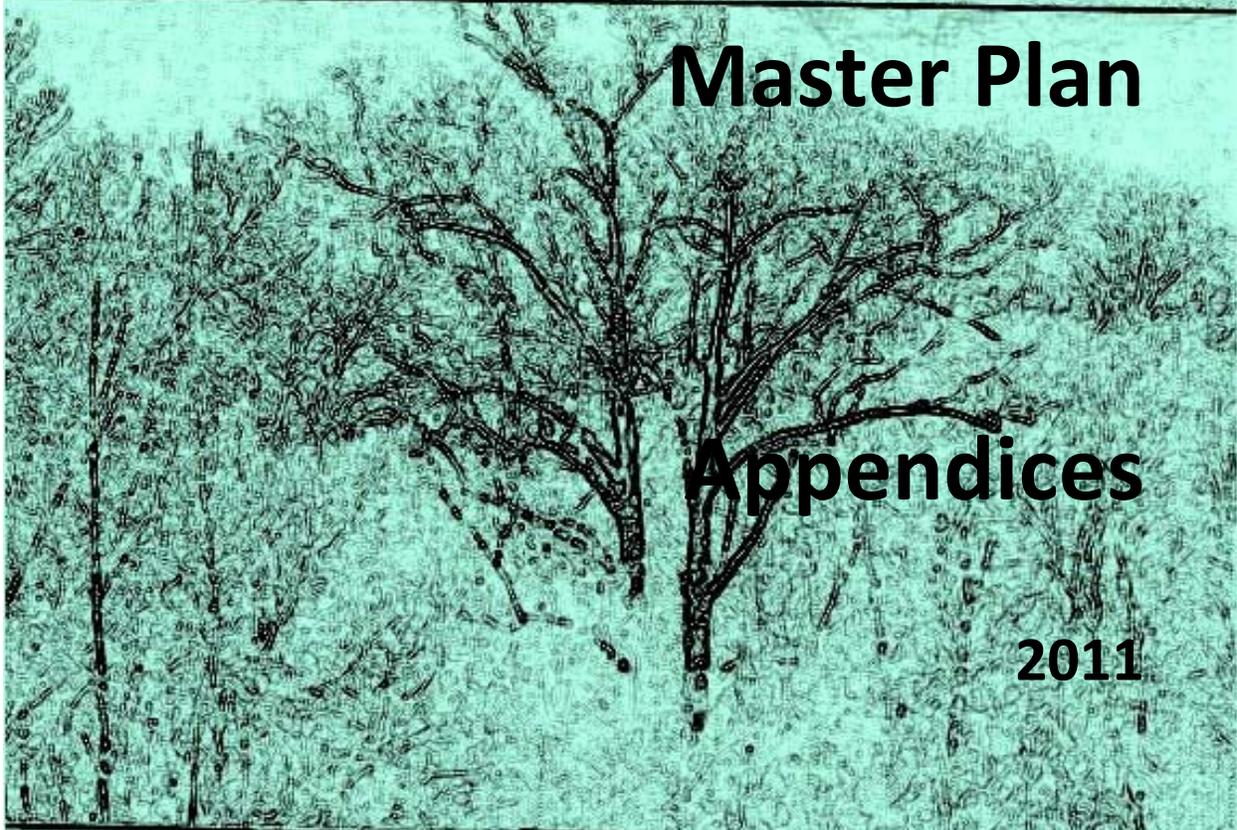


**Durham
Trails and Greenways**

Master Plan

Appendices

2011



**Durham
Trails and Greenways
Master Plan
History
Appendices**

Updated 2011

Durham City-County Planning Department

Contents

I.	Appendix A, Connections and Constraints	6
A.	Parks and Recreation Master Plan.....	6
B.	Policies and Regulations Affecting the Plan.....	9
C.	Durham Ordinances.....	17
D.	Durham County Open Space Corridor System Plan.....	19
E.	Coordination with State and Regional Greenways and Trails Plans.....	22
II.	Appendix 2, Durham Greenway History	24
A.	The 1988 Durham Urban Trails and Greenways Master Plan	24
B.	Trails and Greenways in Durham 1988-2000.....	26
C.	Trails and Greenways in Durham 2001-2011.....	34
D.	The Durham Open Space and Trails Commission	34
E.	Other Adopted Plans Affecting Trails and Greenways.....	38
III.	Appendix 3, Historical Documents.....	45
A.	City Council Resolutions on Abandoned Rail Corridors	45
B.	1990 and 1996 Bond Referenda, Trails and Greenways Sections	48
C.	City Council Resolution Setting Trail Priorities	51
D.	Interlocal Agreement Creating the DOST	60
E.	The “Green Sheet”: Information on Trail and Greenway Dedications	68
F.	The “Green Sheet”: Frequently Asked Questions.....	71
G.	A Resolution In Support of a Policy for City Council to Consider Condemnations of Property for Trail Development.....	72

Maps

Map 1, County Open Space Corridors, Northern Durham
Map 2, Durham County Open Space Corridor Plan, North Durham

Contents Explained

Durham Trails and Greenways Master Plan

Appendices

Appendix A, Connections and Constraints

The appendix on Connections and Constraints explains what local plans and regulations impact the ways trails are developed and what state and federal regulations must be addressed. It also tells you what larger trails systems the Durham system makes connections with.

Appendix B, Durham Greenway History

The appendix on Durham Greenway History offers a look at Durham's original greenways plan from 1988, what that original plan has accomplished, other adopted plans that discuss greenways and trails, and how citizens have energized the work over the years.

Appendix C, Historical Documents

The final appendix provides the texts of some original documents that have been crucial to the growth of the trails and greenway program in Durham.

Under Separate Cover

Durham Trails and Greenways Master Plan

Section I, Trails and Greenways, Maps and Descriptions

The Master Plan contains maps showing the location of existing and proposed trail facilities around the City and County. It also contains a comprehensive listing of all the trails in each greenway and their status at the time of Plan adoption.

Section II, Goals and Implementation

The Master Plan includes goals, policies, and recommendations for developing the trails and greenways system.

Section III, Standards

The Master Plan also includes standards for how trails should be designed and built, how and what they are named, and how they are managed and maintained.

I. Appendix A, Connections and Constraints

A. Parks and Recreation Master Plan

In 2003, the City Department of Parks and Recreation (DPR) completed a new master plan for parks and recreation facilities. A large component of the planning work was community involvement. The consultants hired by DPR (Moore, Iacofano, Goltsman, Incl.) solicited community input on the type and nature of the facilities they wanted at five community open houses and six workshops. Input came from citizens and other City staff members, a number of in-depth interviews with City and County staff and elected officials, and a mailed-out User Needs Survey (*Parks and Recreation Master Plan*, May 2003).

The Executive Summary notes that three of the plan's primary objectives are to (1) "develop a system of parks, greenways and trails...that fully meet community expectations for quality"; (2) "build public support for a financing strategy to implement the plan"; and (3) "develop benchmarks to measure successful outcomes and increase accountability." The master plan concludes that "Durham is clearly committed to responsible park development and open space conservation."

The User Needs Survey, which was mailed in July 1999 to a random sample of Durham residents, offered the following information, as summarized in the plan:

The dominant interest of adult users of Durham City parks is informal recreation and leisure activities. Walking was the most frequently mentioned activity... Users put pedestrian trails, greenways, and bicycle paths at the top of the list of facilities needing improvement and as priorities for expansion. The clear implication is that citizens will support strongly the future development of a comprehensive network of greenways, nature trails, and cycle ways linking neighborhoods, parks, and other community destinations. The expansion of these facilities will undoubtedly support a much higher rate of user participation in walking, jogging, and cycling. The development of an interconnected network of linear elements, offering an increasing number of neighborhood access points, will tend to reduce the current dependency on car travel to get to parks.

According to the master plan, the User Needs Survey notes that "a citywide map showing locations of all city parks and trails" is a desire of the citizens. It shows that "improvements must also focus more attention on improving the aesthetic appeal and wildlife habitat value of park landscapes. Wildlife viewing is a popular activity."

The summation of the survey results states that “expansion of pedestrian and bicycle trail system is ranked third in the list of priorities for improvement. This conclusion closely mirrors the emphasis noted earlier from several sources of the significance of the recreational value of the community greenway and trail network.” In fact, the consultants remarked that the User Needs Survey presents some clear and possibly surprising results. All nine items that top the list preferences are informal recreational activities. Above others is “walking...mentioned by more than half the respondents.” “The prominence of ‘walking,’ ‘bicycling,’ and ‘dog walking’ all point towards the importance of the trail and greenway system. The natural setting of trails is also important.”



South Ellerbee Creek Trail

The master plan draws conclusions and recommendations from its community involvement process. One statement—“The highest priority needs of park users are spaces and facilities for walking”—suggests that citizen support for greenways and trails both in City parks and as separate facilities remains very strong and that any future bond issues for recreation and parks should include an identified greenways component. The plan itself identifies as a priority action item “a dramatic increase in interconnected greenways, trails, and all manner of facilities for walking, jogging, blading, and bicycle riding.”

The DPR Master Plan also points out some general issues and concerns about parks in the City that have a special relevance to the greenways and trails system:

- a. The Plan notes “there is a critical need to counteract the misperception that there is a high risk of crime in Durham parks.” There have been a few crimes associated with Durham’s greenways, though all the data on greenway crimes indicate that a greenway is as safe as the neighborhood in which it is located. There has been a stepped-up police presence on

the greenways since some early incidents, and lighting has been added to the section of the N/S Greenway. Reducing crime must be a community-wide effort and is not a particular danger of the parks and greenways. The trails committee has recognized this and all of the major trails within the system have been entered into the 911 system.

- b. The Plan suggests that DPR and the City General Services Department collaborate to develop a standards-based maintenance system for parks and assess the additional staff and equipment capacity required to implement the new system. Cooperation among various City staff is even more crucial to the greenways and trails program. Currently greenway planning is done by the Planning Department and DPR, budgeting is handled by DPR, property acquisition is handled by the City-County Planning and the City General Services Departments, and maintenance and management are handled by the City General Services Department. Exactions requested by Planning for zoning map change requests and site plans are checked by the Inspections Department. The system generally works, but sometimes roughly, and with possibilities for communication gaps. In addition, citizens calling to report greenway problem or to ask for information have no clear resource.
- c. The Plan recommends that “An Adopt-A-Park program should be established to encourage community volunteer involvement.” This idea has been implemented by the City Parks and Recreation Department and is very helpful for the greenways and trails system. This has been implemented and provides for more maintenance assistance and oversight of the parks.
- d. The Plan notes a need for “the development of new parks to address the under-served areas south of the city center, to provide for future new growth to the south and east, and to provide space for new, innovative, contemporary park facilities to serve the rising expectations of the citizens of Durham.” The priorities selected by the DUTAG did a good job of distributing the money for trail construction across the City; and the Third Fork Creek Trail and the American Tobacco Trail have put trails where some of the City’s fastest growth has been occurring.

However, there is a need to address other fast-growing City areas, such as the area north of the Eno River, and a need to respond to citizen desires to use the greenway network for more off-road bicycle and pedestrian commuting. In fact, the DPR master plan also notes the need to tie the City’s trails and greenways into a real network “for walking, bicycling, blading, and horseback riding, connecting the open spaces of the city into a unified, user-friendly system.” In this regard, the City adopted the *DurhamWalks Pedestrian Plan* and the City and County

adopted the *Durham Comprehensive Bicycle Transportation Plan* in order to plan for and coordinate pedestrian and bicycle facilities. In the future, the connection of the City's trails should become as important as the distribution of them.

- e. The Plan also discusses the issue of trails within the City parks, an area that was not covered in the DUTAG, as being more specifically the concern of DPR. However, the DOST sees the need to tie City park trails more purposefully into the larger system and to support those trails with any future bond funding, since parks serve both as trailheads and as access points for greenways.



Lakewood Avenue Bridge on the American Tobacco Trail

B. Policies and Regulations Affecting the DTAG Plan

Plans adopted by the City of Durham and Durham County such as adopted open space plans have an effects on trails and greenways planning. There are also policies and regulations at the local, state and federal levels that increasingly have an effect on how Durham designs and implements its trails and greenways system.

1. The Americans with Disabilities Act (1990)

The Americans with Disabilities Act (ADA) was enacted in 1990 to extend the rights of persons with disabilities into the private sector and to those local government agencies and functions which had not been covered by

the Rehabilitation Act of 1973. ADA prohibits discrimination on the basis of disability in public services or facilities provided by state and local governments. It also created a set of accessibility guidelines, the Americans with Disabilities Act Guidelines, which explains how all places of public accommodation are to be made accessible. All paved trails and greenways in Durham, as well as associated facilities such as trailheads and parking, are now designed to be fully accessible. Durham's trails must comply with ADA's construction and alteration requirements.

The U.S. Access Board also created a committee to develop recommended standards for the facilities associated with less developed outdoor recreation areas, such as natural parks and trails. The Board suggested that standards for levels of accessibility—easier, moderate, and difficult—be adopted for natural sites and that sites are clearly signed with information on those standards. The Board also made a distinction between natural recreational trails on a site and Outdoor Recreation Access Routes. These Routes are paths which connect the primary elements of a site (such as restrooms, parking lots, and picnic areas) and must be fully accessible. Durham is currently working to make its trails within parks accessible. When nature trails are added into the City's and County's trails and greenways system, they will be designed to meet current U. S. Access Board standards.

2. Neuse River Basin Nutrient Sensitive Waters Management Strategy (1997-2010)

In December 1997, the North Carolina Environmental Management Commission adopted what chairman David Moreau called "a landmark piece of basin wide water quality planning." It took effect in August 1998, in the Neuse River Basin, an area which includes more than half of Durham County. Similar regulations were adopted for the Jordan Basin in 2009. These regulations went through some additional changes and updates in 2010-2011 and will continue to be an important factor in trail construction. The regulations are aimed at reducing non-point source pollution of the watershed and include new wastewater discharge requirements, nutrient management requirements, and agricultural nitrogen loading reductions and stream buffer protection; however, it is the new riparian buffer requirements which have the greatest impact on Durham's trails and greenways planning.

The buffer requirements state that areas adjacent to a body of water in the basin that contain existing forest vegetation must be preserved and maintained to accomplish sheet flow and maximum pollutant removal. At least 30 feet of streamside buffer containing forest vegetation (named Zone 1) must be preserved; and an additional 20 feet of upland area

adjacent to that (named Zone 2) must be maintained in dense ground cover. Certain uses are allowed in Zone 2, provided that the health of the vegetation in Zone 1 is not compromised.

State regulations classify “greenway trails” as one of the uses allowed in Zone 2, however, according to sections 7 and 8, “Uses designated as allowable may proceed within the riparian buffer provide there are not practical alternatives to the use.” The NC Division of Water Quality considers each request to build a trail in the buffer area and grants or denies authorization based on the proposed construction’s effect on vegetation and water quality. The Environmental Management Commission has proposed similar regulations be adopted for the Cape Fear Basin.

3. Clean Water Act, Sections 401 and 404 (1982, 1999)

Wetlands development in North Carolina is regulated by Sections 401 and 404 of the federal Clean Water Act (CWA). While 95% of the wetlands in North Carolina are located in the coastal plain, 4% of the wetlands recorded in the National Wetlands Inventory (NWI) are in the piedmont region that includes Durham. Many of the planned trail routes in the original DUTAG Master Plan are shown in riparian areas adjacent to Durham’s many creeks; thus, some do impact on wetlands areas.

CWA Section 404 requires permits for development activities in jurisdictional wetlands. (Since 1989, the term “jurisdictional wetlands” has been used for wetlands which conform to certain criteria of wetland hydrology, wetland soils, and hydrophytic vegetation.) Section 401 requires that states certify that a proposed activity will not result in a violation of state water quality standards. Permits issued under these laws require developers to avoid, minimize, or compensate for impacts on wetlands. Section 404 has the most impact on greenway development in or near wetlands areas. It requires that a permit be obtained from the U.S. Army Corps of Engineers before undertaking any activity that will result in the discharge of dredged or fill material into “waters of the United States”—with “waters of the United States” defined as “navigable waters, their tributaries, and adjacent wetlands” (Title 33, CFR§320; NC Constitution IV.5).

Prior to 1999, greenway construction that required any filling in jurisdictional wetlands was minor enough that it could come under the Nationwide Permit (NWP 26) that allowed filling of less than ten acres of a wetland. New regulations, however, have reduced the NWP threshold to fill of one-half acre or less or impact on no more than 300 linear feet of stream bed. For a linear corridor such as a greenway, which might run for a mile or more in close proximity to a creek or in a flood plain, the

threshold is almost always passed, so federal permitting is required. In addition, the U.S. Environmental Protection Agency and the U.S. Fish and Wildlife Service are both notified when a 404 permit is applied for; either of these agencies can comment upon and appeal the Corps' decision to grant a permit.

The impact on Durham's greenways and trails system has been both delays in construction (because of required permitting) and route changes (either moving trails to upland areas where land is more difficult to acquire or moving trails to existing sewer easements where disturbance and fill have already occurred). Certainly, early coordination with relevant state and federal agencies is critical in trail planning.

4. Federal Emergency Management Agency (1979)

The Federal Emergency Management Agency (FEMA) was created in 1979 by combining five agencies and four programs in the Executive branch of the government. Its initial purpose was assistance to citizens struck by disasters too large for local governments to deal with effectively, such as floods, tornados, or earthquakes. Increasingly, however, FEMA has moved into working towards prevention of such disasters. The National Flood Insurance Program (NFIP) has created a system of maps of Flood Hazard Areas, using hydraulic studies to plot the different potential 100-year flood zones on almost all significant rivers and creeks in the country.

Any project that is planned for construction in one of these flood zones must not only comply with the local government regulations and standards for such construction, it must also receive a CLOMR (Conditional Letter of Map Revision) or LOMR (Letter of Map Revision) from FEMA when that construction is in the floodway. A CLOMR is FEMA's comment on a proposed project that would affect the hydrologic and/or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway. A LOMR is an official revision to the NFIP map (which can, of course, change flood risk zones and flood plain and floodway boundary delineations).

Since a greenway is a flat structure that creates a fairly small amount of impervious surface it does not in itself have much trouble getting a FEMA approval. But any boardwalk structures or bridges that are part of a greenway may be judged to be enough of a barrier in a creek's floodway to cause a rise in the flood levels. Durham's staff and greenway construction consultants have had to work to get both bridges and boardwalks permitted and have had to make significant revisions in construction plans or route plans in some instances.



South Ellerbee Creek Trail

5. US Army Corps of Engineers Project Lands

Durham is fortunate to have two large reservoirs on its borders, Jordan Lake to the southwest and Falls Lake to the east and northeast. Those federal lands with their watershed buffers, provide invaluable green space for the County's human and animal residents. Since those properties are public lands, they are available for hiking. However, neither of the agencies managing those lands, the Corps of Engineers and the North Carolina Wildlife Resources Commission (to whom much of the land is leased), are in the business of recreational trails.

In a letter following a meeting in 1999 with representatives from Durham, the WRC outlined its position on trails in the lands it manages at Jordan Lake. The agency said, "Congress authorized the project lands to mitigate the significant impact from the construction of the reservoir...and to provide protection of the reservoir." The WRC manages a large portion of these lands as permanent game lands, for the primary purpose of hunting, fishing, and wildlife observation. State Parks and Recreation currently manages some areas as permanent recreation sites...The current management...is mostly compatible and provides complementary public benefits. However, as use of these public lands increases there is real potential for conflict between user groups, adverse

impacts to plant and animal communities and health and safety issues to occur. Therefore, any trail system will require careful planning and management to address these issues and to protect the intended uses of these lands and prevent degradation...The no trail alternative is obviously preferred from the perspective of habitat conservation and some wildlife recreation activities. However, we believe some limited nature trails can be compatible with natural resource conservation and wildlife recreation if properly planned and managed.

Several planned trails and greenways in the Durham system are indicated on maps as stopping at the border of Falls Lake and Jordan Lake project lands. A developed trail on project lands will not be indicated on Durham plan maps unless the route and trail standards have been agreed to by representatives from the Wildlife Resource Commission (WRC) and the US Army Corps of Engineers (USACE). However, the goal is that City and County trails will continue into these public lands.

Durham City or County trails that run into State lands—such as Hill Forest or Eno River State Park—will only be placed connecting with existing trails on those properties; the same protocol will be followed for trails on private lands which are open to the public, such as Duke Forest.

6. North Carolina's Million Acre Initiative (2000 -2009)

In May 2000, the North Carolina General Assembly passed a law that is intended "to encourage, support, and accelerate the permanent protection of farmland, forestland, parkland, gameland, wetlands, open space, and conservation lands" in the state. This measure is a response to information gathered by Governor Hunt's Interagency Task Force on Smart Growth; it found that open space preservation was a primary citizen concern across the state. The Million Acre Initiative is a plan that sets forth a strategy for achieving the goal of adding one million acres to North Carolina's current assemblage of permanently protected open space and farmland by the end of 2009.

The State's role in this initiative includes (1) setting an example by accelerating its own acquisition of open space lands, (2) encouraging and facilitating acquisitions by local governments and private land trusts, (3) encouraging and facilitating mutual planning among local governments, and (4) serving as a communications clearinghouse for open space data and information.

The initiative created a partnership among local Councils of Government and the State's Department of Natural Resources (DENR); the lead agency for the project is the State Division of Parks and Recreation accomplished most of their mission by 2009, since one of its six stated goals was to

“provide public access to outdoor recreation”—including greenways, trails, and urban green spaces. With the recent economic climate various State and Federal budget cuts have hampered additional funding sources that could impact Durham Trails.

7. Triangle Regional Greenprint (2000-2011)

One regional spin-off of the Million Acre Initiative is the Triangle Regional Greenprint project, jointly sponsored and managed by the Triangle Land Conservancy (TLC), the Triangle J Council of Governments (TJCOG), and DENR. In November and December 2000, the three organizations hosted charettes of Triangle area professionals to map and discuss lands either currently preserved or in need of preservation in the categories of (1) natural areas, (2) parks and greenways, and (3) farmland and forestland. Several planners from Durham participated in these discussions.

The Greenprint, as it evolves, is expected to be used to demonstrate how regional planning might be able to work to solve some of the regional pedestrian and bicycle transportation needs. One goal of the Greenprint section on greenways is to link existing greenways plans (such as Raleigh’s, Durham’s, Cary’s, and Chapel Hill’s) so they can be integrated into an overall regional greenway plan. A regional plan could ensure that local sections could meet at jurisdictional lines, could have similar construction and signage standards, and could be planned for construction at similar times. Good GIS coverage of existing and planned greenways is also a crucial element of a regional plan. This plan is in the process of being updated.

The Triangle GreenPrint Project is an initiative to help the Triangle protect a linked network of green space as the region grows. By identifying the Triangle's essential green infrastructure and showing how it fits together on a regional scale, the Green Print is helping communities, land management organizations, and the general public maximize the investments they make in green space protection.

The project is sponsored by the Triangle J Council of Governments, the Triangle Land Conservancy, and the North Carolina Department of Environment and Natural Resources. In turn, these organizations are working closely with a variety of other partners including local governments, nonprofit conservation organizations, state and federal agencies, universities, and citizens.

Phase 1: The Technical Phase of the project brought together more than 140 green space experts from across the Triangle to identify important open spaces across the region. This work is summarized in the [Triangle](#)

[Green Print Regional Open Space Assessment](#) that was completed in February of 2002.

Phase 2: In the Public Outreach Phase, project staff made public presentations across the six-county study area to share the information collected in Phase 1 and solicit feedback. A total of 25 presentations and displays were made to more than 800 people. The Board of County Commissioners in each county in the study area (Chatham, Durham, Johnston, Lee, Orange, and Wake) then adopted a resolution of support for the project, pledging to use the Green Print information in its planning and protection work, and participate in efforts to create a regional green space network. An [Outreach Report](#) summarizing the work of this phase was completed in July of 2003.

Phase 3: In March of 2003, the Green Print sponsors launched the Tracking and Coordination Phase of the project. This component of the project will identify and track all the current and planned land protection and trails projects in the region. The project team will then use GIS to compare these places with those identified in Phase 1 to measure the progress the region is making toward protecting a linked network of green space. This information will also help land management organizations identify new land protection opportunities and serve as a catalyst for greater cross-jurisdictional collaboration on land protection and trails initiatives. The project is helping Durham and the Research Triangle Region to maximize the investments it makes in open space protection, and preserve a linked network of green space for current and future generations of residents. Since its inception in 2003 this project has had regular input from the surrounding counties and continues to incorporate the needs of the region into an updated data base.

8. NCDOT 1994 Administrative Action

The NCDOT policy is fully titled, “Administrative Action to Include Local Adopted Greenways Plans in the NCDOT Highway Planning Process.” With this policy, NCDOT says it “recognizes the importance of incorporating local greenways plans into its planning process for highways.” The policy directs the Department’s planners, within engineering and budget constraints, to make provisions for greenway crossings or other greenway elements on highway projects. A Durham Open Space and Trails Commission representative served on the statewide Governor’s Greenway Commission which developed and recommended this action

It does require local governments to notify NDDOT of Greenway plans, to justify greenways as transportation facilities, and to formally adopt greenways plans. Because of this policy, Durham and NCDOT highway

engineers have worked together on several greenway projects where the City's planned system intersects the major improvements made on I-85.

All of these plans and policies have an impact on Durham trails and greenways, whether it's matching up trails on our borders with trails from Chapel Hill and Raleigh or trying to get trail routes in riparian areas approved by FEMA and the Corps. Also, any federal or state source from which the trails program receives funding has certain associated guidelines. Durham has received significant grant funding from ISTEA and its successor TEA-21, for instance, federal money that is administered by the North Carolina Department of Transportation. That source dictates certain construction standards, such as trail width and signage, which must be met.

C. Durham Ordinances

Fee simple purchase of land is not the only way that the City and County can acquire land for trails and greenways. The 1988 DUTAG Plan noted that easement or fee simple dedication could be requested from a developer during the process of approval of a development plan for a zoning map change. That process of requested dedication has added many parcels to future greenway corridors, even when there is currently not a plan for active acquisition or construction in a particular corridor.

Durham's ordinances regulating land use have evolved over the past two decades. With each revision, provisions for securing trails and greenways in new development have been enhanced. In January 2006, the Unified Development Ordinance (UDO) became effective and replaced the Durham Zoning and Subdivision Ordinances. The intent of the UDO was to house under a single regulatory roof all of the land use regulation in Durham. Several sections of the UDO in particular contribute to the goal of developing a trails and greenways system in Durham.

1. Intensity Standards

Article 6, District Intensity Standards, proscribes open space standards for all residential zoning districts in Durham. Required open space varies with the Tiers identified in the *Durham Comprehensive Plan*: the Rural, Suburban, Urban, and Compact Neighborhood Tiers. Generally, the closer new development is to the central city, the lower the open space requirement. In tables for each Tier, the UDO established the proportion of the development site that must be devoted to open space.

For example, new development in the Residential Suburban-10 (RS-10) district must preserve at least 15% of the gross land area of the site as open space and five percent must be usable open space. New development in the Residential Urban-5 (RU-5) district must preserve at

least five percent of the gross land area in open space. Required open space in the Compact Neighborhood Tier district, Residential Compact (RC), must be not less than two or five percent, depending upon the distance from the transit station serving the district.

2. Design Standards

Provisions of Article 7, Design Standards, Section 7.2, Open Space, indicate how much of the required open space must be in natural open space (such as agriculture, natural areas) versus useable open spaces (such as ball fields, tennis courts, and walking and bicycle paths). Other provisions of Section 7.2 indicate where the open space must be located relative to the housing units and what kinds of provisions are required for long term management and maintenance of the open space.

3. Infrastructure

Article 12, Infrastructure and Public Improvements, Section 12.5, Recreation Land begins with the statement that,

...Provisions for both active and passive recreation areas, including parks, greenways, and trails, consistent with adopted policies, plans, and regulations shall be made for all developments. All such land shall be dedicated or reserved and shall satisfy applicable City or County site suitability standards with regard to location, area, and potential use.

4. Subdivisions

Section 13.2, Consistency with Public Plans and Policies, requires that the subdivision of land be consistent with adopted public plans and policies. This includes general development objectives in the *Durham Comprehensive Plan*, as well as specific policy or plans for public facilities such as Durham's trails and greenways plans.

Taken together, these requirements of the UDO encourage the provision of trails and greenways in new developments. New development must provide open space; some of the open space must be usable for active recreation such as walking and bicycle paths. New developments and the infrastructure they provide must be consistent with adopted trails and greenway plans. The City and County have been very successful since in securing trails and greenways through these requirements. In this manner, trails and greenways in new developments complement the trails and greenways that are constructed through existing neighborhoods.

Implications for Trail Development

Durham's land use regulations have evolved to be more protective of the natural environment. They limit development in natural floodplains, on steep slopes, and adjacent to streams and wetlands. They require tree surveys prior to development and require tree save areas. These requirements provide a great benefit to natural resources potentially affected by development, but they also impact the trails and greenways program.

On one hand, requirements for saving more undeveloped spaces have encouraged new developments to dedicate land to the City for greenways. A greenway is an excellent use for land that is not developable for more intense purposes. On the other hand, state and federal regulations can make developing a greenway trail in a riparian area both difficult and expensive, even though the UDO allows for passive recreational activities, such as trails, in stream and wetland buffers. On balance, the UDO's natural resource protection features have aided greenways; but future public land acquisition for greenways needs to factor them in, as does any private development in the City and County.

D. Durham County Open Space Corridor System Plan

Durham County prepared and adopted in 1989 a comprehensive program and action plan for open space protection. The *Durham County Open Space Plan* described the need for County-wide open space planning and protection. It identified environmentally sensitive areas for protection, including streams, floodplains, wildlife habitat areas, public open space lands, and strategic private open space lands. The Plan recommended establishment of a citizen advisory commission, creation of an open space acquisition program, a strategy for acquiring open space land, and land use regulations to preserve opens space.

The City of Durham includes a large part of the land in Durham County. The Urban Growth Area (UGA), in fact, includes more than half of the County. Large areas of land which are not in the City are under another jurisdiction as well as the County. For example, Research Triangle Park and the U.S. Army Corps of Engineers project lands at Falls Lake and Jordan Lake. The land in the County contains some of the region's most valuable and unspoiled natural resources in the Little River corridor, the Flat River Corridor, and the watershed of Little Lick Creek and its tributaries.

As the Corridor Plan notes, while "the City efforts contribute to the overall quality of life in the Durham community, they cannot go far enough to protect important open spaces in the County. The DUTAG program and the parks and

recreation program do not deal specifically with natural areas...or the County-wide need for more passive recreation land for County residents.”

The City’s and County’s trail efforts have always been planned to be complementary. The Durham Trails and Greenways (DTAG) Master Plan will not alter that goal, nor will the completion of the more specific plans for the river corridors in the County. Much coordination of the two trails and greenways efforts have already occurred and changes in the future will involve looking at how we can connect these trails with adjacent counties and larger open space areas. Both the City’s and the County’s elected officials adopted the DUTAG Plan and specific open space plans:

- *The New Hope Creek Corridor Plan;*
- *The Little River Open Space Corridor Plan; and*
- *The Eastern Durham Open Space Plan.*

Land acquisition and trail-building in these areas have been joint City and County efforts.

The trail corridor route maps adopted in the County Open Space Corridor System Plan were planned to connect to routes of the trails and greenways master plan where appropriate. These trail corridors were conceptual; the intent has been to develop each corridor plan with a more detailed and specific map after further study of natural features. *The New Hope Creek Corridor Open Space Plan* was completed in 1992. *The Little River Corridor Open Space Plan* was completed in 2001, and the *Eastern Durham Open Space Plan* was completed in 2007 these plans fleshed out trail locations and additional open space acquisitions.

The *DTAG Master Plan* looks at the trails and greenways in the City and County not by jurisdictional lines but by function. It recognizes two basic types of trails that exist in Durham City and County. Transportation/mixed recreation use trails will be developed primarily in the downtown, compact neighborhood, urban, and suburban tiers. Recreation and nature trails will be developed primarily in parks and in environmentally sensitive areas, including the river corridors in the County. There are also trails on streets and sidewalks, which are a part of the larger transportation system and linked to the urban/suburban greenway systems. The occasions and criteria for these types of trails are discussed in Section III.



Old logging roads cross the site of Little River Park

The *DTAG Master Plan* recognizes the differences between City and County trail and greenway programs: different acquisition funding mechanisms, different (if partially overlapping) user groups, and different systems for trail maintenance and management. However, the planning for both systems is done by the City-County Planning Department, and the Unified Development Ordinance determines easement exactions for both.

As the County's Corridor plans continue to be written, they will further develop the more general routes that are set forth in the *DTAG Master Plan*. The user survey that is a part of the County Open Space Corridor System Plan suggests that in general County trail user needs are similar to those identified by the City Park and Recreation Master Plan survey. Among the survey responses were the following: 78% wanted trails available throughout the County, trail hiking was one of the top five activities listed as needing better facilities, and 53% said they owned and used a bicycle. Likewise, the *DTAG Master Plan* will not try to dictate but will complement site-specific recreation/nature trails in environmentally-sensitive areas including Natural Heritage Inventory locations, the Flat and Little River corridors, and the Eastern Durham creek corridors and the New Hope Creek area.

E. Coordination with State and Regional Greenways and Trails Plans

Other trail systems are being planned and constructed in the Triangle region that offer opportunities to connect the City and Durham County with an extensive network of trails beyond our jurisdictional borders.

1. The Mountains-to-Sea Trail

The sections of this trail owned and managed by the NC Division of Parks and Recreation now officially form a State Park. Other sections are being constructed by volunteer groups and local governments on other public land across the state with assistance from the NC Division of Parks and Recreation. The trail is planned to run from Stone Mountain State Park in the west of North Carolina to Jockey's Ridge State Park. In Durham, the trail's proposed route is along Falls Lake. It enters the County on the west by running through the Eno River State Park, along the Eno Greenway, and then leaves the County on the east through the Falls Lake Project Lands exiting onto Highway 50 into Wake County for a total of 29 miles.

2. The American Tobacco Trail

The American Tobacco Trail (ATT) runs from downtown Durham south into Chatham and Wake Counties. The first 11 miles of this 23-mile trail are in Durham; the first three miles of the trail were opened in June of 2000. The last remaining portion of the ATT to be constructed is the bridge over I-40. While maintenance and management are being taken on by the local jurisdictions, the volunteer Triangle Rails-to-Trails Conservancy (TRTC) has worked to ensure that issues like signage, trail standards, and mapping are consistent along the route. The TRTC may in the future take on maintenance of some sections of the trail through a volunteer friend-of-the-trail program.

3. The East Coast Greenway

The East Coast Greenway (ECG) is a national north/south trail, envisioned to run from Calais, Maine, to Key West, Florida. The route within each state has been designed and planned by a state chapter, coordinated by the national East Coast Greenway Alliance. In North Carolina, the route enters the state from Virginia near I-85 and US 1, passes through Durham, runs along the Cape Fear River, then into South Carolina near Wilmington. The American Tobacco Trail in Durham is the first segment of the ECG to be designated in North Carolina.

4. The Triangle “Greenprint”

Increased regional planning and cooperation may help link Durham’s trails and greenways with those of neighboring jurisdictions. Some joint work is already ongoing between Durham and Orange Counties with the Little River Regional Park purchase and Hollow Rock Park on Pickett Road.

5. The New Hope Creek Corridor Plan

As previously discussed, the New Hope Creek plan shows trails connecting between Durham and Orange Counties in many places in the corridor. Durham and Chapel Hill have also been discussing how to link a major greenway along Dry Creek, roughly parallel to US 15/501. Additionally, the future construction of transit in the area may facilitate more connections while still protecting this very environmentally sensitive area.

II. Appendix 2, Durham Greenway History

A. The 1988 Durham Urban Trails and Greenways Master Plan

In *Greenways for America*, author Charles Little notes that the greenway movement actually began in the 19th century with Boston’s “Emerald Necklace” park system designed by landscape architect Frederick Law Olmsted. Little characterizes that movement from its inception as being “citizen-led,” with greenways and trails across the country proposed and created under the leadership of community members who have a vision for their city (*Greenways for America*, 2nd edition, Baltimore, 1995).

Durham made its commitment early in the 1980’s for this community to have a trails and greenways system. In 1982, the Public Works Committee of the City Council, on the initiative of Chairman Carroll Pledger, appointed a subcommittee to consider the possibilities of greenways in Durham. Council members Jane Davis and Sylvia Kerckhoff were instrumental in the initial work of the subcommittee and in the preparation of the report and recommendations. Based on report’s findings, the subcommittee recommended the formation of a Trails and Greenways Commission. The City Council established the Durham Urban Trails and Greenways Commission on June 20, 1983—made up of citizens representing all parts of the community—to develop and implement a plan for a trails and greenways system.



A portion of the South Ellerbee Creek Trail also known as the Quarry Trail

A Trails and Greenways Master Plan map was prepared by the Commission and adopted by City Council and the Board of County Commissioners in 1985. This map identified 118 miles of corridors to be priority routes for transportation and recreation trails, based on six criteria: evidence of use and neighborhood interest, prevention hazards and accidents, presence of or connection to activity centers, population density and projected development, expedient links through public land or other trails, natural corridors such as streams, and the availability of land for trail development. Another Master Plan map was prepared of on-road bicycle routes and adopted by the Council and the Board in 1988 to guide transportation-funded improvements.

The Durham Urban Trails and Greenways Master Plan (DUTAG) was subsequently written to accompany the map. It was adopted by the Council and the Board in 1988 and had been the handbook for the system's development for twelve years, guiding both land acquisition and trail development. That plan envisioned "an extensive network of greenways and paths for bicycles and pedestrians...which will be a unique amenity for the community. It will offer scenic and safe routes for transportation and recreation on a human, non-mechanized scale. Linear open space corridors will provide protection of floodplains, vegetation and wildlife."

The DUTAG also noted that,

...the development of such a system requires a plan to guide implementation over many years...a guide to coordinate the many decisions necessary during implementation. The Subdivision Review Board, Planning and Zoning Commission, City Council, and staff can use the Master Plan to guide public Policy deliberations. The Plan will promote private actions and investments to create a unified system of public and private greenways. Planning for City infrastructure can be coordinated with planning for trails and greenways. Both long-range policy decisions and short-range implementation will be guided by the Plan, and it will serve as a standard by which to evaluate Progress." Both the map and the DUTAG Plan included all of the City's Urban Growth Area (UGA) as proposed in the 2005 Durham Comprehensive Plan.

Both the map and the DUTAG Plan included all of the City's Urban Growth Area (UGA) as proposed in the 2005 Comprehensive Plan.

On October 5, 1985, the first completed trail segment in Durham, the Rock Quarry Trail, was officially opened. A brochure was printed with a map and description of the trail, as well as a general description of the proposed trails and greenways system. A second segment, a portion of the Rocky Creek Trail connecting Fayetteville Street Elementary School, Elmira Park, and Shepard Middle School, opened in May, 1988. A third segment in 1989 extended the

Rock Quarry Trail north from Murray Avenue through the Edison Johnson Community Center and Rock Quarry Park. The Durham greenways system was on the ground and starting to grow.

The DUTAG made it clear that the Durham community could expect to receive significant benefits from instituting a trails and greenways program:

- a. Minimization of soil erosion and sedimentation;
- b. Assistance in flood control;
- c. Habitat protection for plants and animals;
- d. Air and water pollution control;
- e. Microclimate control;
- f. Social and economic benefits such as health and civic pride; and
- g. Aesthetic benefits.

In fact, Durham has been reaping these benefits from the greenways established between that first trail in 1985 and today in 2011—both from the trail system itself and from collateral projects associated with a trail. The original DUTAG Master Plan was amended in 1992, 1996, and 1997 to include new routes and route alterations, including the American Tobacco Trail.

B. Trails and Greenways in Durham 1988-2000

The nature of plans is anticipating and directing the future shape of a community. In what it anticipated for Durham and how it directed the development of trails and greenways through the 1990's, the DUTAG was remarkably successful, even though it missed a few turns of development.

1. Trail Miles Needed

The DUTAG-identified greenways and trail routes add up to an estimated 118 miles, excluding street and sidewalk routes. This number was deemed suitable, according to the National Parks and Recreation Association (NPR) standard of twenty-five miles of trail for every 50,000 citizens, to meet Durham's growth into the year 2005. Durham's population in 2005, within the Urban Growth Area, was predicted to be approaching 276,000.

Current census data show that the City grew from 136,594 people in 1990 to 179,989 in 2000. That rate of growth has continued through 2011, and has taken the City to the 231,703 and the County to 271,132 population marks. But the NPR has also changed its standards for how many miles of trail a community needs. Rather than trying to set an arbitrary miles-per-citizen figure, it suggests that each community should determine its own level of "sufficiency" for trails. Durham citizens, in bond issues and surveys, have repeatedly said that off-road trails are a positive community good and that they support the proposed system.

The State Comprehensive Outdoor Recreation Plan (SCORP) notes that “walking for pleasure” is consistently ranked the highest by citizens in popularity and as a usage they would pay to support. Both “future demand” and “public support for funding” were ranked “high,” in fact receiving the highest ranking among the 43 recreational activities scored in the survey (*North Carolina Outdoor Recreation Plans 1995-2000*, September 1995, NC Division of Parks and Recreation). That same survey ranks “bicycling for pleasure” as fifth of 43 activities in future demand and eleventh of 43 in support for public funding. The SCORP also ranks counties by number of trail miles per resident; Durham County (which includes State and City trails) reported to the survey 31.4 miles of trails—5,950 residents per mile—for a rank in the state of 45 out of 100 counties.

2. Rail-Trails

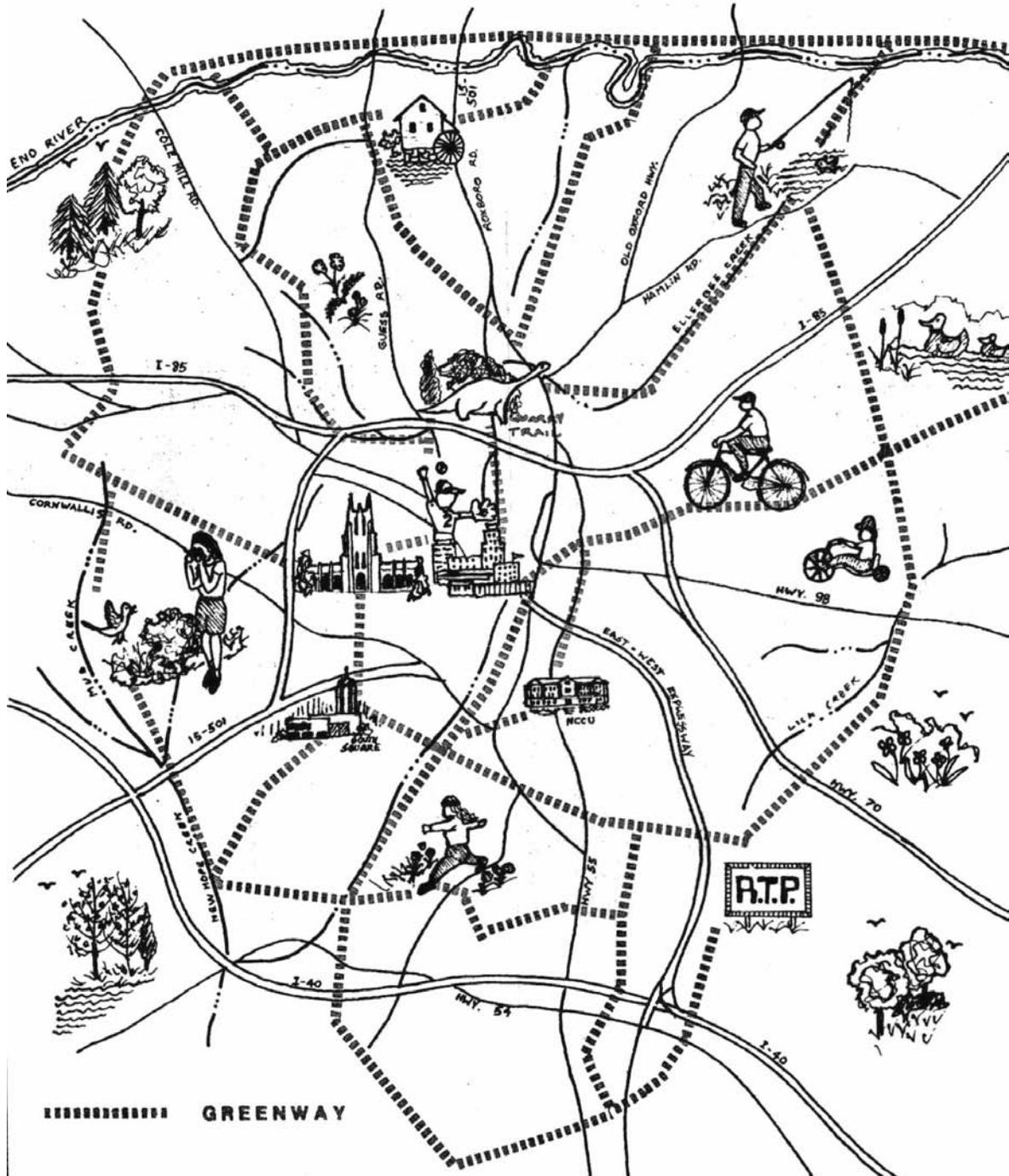
The Durham Urban Trails and Greenways Commission was very much aware of rail-trails as a possibility for Durham. The DUTAG notes that “two resolutions initiated by the Commission were passed by City Council on April 21, 1987. These resolutions incorporated already-abandoned railroads into the Master Plan Map.” A subsequent resolution adopted by City Council on March 6, 1989, incorporated “existing and future abandoned railroad corridors into the Durham Urban Trails and Greenways Master Plan” (see Appendix A).

The Commission’s political work set the stage for the growth and success of another citizens’ group, the Triangle Rails-to-Trails Conservancy (TRTC). This group was created in 1990 with help from the Commission. Their specific goal was the rail-to-trail conversion of an abandoned corridor running from downtown Durham south through Chatham County and into Wake County, a corridor which was named “The American Tobacco Trail” after the trailhead location in Durham. A Master Plan for the American Tobacco Trail corridor, funded by a State grant, was prepared by the private firm Greenways, Inc.; and its recommendations were adopted into the DUTAG.

From 1995 until 2000, Durham worked with NCDOT and private landowners to acquire the corridor for a trail. NCDOT purchased the lion’s share of the corridor in Durham, leasing the right-of-way to the City. The City purchased other parcels to fill in the “gap” created by the construction of I-40. With its own funds, plus significant funding assistance from ISTEA, Durham put the first three miles of the American Tobacco Trail on the ground in 2000. Another four and a half miles have been completed and the last remaining phase connecting the missing link is a separate bicycle and pedestrian bridge over I-40 slated for final

construction in late 2011 or 2012. The trail upon completion will be 23 miles and continue south into Wake and Chatham Counties.

DURHAM TRAILS & GREENWAYS



This map from the City's original trail brochure shows a greenway system that connects key points around the City and County.

However, two other rail-trail projects in Durham are still on hold—specifically the downtown loop, also known as the Duke Beltline, and the route north toward Person County. The success of the Triangle Transit Authority’s planning efforts for a



This abandoned railroad corridor has become the American Tobacco Trail

regional rail line through downtown Durham has encouraged the railroad companies to hold onto those lines for possible future commuter rail use. These projects are being negotiated as of this writing. Another City project, the Panther Creek Trail, is also routed along an abandoned rail line; though in its case the line has been abandoned long enough that ownership of the properties has reverted to the adjacent landowners. Nonetheless, the City is pursuing the trail route as its potential link to the Mountains to Sea Trail along Falls Lake and has acquired a few pieces of the abandoned line.

The TRTC also maintains a three mile rail-trail in southern Durham County through an agreement with the NC Wildlife Resources Commission; though the organization is private, the trail is open to the public and provides access to Jordan Lake.

3. The New Hope Creek Corridor

The DUTAG expresses cautious optimism about a “cooperative effort between Durham City, Durham County, Carrboro, Chapel Hill, Orange County, and Duke University” just getting underway in the late 1980’s. That effort, the plan notes, “may result in preservation of open space and possible trails” in a corridor along the New Hope Creek, from Jordan Lake through Duke Forest, and eventually to the Eno River.

In fact, that cooperative work resulted in the New Hope Creek Corridor Master Plan—adopted by Durham City and County, Chapel Hill, and Orange County in 1992—and the formation of the New Hope Creek Corridor Advisory Committee (NHCCAC). The NHCCAC was created of representatives from all four jurisdictions to shepherd an ambitious program of protecting the corridor and developing some recreational use of its lands as they were acquired.

It has been a successful undertaking. As the NHCCAC's 10-year report notes, approximately 800 + acres of land in the corridor have been placed under some form of protection beyond that provided by regulatory controls, from purchase to easement. The report also notes that "at the start of field studies for the New Hope Creek Master Plan in May, 1989, not one inch of public trail existed in the entire planning area. By May 2000, over five miles of nature trail has been constructed by four jurisdictions and our regional land trust, with another 3 miles of trail maintained by volunteers" (*The New Hope Creek Corridor Master Plan and the New Hope Creek Advisory Committee: Ten Years Later*; Durham and Chapel Hill, privately published, 2000). Additional land acquisition and environmental stewardship and trail construction has continued to occur and the community strongly supports this master plan. Large wildlife corridors have been further protected with the replacement of the US 15-501 Bridge. Construction of the new bridge over New Hope Creek was closely monitored by the New Hope Creek Corridor Advisory Committee, which negotiated design changes with NCDOT to the bridge for better trail usage.

The recommendations of the *New Hope Creek Corridor Master Plan* were incorporated into the DUTAG as well, though much of the land purchase in the corridor has been made by Durham County rather than the City. Since 2001, plans are underway by the City for the development of the Sandy Creek Park and the Sandy Creek Greenway, based at a former wastewater treatment plant in the corridor. This park will serve as an environmental area that can be visited by many citizens with various recreational needs and it contributes greatly to the New Hope area. It has been recognized by the Citizen's of Durham and the New Hope Advisory Committee that this plan should continue to serve in conjunction with the New Hope Master Plan as a guiding document for the best possible environmentally sensitive trail construction within the New Hope Corridor. In most all cases, this constitutes natural surface trails only where we have those constraints.

The County received a Clean Water Management Trust Fund grant of \$750,000 in 1997 to continue its land acquisition in the corridor and additional funding has been leveraged throughout the years with stream restoration projects and other alternative sources. Additional funding has also been obtained through small grants. These will continue to facilitate additional construction of trails in Sandy Creek Park. The park is a very accessible area for handicapped individuals who may want to experience nature up close and might be wheel chair bound. It has a number of champions that include Durham Academy and the Friends of New Hope who have taken it on as a larger project. Volunteers in this context have

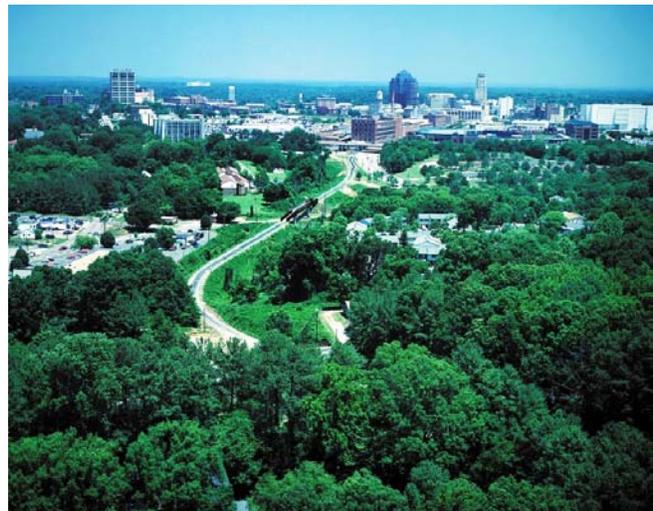
had a huge impact in Sandy Creek Park and the New Hope Corridor and will continue to do so.

4. Funding

Funding is the fuel that converts a plan into implementation. The 1988 DUTAG observed correctly that “many different sources of funding and support are necessary” to build trails in Durham. It listed five possible funding sources for trail and greenway construction: (1) an annual budget allocation from the City, (2) impact fees, (3) bond funds, (4) NCDOT funding for incidental bicycle projects, and (5) NCDOT funding for independent bicycle projects. These funding sources have been tapped with mixed success, while the trail-funding federal programs under ISTEA and TEA-21 had not been created in 1988.

The City did allocate \$400,000 from the existing 1986 park and recreation bond funds to the trails and greenways program at its inception in 1989. But its continuing allocation from the general budget has been limited to annual budget constraints and financial support for the citizens’ advisory commission is often in flux.

The major support for development of the program in the City has come through two bond issues, one in 1990 and another in 1996. The 1990 bond designated \$3.2 million for “trails, greenways, and other open spaces...including the acquisition of



The ATT from the south, looking towards downtown

land and rights of way, the development, construction, and improvement of trails, greenways and other open spaces and the acquisition of any necessary equipment” (Appendix B). The bond in 1996 designated \$4.1 million for “additional trails, greenways and other open spaces” (Appendix B). Those two amounts have funded not only land acquisition and a staff person to do the acquisition but also trail construction and grant and impact fee matching dollars. All of those bond monies have been expended.

The impact fee funding has been a bit slower in getting underway. In its first years of existence, it provided amounts too small to purchase much in the way of land or construction, especially since its expenditure is limited to the same area of the City in which the funds were exacted and requires a 50% match from some other source. The City's Parks and Recreation Department notes that the total impact fee collection from 1990 through 1998 was \$499,067. However, there are now trail projects in all sections of the City; so those funds can be drawn down. This source may increase in the near future as the housing market rebounds

The North Carolina Department of Transportation (NCDOT) has proven to be a major player in Durham's trail and greenway development. It funded development and publication of the Durham Bicycle Map in 1991 for on-road bicycle routes. Staff received a grant for a new "Durham Bike and Hike Map" which has been published, updating the biking and hiking routes throughout Durham. This has been well received by the public. But its main contribution to this program has been the support and additional funding for the American Tobacco Trail. The City received a federal Intermodal Surface Transportation Equity Act (ISTEA) grant in 1997 for construction of the first 6 miles of the trail (downtown to NC 54) under an 80/20 matching grant agreement after NCDOT had leased the railbanked corridor to the City. The Bicycle and Pedestrian Division of NCDOT provided engineering plans for the project.

Total costs of the first three miles of the project—determined mainly by necessary construction of five bridges—was \$1.2 million. Funding for \$300,000 of the \$400,000 Riddle Road spur trail, another 1.5 miles, was included in the Transportation Improvement Program as NCDOT independent project money. The Riddle Road Spur has been completed. NCDOT has also agreed to fund a short greenway connector trail near Duke Park as part of an I-85 upgrade project and a tunnel under the interstate for the West Ellerbee Creek Trail as another part of that same project. This portion is under design as of this writing.

Finally, the City received a TEA-21 grant (Transportation Equity Act for the 21st century, ISTEA's successor) for \$465,799 in 2000 for construction of the first phase of the Eno River Greenway from West Point on the Eno Park to River Forest Park. This bridge has been completed and traverses the ENO.

The DUTAG observes that private funding is also a potential source of financial support for the trails and greenways program and that “in some cases, trails are constructed by developers.” To



Construction of the American Tobacco Trail

date, two sections of the American Tobacco Trail have been constructed as part of development projects: one just north of NC 54 as part of the Southpoint Crossings shopping center and one just south of I-40 as part of the Streets at Southpoint development.

By 2001, the City had either allocated or encumbered most of the funds from the 1990-1999 impact fees and all of those from the 1990 and 1996 bond packages. The southern portion of the Third Fork Creek Trail has been completed and actual construction for the last phase of the ATT will be continuing into 2012.

The County has developed its trails network a bit more slowly; it’s most significant effort in the 1990’s has been a nature trail in the New Hope Creek Corridor between US 15-501 and Old Chapel Hill Rd. In 1997 the County received a \$30,000 National Recreation Trails Fund grant to assist with construction of that trail. In 2000, Durham County joined with Orange County, the Eno River Association, and the Triangle Land Conservancy to purchase land along the Little River at the Durham/Orange line. A Clean Water Conservation Fund grant, a Land and Water Conservation Fund grant, and a Parks and Recreation Trust Fund grant helped in the purchase and in the subsequent development of trails and other facilities on the site in 2001.

C. Trails and Greenways in Durham 2001-2011

The past several years have required alternative thinking in how to finance trail and greenway construction. Financial constraints have necessitated creative partnerships with various agencies such as the Clean Water Trust Fund, NCDOT, and others including neighborhood and citizen volunteer groups in order to achieve completion of the trails. In addition, there has been much discussion about the ability of developers to actually construct the trails to public standards and dedicate those to the City benefiting the overall community. Durham will

need to continue to seek alternative funding partnerships and perhaps look at a new bond referendum when the economy begins to improve.

Interim Trail Use and Natural Surfaces

This master plan has identified nearly 200 miles of trails, but after twenty years fewer than thirty miles of (paved) trails have been constructed and some are in serious need of repairs, with a regular stream of funds not currently in the budget for maintenance. Recognizing this, DOST recommends that more of the trails in the plan should be designated as natural surface trails and that some of those that remain as planned paved trails should be opened and operated as planned natural surface trails in the interim. Some natural surface trails are adequate for most bicycle traffic and could operate in the interim period using this type of surface, some good examples of Trails that could utilize of this type of surface are the Al Buehler Trail, the trails within Duke Forest and the southern portion of The American Tobacco Trail.

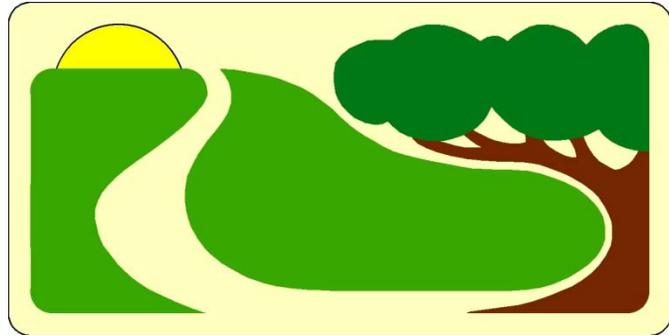
Every effort should be made to design natural surface trails that could be converted to paved trails that meet ADA's construction standards if or when the funding becomes available. These trails would better serve the citizens of Durham with more immediate off road biking and hiking trails. These types of trails could be constructed by volunteers such as the Ellerbee Creek Association and operated in a manner similar to the Mountains to Sea Trail.

While few of our trails within the Trails and Greenways system in Durham are extensively landscaped, it is the desire of the Open Space and Trails Commission that when trails are landscaped by the City, County or volunteer groups that only indigenous plants be used. The Durham Open Space and Trails Commission would like to see our parks and recreation and open space managers cooperate with other agencies to adopt plans for the eradication of invasive species along the trails and within our open space areas. Native plants and an official list of trees and shrubs etc. should be available for use by volunteers.

The Durham Open Space and Trails Commission

The City Council of Durham created a citizens advisory body—the Durham Urban Trails and Greenways Commission—on June 20, 1983, to develop plans for a city-wide trails and greenways system. The Commission was responsible for preparing the DUTAG Master Plan that was adopted by the City in 1985. Durham County, meanwhile, passed a bond referendum in 1986 which included funding for open space and recreation. The Board of County Commissioners had also appointed a citizens advisory body—the Open Space Commission—in 1989 to assist them with their programs in these areas. Among the first proposals of the Open Space Commission was the Matching Grants Program.

Realizing that there was significant overlap in the goals and interests of these two commissions, both elected bodies agreed to combine the Durham County Open Space Commission and the City of Durham Urban Trails and Greenways Commission into the



The DOST logo

Durham Open Space and Trails Commission (DOST) in late 1993 through an interlocal agreement (Appendix D). The agreement cited the need for “cooperation for open space, urban trails and greenways planning and implementation” to allow for “consistent analysis of problems and opportunities...across political boundaries.” That first agreement expired in 1998, but it was renewed for four more years in early 1999.

The powers and duties of the DOST as outlined in the agreement include advising the Council and the Board and their appropriate staff members on trails, greenways, and open space issues, assisting with the County’s Matching Grants Program, educating the public about the City’s and County’s programs, and encouraging and assisting in fund raising for open space and trail purposes. DOST is made up of 30 members, some chosen by geographic representation, some by board representation, and some to represent a specific interest or area of expertise.

DOST is staffed by a representative from the Planning Department and has an ex officio representative from the City Park and Recreation Department and the County Matching Grants Program. It has a budget for its community education that is in flux yearly dependent upon budget constraints of the County and the City of Durham.

The members of the DOST have organized themselves into several working committees to oversee the Commission’s various responsibilities. Following is a list of the committees which have existed in the 1990’s and some of the tasks they have worked on:

- a. **Community Education Committee.** Staffs a DOST booth at the Earth Day Festival in April, the Eno River Festival in July, and Centerfest in September to inform the public about open space and trails programs, provide maps, and encourage community involvement.
- b. **Matching Grants Committee.** Conducts the application process and recommends the awards for the County’s \$100,000 annual open space program.

-
- c. **Bicycle Committee.** Represents the on-road and off-road bicycling interests in transportation and land use planning. In 1998, the committee completed a requested update of Durham's portion of the *Regional Bicycle Plan* for the DCHC MPO; committee members served on a special Managers' Bicycle Task Force from July 1999 to January 2000.
 - d. **Finance Committee.** Makes recommendations to the Council and Board on both the ongoing budget and long-range spending priorities for greenways and open space bond funds and impact fees.
 - e. **Development Review Committee.** Studies and makes advisory comments on incoming development plans, zoning map change, and site plans for the Development Review Board, City Council, and Board of County Commissioners as to impacts on greenways and open space.
 - f. **Trails Committee.** Makes recommendations to the City General Services and City-County Planning Departments on trail and greenways development priorities, new trail and greenways routes, and proposals prepared by design consultants. This committee continues to seek funding sources outside of the typical realm.
 - g. **The Open Space Committee.** Makes recommendations on open space issues and studies the acquisition of open space for the City and the County

These working committees all meet separately, then report their recommendations to the full DOST for Commission vote on recommendations to the Council, the Board, and the appropriate staff. In addition to these committees, DOST also receive input from Commission members who serve as liaisons to the New Hope Advisory Committee, the Recreation Advisory Committee, and the Planning Commission.

DOST Commission members have also played an active role in greenways, trails, and open space issues. Members lobbied actively for both bond referenda in 1990 and 1996 and for passage of the Resource Protection zoning ordinances in 1999. DOST hosted the statewide NC Greenways Conference in 1991 and organized and funded a Community Forum on conservation in 1997, entitled "Common Ground for the Common Good." Both meetings brought together state and local elected officials with citizens and prominent professionals.

In late 2000, DOST supported a resolution from its Bicycle Committee that it be spun off from the original group and help to compose a new Bicycle and Pedestrian Advisory Commission. That Commission is now well established and has a number of ongoing projects.

Some DOST members have served from the merger of the two commissions into the single commission's current form. Others are new to the trails, greenways, and open space program. But all the members of DOST have been committed

through the years to working toward an outstanding trails and greenways system for Durham and toward preserving open space for environmental and recreational needs.

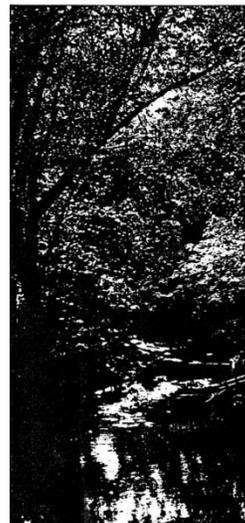
D. Other Adopted Plans Affecting Trails and Greenways

Durham 2005 adopted Comprehensive Plan and updates in 2011

This plan sets as a transportation goal the development of “urban trails and greenways and other facilities to encourage pedestrian and bicycle travel.” It recommends the adoption of a community-wide plan for trails and greenways and an annual allocation of funding for trail construction based on that plan’s priorities. The Comprehensive Plan is in the process of being updated (2011) and comments by both BPAC and DOST have been submitted.

1. Durham County Open Space Plan (1989)

The essential impetus for the creation of this plan was protection of the County’s natural resources: farmlands, rivers and streams, and natural heritage sites. However, the plan recommends that the County to recognize the DUTAG greenways and trails as part of its own open space plan to encourage linkage between the City and County natural spaces. It also recognizes that public access to protected open space lands would be appropriate in many cases; it suggests that the Board of County Commissioners consider “types of uses which are desirable including parks, walking trails and other passive activities which do not encroach on private property rights or endanger the fragile ecological balance that this Plan is designed to protect.”



**Durham
County
Open Space
Plan**

Comprehensive
Program and
Action Plan

2. New Hope Corridor Open Space Master Plan (1991-1992)

The New Hope Corridor Open Space Master Plan was a joint project of the City of Durham, Durham County, the Town of Chapel Hill, and Orange County, since the New Hope Creek Corridor as it runs from Orange County into Jordan Lake passes through all those jurisdictions. This plan encompasses large land use and environmental protection issues for the New Hope Creek and several of its larger tributaries. However, a part of

the plan also discusses potential recreational use of the to-be-protected corridor; as it says, the corridor “offers unlimited opportunity for walking [and] observing birds and other wildlife... The most active recreational use of the corridor will be trail use.”

It recommends, based on the corridor’s environmental sensitivity, a network of carefully designed and located natural surface hiking trails in the corridor, with a few “reasonably wide trails for more active use.” The plan stresses that all trail development in the corridor area must be done with an awareness of “environmental and topographical features and the critical nature of floodplains.” It follows with suggested locations for those trails for more and less active use, access points for trails, and general criteria for any recreation development in the corridor area. Paved trails in these environmentally sensitive areas are infeasible and it is therefore recommended that trails in the floodplain, natural heritage areas, County lands, etc be natural surface trails where possible to protect these areas. Ongoing field work by the Friends of New Hope and the County will help to identify the best possible locations for these trail connections and the least environmentally disturbing.

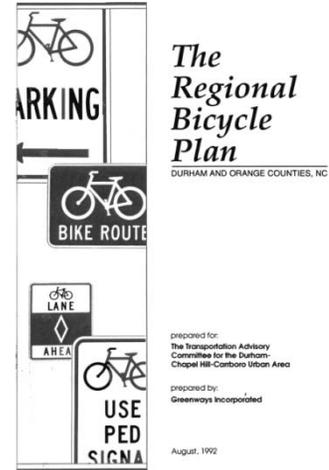
3. American Tobacco Trail Master Plan (1992)

This plan was initially prepared for the Triangle Rails-to-Trails Conservancy to determine the feasibility of the rail-to-trail conversion project of a railbanked 30-mile rail line running from Durham to the town of Bonsal in Wake County. It was later adopted into the DUTAG Master Plan. The American Tobacco Trail (ATT), as proposed in the plan, is a 23-mile multi-use trail that runs from downtown Durham next to the Durham Bulls Athletic Park to New Hill Road in western Wake County. Amendments to the DUTAG/ATT plan were adopted in 1997 to help in identifying and securing alternatives to the planned route of the ATT for sections that had been developed before the rail corridor was purchased by the NCDOT.

4. Land Use and Transportation in Durham (1992)

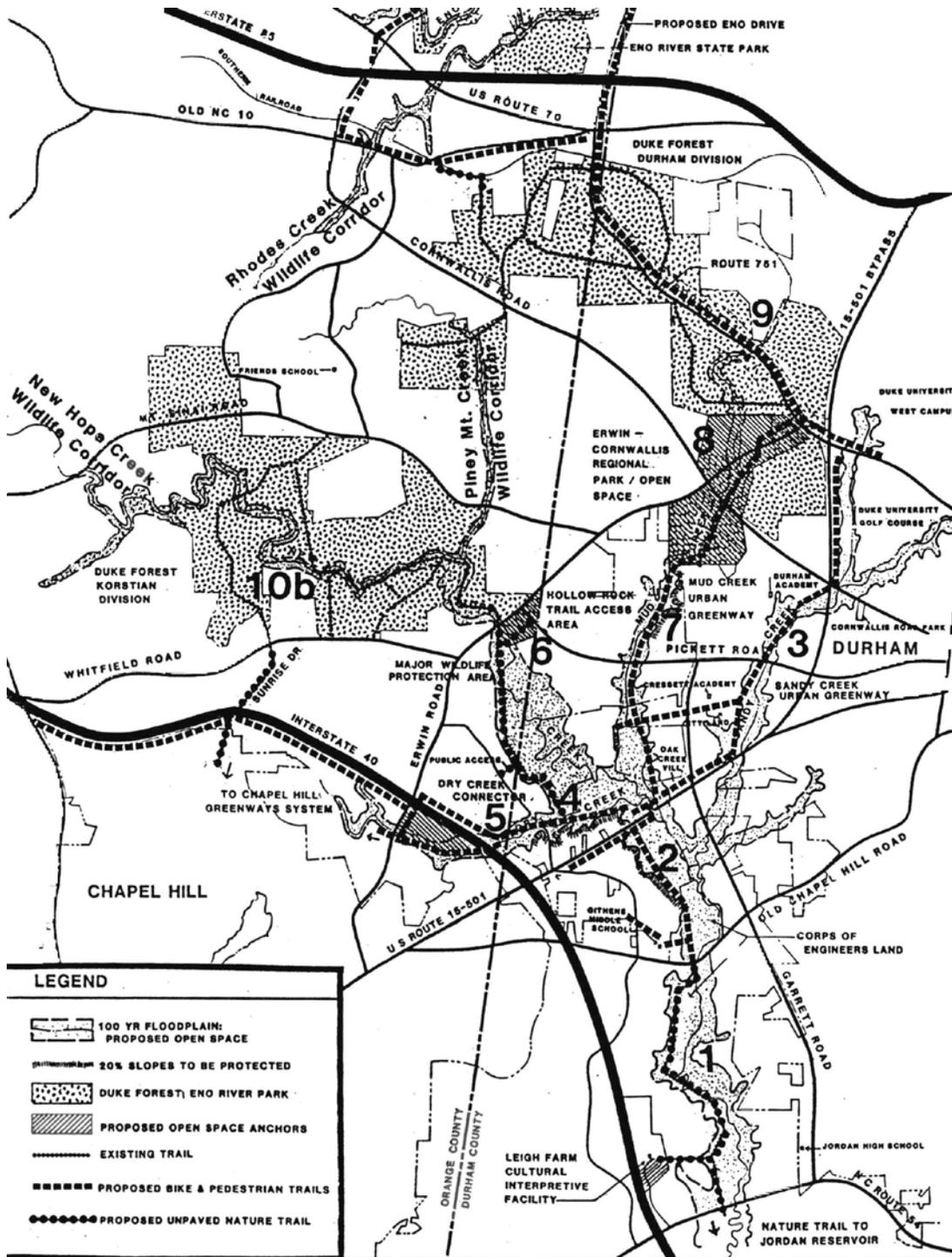
Created as a step in working toward a new comprehensive plan, this document sets a goal “to motivate people in Durham to think about our community in a new way.” It is not specifically a plan for trails and greenways, but it does strongly emphasize biking and walking as desirable transportation modes and encourages the increased construction of sidewalks and on-road bicycle facilities as well as more off-road trails, both by City efforts and by private developers Regional Bicycle Plan (1992).

This plan was prepared by Greenways, Inc. for the Transportation Advisory Committee of the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization. It states as its primary goal “to increase the number of cyclists in the region and enhance their safety.” While this plan was never formally adopted by the Durham City Council or the Board of County Commissioners, it—with the DUTAG Bicycle Routes Master Plan Map—has served to guide bicycle projects as included in transportation planning.



5. Durham County Open Space Corridor System (1993)

Intended as a next step from the County’s open space plan of 1989, this plan both develops the policies for a “County-wide system of open space corridors and trails focused primarily on rivers and streams” and identifies specific corridors as potential trail routes. The routes selected—the Eno, Flat, and Little Rivers and New Hope and Lick Creeks—are envisioned as natural area corridors to be protected from development and are seen as “important links between trails identified in the...DUTAG Master Plan, and major open space and recreation destination points in the County that are outside of DUTAG’s planning boundaries”. Specific plans for each of the corridors without plans, including trails as appropriate, are recommended as the next step in the process. This plan also includes the results of a survey of Durham residents taken in 1990 to learn more about their opinions on open space and recreation issues.



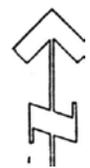
LEGEND

- 100 YR FLOODPLAIN: PROPOSED OPEN SPACE
- 20% SLOPES TO BE PROTECTED
- DUKE FOREST; ENO RIVER PARK
- PROPOSED OPEN SPACE ANCHORS
- EXISTING TRAIL
- PROPOSED BIKE & PEDESTRIAN TRAILS
- PROPOSED UNPAVED NATURE TRAIL

**NEW HOPE CORRIDOR
OPEN SPACE MASTER PLAN**

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**Map of the
10 GEOGRAPHIC COMPONENTS**



Overall New Hope Creek Corridor Master Plan, showing proposed trail routes.

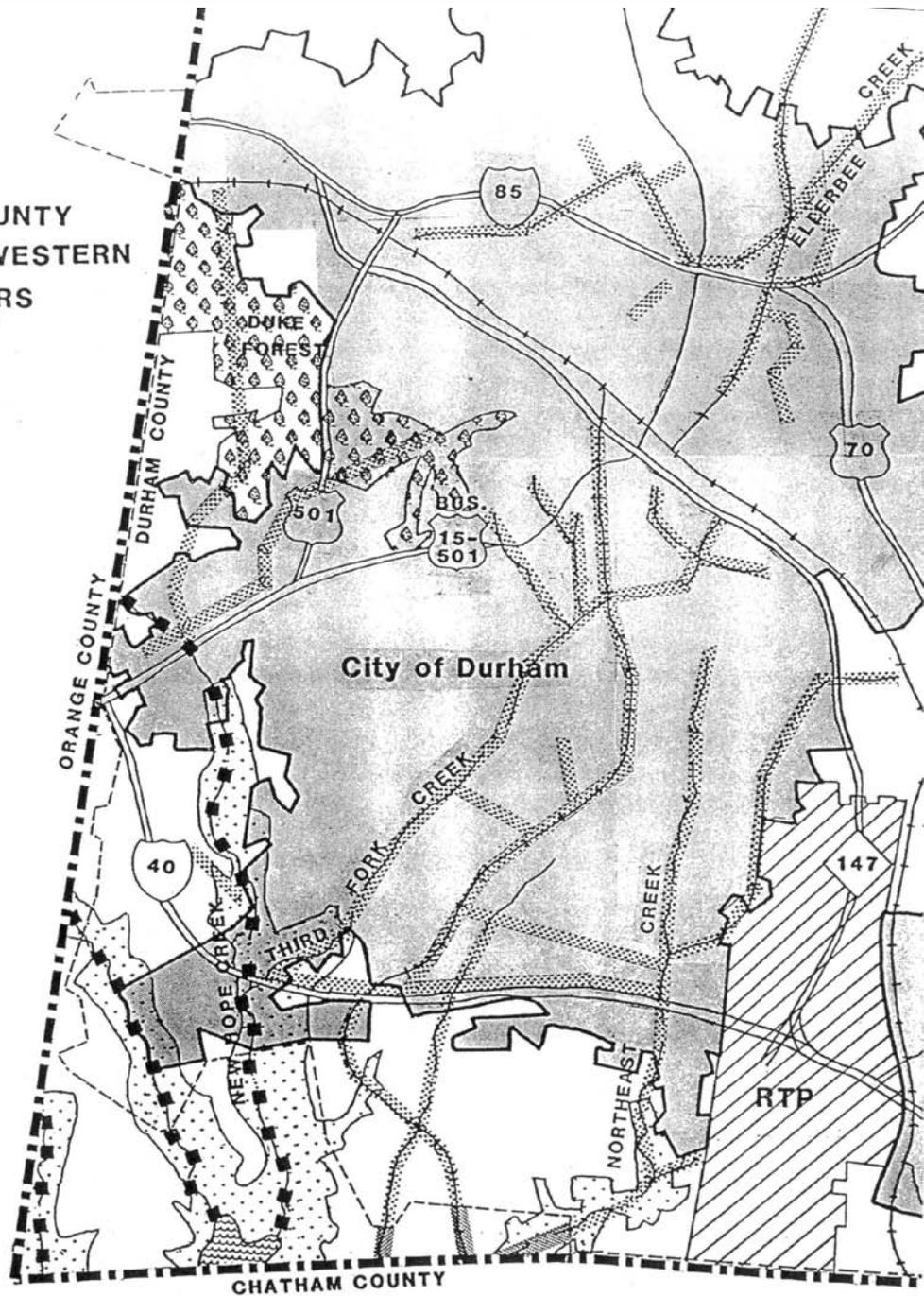
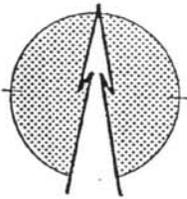
6. Parks and Recreation Master Plan (2003)

Since trails and greenways in Durham are operated as a park facility, the vision of the Parks Recreation Master Plan is crucial for development of the system.

Several plans in the next few years will have an impact on the City's trails and greenways system. The process is well underway in 2011 for fleshing out the County's general open space and corridor plan with more specific area plans; the Little River area plan has been completed. With the acquisition in 2000 of the land slated for the Little River Regional Park, Durham County has become more involved in creating trails than it has historically been. Also in 2001, the Bicycle Committee (a new Bicycle and Pedestrian Advisory Commission, BPAC) began the process of drafting a Bicycle Plan for Durham that was adopted. This plan and updated the DUTAG Bicycle Routes Map and the DCHC MPO regional plan.

This history of adopted plans over the past fourteen years and the upcoming plans in the works show a strong commitment to trails and greenways in Durham by elected officials, citizen advisory boards, and planning staff, reflecting the wishes of the citizens of Durham.

**DURHAM COUNTY
SOUTHERN & WESTERN
CORRIDORS**



- ■ ■ ■ ■ NATURAL AREA CORRIDORS
- ▬ TRAIL CORRIDORS
- ▨ URBAN TRAILS AND GREENWAYS' ROUTES
- ▧ MAJOR PUBLICLY-OWNED LANDS
- ▩ CITY LIMITS
- - - URBAN GROWTH AREA



County Open Space Corridor Plan, southwest Durham County



Councilman Clement (right) and Commissioner Heron (second from right) with citizens on Bike to Work Day in 1997.

III. Appendix 3, Historical Documents

A. City Council Resolutions on Abandoned Rail Corridors

Resolution To Adopt a Policy To Monitor Railroad Abandonment And Investigate Railroad Banking Possibilities

Whereas, the Durham 2005 Comprehensive Plan adopted in October 1985 includes a policy “to investigate the long term potential for light rail transit services to connect Durham’s major activity centers, and to serve the region’s cities”; and

Whereas, railroad corridors are a valuable community resource for transportation; and

Whereas, railroad abandonment is occurring the Interstate Commerce Commission regulations allow for railroad banking in order to retain the corridor for future light rail transportation; and

Whereas, these corridors may in the future provide the opportunity for light rail transportation in Durham and the Triangle area;

Therefore, be it resolved that the City of Durham adopt the following policy:

1. The City will monitor applications to abandon railroads in the City and its ETA; and
2. The City will undertake preliminary negotiations with the abandoning railroad companies, including in the negotiation process Planning, Traffic Engineering, the City Attorney’ and City Manager’s staff; and
3. The City Manager will bring to City Council a timely report on railroads to be abandoned including options, costs, benefits, and recommendations.

Passed by the Durham City Council on April 21, 1987.

City Council Resolution
To Adopt a Policy to Incorporate Railroad Corridors into the
Trails and Greenways Master Plan

- Whereas,** the Durham Urban Trails and Greenways Commission is charged with providing “safe pedestrian and bicycle linkages between recreation sites, residential areas, employment centers, universities and other urban centers;” and
- Whereas,** railroad corridors are an existing community resource for the establishment of bicycle and pedestrian linkages; and
- Whereas,** upon abandonment, railroads may be banked for future light rail use and used in the interim for bicycle and pedestrian trails, with a possibility for joint rail-trail use in the future whenever the right-of-way is sufficient; and
- Whereas,** railroads already abandoned may still be acquired for trails through easements if the route is incorporated into the Trails and Greenways Master Plan;

Therefore, be it resolved that the City of Durham adopt the following policy:

Abandoned railroads shall be incorporated into the Durham Urban Trails and Greenways Master Plan. Easements will be acquired from developers and other owners. As other rail lines are abandoned in the future, they shall be immediately added to the Trails and Greenways Master Plan and easements or acquisition pursued. In the case of possible joint rail-trail use, rail service will be the preferred use where the right-of-way cannot accommodate both uses.

Passed by the Durham City Council on April 21, 1987.

**Resolution To Adopt a Policy for
Implementing the Protection of Abandoned Railroad Corridors**

- Whereas,** the Durham City Council adopted a resolution on April 21, 1987, incorporating existing and future abandoned railroad corridors into the Durham Urban Trails and Greenways Master Plan; and
- Whereas,** the Durham City Council adopted a resolution on April 21, 1987, directing the City Manager to bring a report to Council on any railroads to be abandoned; and
- Whereas,** both resolutions recognize the public value of railroad corridors for bicycle, pedestrian, and light rail transportation; and
- Whereas,** the usefulness of railroad corridors for transportation and for multiple uses, is greatly enhanced when the entire original corridor width and grade are preserved;

Therefore, be it resolved that it is the policy of the City of Durham to implement railroad corridor preservation in the following manner:

1. The rail bed and original light-of-way for railroad will be reserved (most frequently 100'). Exceptions for pre-existing structures, undue hardship to land owners, or other circumstances, will require City Council approval.
2. If negotiations with a land owner to reserve the railroad corridor fail to reach a satisfactory resolution, City Council will be advised and purchase of land or easement will be considered.
3. Crossing of the railroad right-of-way will be permitted for major and minor thoroughfares as indicated on the Major Thoroughfare Plan. Local and collector street crossings are not encouraged. In this manner, priority is given to bicycles and pedestrians using the rail corridor
4. The administration is directed to prepare ordinance revisions which may be necessary to implement the above policy.

Passed by the Durham City Council on March 6, 1989.

B. 1990 and 1996 Bond Referenda, Trails and Greenways Sections

**Notice of Special Bond Referendum in the
City of Durham, North Carolina**

A special bond referendum will be held in the City of Durham, North Carolina, between 6:30 A.M. and 7:30 P. M. on Tuesday, November 5, 1996, at which there will be submitted to the qualified voters of said City the following questions:

1. Shall the order adopted on September 16, 1996, authorizing not exceeding \$35,245,000 Street Bonds of the City of Durham, North Carolina, for the purpose of providing funds, with any other available funds for acquiring land and rights of way for streets and, to the extent authorized by law, constructing and reconstructing streets within and without the corporate limits of said City, including grading, paving, resurfacing and widening such streets, landscaping related thereto and constructing and reconstructing bridges, causeways, sidewalks, curbs, gutters, culverts, drains, traffic controls, signals and markers, lighting, grade crossings, water lines and sanitary sewer lines related thereto, such street to include highways and other streets that are in a part of the State highway system, and authorizing the levy of taxes in an amount sufficient to pay the principal and interest on said bonds, be approved?
2. Shall the order adopted on September 16, 1996, authorizing not exceeding \$5,500,000 Art Center and Museum Bonds of the City of Durham North Carolina, for the purpose of providing funds, with any other available funds, for renovating Historic St. Joseph's, which serves as a cultural arts center, and expanding the North Carolina Museum of Life and Science, including the acquisition of any necessary land, rights of way and equipment and authorizing the levy of taxes in an amount sufficient to pay the principal and interest on said bonds, be approved?
3. Shall the order of adopted on September 16, 1996, authorizing not exceeding 20,375,000 Park and Recreational Facility Bonds of the City of Durham, North Carolina, for the purpose of providing funds, with any other available funds, for providing and improving public parks and recreational facilities and certain community development facilities for said City within and without the corporate limits of said City, including the acquisition of land for an additional park and additional trails, greenways and other opens spaces, the development of an additional park and additional trails and other open spaces, the improvement and renovation of existing parks and recreational facilities, the replacement of park and playground equipment, the replacement of a swimming pool and the construction of a bathhouse and support facilities, the acquisition and renovation of and existing building to provide additional recreational facilities and certain community development facilities and the acquisition of any necessary rights of way and other equipment, and authorizing the levy of taxes in an amount sufficient o pay the principal of and the interest on said bonds, be approved?

-
4. Shall the order adopted on September 16, 1996, authorizing not exceeding \$5,165,000 Public Transportation Bonds of the City of Durham, North Carolina for the purpose of providing funds, with any other available funds for constructing a multi-modal transportation center to replace certain existing bus and railway facilities and acquiring any necessary land, rights of way and equipment, and authorizing the levy of taxes in an amount sufficient pay the principal of and the interest on said bonds, be approved?
 5. Shall the order adopted on September 16, 1996, authorizing not exceeding \$20,000,000 Housing Bonds of the City of Durham North Carolina, for the purpose of providing funds, with any other available funds, for providing housing for the benefit of persons of low or moderate income, including the acquisition, construction, improvement, reconstruction and repair of housing and making loans, grants, interest supplements and other programs of financial assistance available to persons of low or moderate income and to developers of housing for persons of low or moderate income, and for assisting said City in exercising any other powers to provide housing, and authorizing the levy of taxes in an amount to pay the principal of and the interest on said bonds, be approved?

Order authorizing \$3,200,000 Urban Trails and Greenway Bonds

Be it ordered by the City Council of the City of Durham:

1. That pursuant to the Local Government Bond Act, as amended, the City of Durham, North Carolina, is hereby authorized to contract a debt, in addition to any and all other debt which said City may now or hereafter have power or authority to contract, and in evidence thereof to issue Urban Trail and Greenway Bonds in an aggregate principal amount not exceeding \$3,200,000 for the purpose of providing funds, with any other available funds for providing and improving recreational facilities consisting of trails, greenways and other open spaces for said City within and without the corporate limits of said City, including the acquisition of land and rights of way, the development, construction and improvement of trails, greenways and other open spaces and the acquisition any necessary equipment.\
2. That taxes shall be levied in an amount sufficient to pay the principal of and the interest on said bonds.
3. That a sworn statement of the debt of said City has been filed with the City Clerk and is open to public inspection

C. City Council Resolution Setting Trail Priorities

**A Resolution Establishing Project Priorities
For Open Space and Greenway Funds**

- Whereas,** in November, 1990, Durham voters approved \$3.2 million in bonds to be issued for the purpose of providing open space and trails for Durham residents; and
- Whereas,** a total of \$3.5 million is available for open space and greenways including impact fee funds, general fund monies, and the 1990 and remaining 1986 bond funds; and
- Whereas,** The City Council had adopted the Durham Urban Trails and Greensways Master Plan and approved in concept, the New Hope Corridor Open Space Master Plan to provide direction for provision of greenways and open spa in Durham; and
- Whereas,** The Durham Urban Trails and Greenways Commission and the Planning Department staff have carefully evaluated possible projects to provide opens pace and trails using the approve bond funds; and
- Whereas,** Projects have been recommended with the intention of providing optimal environmental, recreational, and transportation benefits to the community and projects that are consistent with the adopted plans;

Now, Therefore, Be it Resolved by the City Council of the City of Durham, that:

The following project priorities are approved for use of the 1990 open space and greenway bond funds and other available greenway funds:

1. Complete the north-south trail, from the Eno River to NC 54, along Warren Creek, part of Ellerbee Creek and a tributary, through downtown, along tributaries of Third Fore Creek, and along Third Fork Creek.
2. Designate \$750,000 to be spent in Southwest Durham including both acquisition and trail construction within the City Limits. Volunteer citizen groups will be invited to help provide foot rails at low cost as soon as land is acquired, so that the public can begin to use and enjoy the corridor. Sandy Creek appears to have potential as the first trail project and other possibilities will be explored.
3. Construct a trail in the eastern par to of Durham in impact fee zone 2.

The highest priority is the north-south trail beginning with Third Fork Creek and tributaries connecting with the downtown area. The actual cost of the north-south trail may affect the amount of funds available for New Hope Creek, and the size of the project in eastern Durham. If development of a rail-trail becomes possible, project priorities may be reconsidered.

Be it further resolved that the City Manager is directed to implement these projects, carrying out the necessary property acquisition and trail design and construction.

Passed by the Durham City Council on March 2 1992.



Durham City/County Planning Department

101 City Hall Plaza
Durham, NC 27701
Phone: (919) 560-4137
Fax: (919) 560-4641

September 26, 1996

Memo to: Orville W. Powell, City Manager
David F. Thompson, County Manager

From: Paul Norby, Planning Director 

Re: Proposed Amendments to the Durham Urban Trails and Greenways Master Plan

On August 21, 1996 and September 18, 1996, the Durham Open Space and Trails Commission (DOST) voted to recommend some changes in the Durham Urban Trails and Greenways Master Plan (the Master Plan). The original Master Plan was adopted by the City Council on October 17, 1988 and by the Board of County Commissioners on April 10, 1989. The changes are recommended in four areas of the Master Plan: American Tobacco Trail south of I-40; Eagle Spur of the American Tobacco Trail; Riddle Road Spur of the American Tobacco Trail and Downtown Norfolk Southern Loop Spur of the North-South Trail. The reasons for these recommended changes are described below. The locations are shown on the attached maps.

American Tobacco Trail South of I-40 (Map #1)

Two items are related to this portion of the Master Plan. The first is the recommendation to shift the American Tobacco Trail, between I-40 and Massey Chapel Road, from its current location on the old railbed to the sewer line on the west side of the unnamed creek to the east of the railbed. On most of the Master Plan the locations of trails along creeks have been interpreted as flexible, with final alignment responding to opportunities for purchase or easements, topography, wet areas, etc. However, both staff and the DOST Commission felt strongly that due to the nature of the rail-trails as being built to preserve the original alignment of the railroad, the American Tobacco Trail location was more specific and could not shift off the old railbed without action to amend the Master Plan. It has also been the policy of both the City Council and the County Commissioners to protect railroad corridors for bicycle and pedestrian recreational and transportation uses. In keeping with federal rail banking legislation, this policy further serves to preserve abandoned rail lines for future rail use.

ATTACHMENT #PW-9

However, the continuity of the American Tobacco Trail alignment south of NC 54 has already been disrupted by several recent events. First, Interstate 40 was constructed across the corridor. Then a portion of the corridor was sold to the developers of both Homestead Market Shopping Center and Spring Hill, which were rezoned and developed in the 1980's, prior to the policy adoption. Based on these precedents and the above-mentioned policy, which gives City Council the ability to make exceptions due to circumstances, on February 5, 1996, the Durham City Council approved a rezoning of the property for the American Kennel Club (AKC). The new zoning for the AKC does not directly preserve the original alignment of the American Tobacco Trail as an element of the development plan.

At the time of the rezoning, the North Carolina Department of Transportation (DOT) decided not to pursue preserving the existing railbed from I-40 south to Fayetteville Road as a future alignment for resumption of rail service since acceptable alternate routes are possible. Since the beginning of this year, they have begun selling the corridor back to underlying property owners.

Since the rail corridor has been disrupted and has such a potential to impact the development of the tracts surrounding the railbed, Planning staff and the DOST has considered the relocation of the trail to a greenway along the existing sewer line at the west side of an unnamed creek east of the rail corridor. The sewer line crosses the old railbed approximately 100 feet north of the intersection with Massey Chapel Road and continues north to the southern property line of the AKC tract. Staff also walked both the proposed greenway alignment and the existing abandoned railbed and came to the following conclusions:

- The sewer line would make a good location for a trail since it has already been disturbed and is comparable to the rail line as a "prepared" location in that both can be easily walked now.
- The abandoned railbed is at least eight to ten feet above the surrounding grade as it runs through the middle of large tracts of residential land. That height would mean a substantial cost, either in lowering the bed to a grade more closely matching the surrounding land, or in building pedestrian bridges over many possible street crossings.
- A trail along the eastern side of these properties may have more potential to serve existing and future neighborhoods opening toward Fayetteville Road than one in the middle of the tracts fronting on NC 751.
- It is desirable to maintain the connection from these tracts of land to the rest of the American Tobacco Trail.

Based on these conclusions, the DOST recommends the shift of this portion of the American Tobacco Trail. The proposal is to change the alignment of the trail from the point where the sewer line crosses the abandoned railbed north to I-40, running along the eastern boundary of the tracts, including the AKC land. It is not the intent of the DOST or the staff to recommend that this amendment set a precedent for further shifts from any existing rail corridor, but to see this as a special case standing on its own merits. Staff and DOST are working with citizens groups interested in planning the connection from NC 54 south to the railroad underpass at Fayetteville Road and have several alternatives to fill what is known as "the gap". Further revisions to the Master Plan may be needed once a design for "the gap" is approved by all parties concerned, including the DOT.

Eagle Spur of the American Tobacco Trail (Map #2)

In the same area of the County, it was noted that the original alignment of the railbed that crossed NC 751 and continued southwest and is now under water in Jordan Lake is referred to as the Eagle Spur of the American Tobacco Trail. The Eagle Spur is so-named because it provides access to the northern shores of Jordan Lake, where bald eagles are frequently sighted. While this spur trail was included in the American Tobacco Trail Master Plan, it has never been added to the DUTAG Master Plan.

In order to give the DOST and staff a basis for requesting the preservation of this corridor at the time of development proposals, the DOST proposes to add the Eagle Spur to the Master Plan. It would consist of a sidewalk connection from the American Tobacco Trail along Massey Chapel Road to the west until it crosses NC 751 and the original alignment of the railroad and follows that south to the lake. This will include some property which is under control of the United States Army Corps of Engineers, and has been included in their master plan for recreational trails.

Riddle Road Spur of the American Tobacco Trail (Map #3)

As part of the State's DOT funding of the American Tobacco Trail, a portion of the former Norfolk Southern Railroad property running along the old railbed from Fayetteville Road east along Riddle Road to Briggs Avenue is being included in the leased property for the American Tobacco Trail. This railbed has been abandoned and the rails removed and portions of it are currently used by some in the vicinity for a walking path.

The proposed spur trail would have several advantages. First, it would connect the main American Tobacco Trail with neighborhoods to the east and to the bicycle lanes proposed along Briggs Avenue. Second, it would serve the neighborhoods west of Alston Avenue, such as Campus Hills and the major City park there and those

areas east of Alston, such as Collier Place and Lantern Woods. Briggs Avenue also connects to Durham Technical Community College and Expressway Commerce Center to the north. Therefore, the staff and DOST Commission believe this spur would be a valuable addition to the Master Plan.

Downtown Norfolk Southern Loop Spur of the North-South Trail (Map #4)

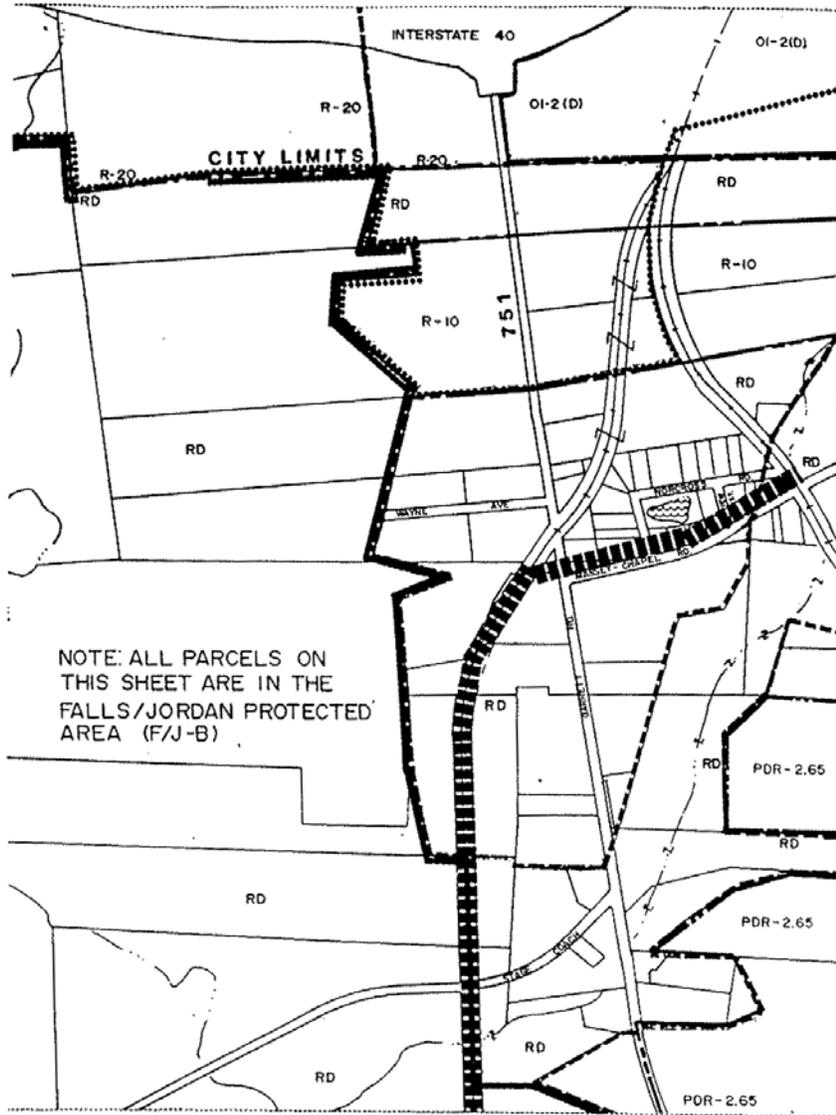
The Planning staff has been negotiating with Norfolk Southern for a possible rail-with-trail to fill a missing link in the Downtown portion of the North-South Greenway Trail. During the discussions, it was suggested by the railroad that the entire active rail line that loops from Main Street, in the vicinity of Liggett Myers, north and east to Avondale Avenue might be for sale in the near future. Developing this rail line as a trail could connect the North-South Greenway Trail with the proposed Durham Central Park project, with Old North Durham, North/East Central Durham and with several other parks and gathering places in the northern part of Downtown.

Since this rail line has not yet been abandoned, it would be a while before serious negotiations would begin on this property. However, in these early stages, it would be timely to add this rail-trail to the Master Plan, in keeping with City Council and Board of County Commission policies to protect abandoned rail corridors.

Summary

Staff recommendation is to adopt the four proposed DUTAG Master Plan amendments dealing with rail-trails. Because preservation and development of rail-trails are essential parts of policies in the DUTAG Master Plan, it is not felt that a public hearing on this matter is necessary.

cc: Teri Danner, Planning Department
Pamela Blyth, DOST Commission Chair



Proposed DUTAG Master Plan Amendment

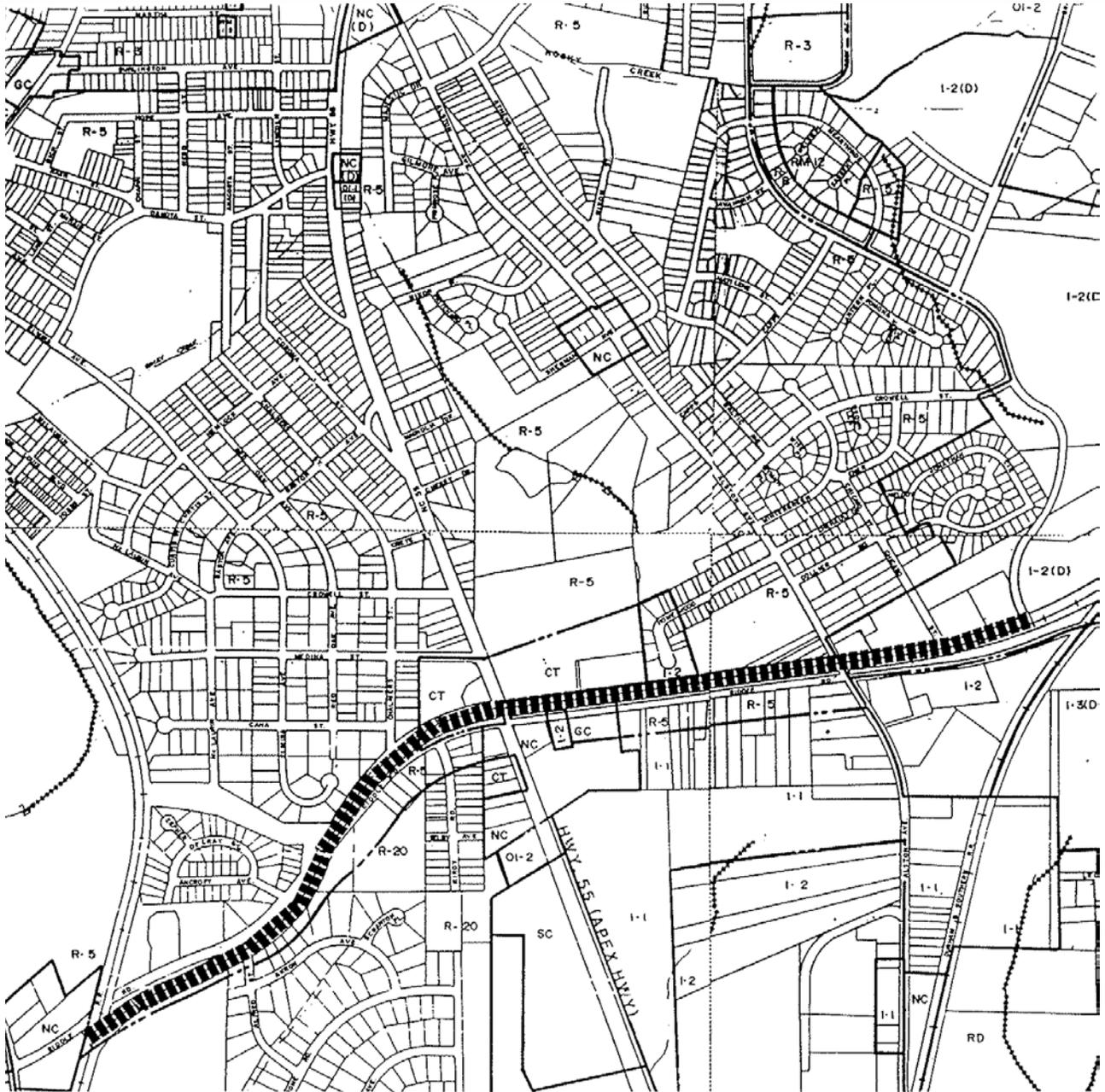
EAGLE SPUR OF THE AMERICAN TOBACCO TRAIL

1"=1000'



████████████████████ PROPOSED TRAIL ALIGNMENT

MAP #2



Proposed DUTAG Master Plan Amendment

RIDDLE ROAD SPUR OF THE AMERICAN TOBACCO TRAIL

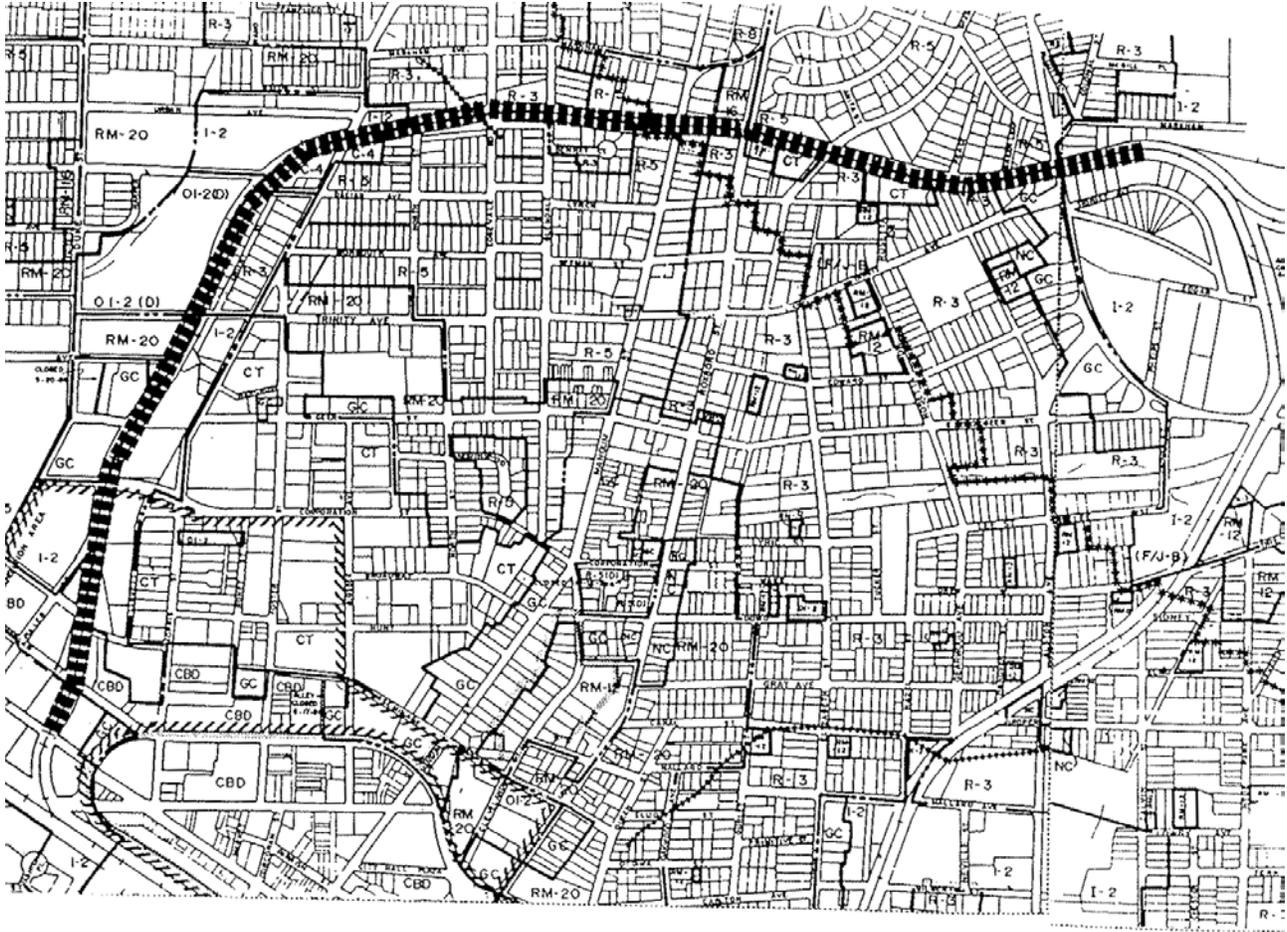
1"=1000'



**PROPOSED TRAIL
ALIGNMENT**



MAP #3



Proposed DUTAG Master Plan Amendment

DOWNTOWN NORFOLK SOUTHERN SPUR OF THE NORTH-SOUTH TRAIL

1"=1000'



PROPOSED TRAIL
ALIGNMENT

MAP #4

D. Interlocal Agreement Creating the DOST

Adopted by the City Council and the County Board of Commissioners,
December and November, 1993

**City of Durham and County of Durham
Interlocal Cooperation Agreement for
Open Space and Trails Planning**

This is an Interlocal Cooperation Agreement between Durham County, a political subdivision of the State of North Carolina, and the City of Durham, a North Carolina municipal corporation. This agreement is made pursuant to Article 20 of Chapter 160A of the North Carolina General Statutes. The date this agreement was renewed, August, 2010. Durham County and the City of Durham agree as follows:

Section I. Policy.

The County and City hereby find and declare that interlocal cooperation for open space, urban trails and greenways planning and implementation allows for more orderly, efficient, and coordinated efforts. This coordination provides for consistent analysis of problems and opportunities, and consistent implementation of programs across political boundaries. Therefore, such coordinated planning provides a sounder basis for decisions which affect both governmental entities. The County and City recognize that coordinated planning and implementation are vital to the public interest. The purpose of this Agreement is to reaffirm the joint open space and trails planning process and the advisory commission to implement this goal.

Section II. Definitions.

The words defined in this section shall have the meanings indicated when used in this Interlocal Cooperation Agreement.

- A. "Board" shall mean the Board of County Commissioners of Durham County.
- B. "City" shall mean the City of Durham.
- C. "Council" shall mean the City Council of the City of Durham.
- D. "County" shall mean Durham County.
- E. "Commission" shall mean the Durham Open Space and Trails Commission.
- F. "Governing Bodies" shall mean the Board of County Commissioners of Durham County and the City Council of the City of Durham.

Section III. Authority and Purpose.

A. Authority.

Pursuant to the authority granted in N.C.G.S. 160A-146 and 153A-76, the County and City hereby reauthorize the advisory board which is named the Durham Open Space and Trails Commission.

B. Purpose and Duties.

The primary purpose of the Commission shall be to provide advice to the Council and Board on matters relating to open space preservation and trail development. In order to provide recreational and environmental benefits for the citizens of Durham County, the Commission shall promote the preservation of valuable open spaces, the preservation of natural vegetation and stream valleys within the urban and rural environment, and the development of trails and other appropriate recreational and transportation facilities for pedestrians and bicycles. The Commission shall promote the protection of the natural environment where appropriate to serve the public interest, with equal consideration for long-term care of the environment and the short-term pressures of growth. In doing so, the Commission shall foster the wise use of the County's natural resources and shall strive to involve all segments of the Durham community.

In achieving these purposes, the Commission shall have the following specific powers and duties related to open space preservation and trails development:

1. To formulate and recommend to the Governing Bodies plans, goals, objectives, policies, standards, programs and priorities.
2. To advise the Council and Board on public and private development decisions.
3. To formulate and recommend to the Governing Bodies proposals for acquisition and capital improvements.
4. To educate the citizens of Durham County about the City and County's programs.
5. To submit an annual report to the Council and Board about the activities of the Commission.
6. To encourage gifts, donations, bequests and easements and to raise funds for open space and trail purposes through the sale of items which increase public awareness about City and County programs.
7. To assist in the management of the County's Matching Grants Program.
8. To advise the City and County administrative staff.
9. To perform any other duties as the Council and/or Board may from time-to-time delegate to the Commission.
10. To adopt By-Laws for the proper conduct of business.

C. Term.

The term of this Agreement shall be from January 1, 1999 to December 31, 2003. This Agreement shall be reviewed by the Governing Bodies at least once every four (4) years. Agreement was renewed August 2010.

D. Limitation.

The Commission is an advisory board only, and shall have no authority to enforce regulations, rules, ordinances or laws.

Section IV. Structure of Appointments.

A. Composition.

The Commission shall be composed of a minimum of sixteen (16) voting members, and a maximum of thirty (30) voting members, the exact number to be determined by the Commission. All members must reside in Durham County; moving out of Durham County shall be cause for removal of the member. Moving out of the ward or township that a member represents shall be cause for removal of the member, although the member may become one of the Commission's appointments. The Commission membership shall be based upon the following:

1. Eight (8) members shall be appointed by the Board, representing:

- (1) Oak Grove/Carr Township
- (1) Mangum Township
- (1) Lebanon Township
- (1) Triangle Township
- (4) At Large (May Be City Residents)

However, in the event that after reasonable advertisement, no qualified candidates for a township appointment come forward, then the Board shall not be bound by the township representation requirement and may instead appoint an additional at-large member.

2. Eight (8) members shall be appointed by the Council from within the Durham City limits, and representative of:

- (1) Ward 1
- (1) Ward 2
- (1) Ward 3
- (1) Ward 4
- (1) Ward 5
- (1) Ward 6
- (2) At Large

However, in the event that after reasonable advertisement, no qualified candidates for a ward appointment come forward, then the Council shall not be bound by the ward representation requirement and may instead appoint an additional at-large member.

3. One (1) member shall be appointed from each of the following elected or appointed boards:

- a. The Durham Board of County Commissioners, appointed by the Chairman;
- b. The Durham City Council, appointed by the Mayor;

-
- c. The Durham Planning Commission, appointed by the Chairman; and
 - d. The City of Durham Parks and Recreation Advisory Committee, appointed by the Chairman.
4. Up to ten (10) members may be appointed by the Commission. These members may represent a special interest or professional focus which the Commission feels would be helpful in fulfilling its duties and responsibilities.
 5. Persons serving in the following positions shall serve as ex-officio members of the Commission:
 - a. The Director of City Parks and Recreation Department, or his or her designee;
 - b. The Director of the City-County Planning Department, or his or her designee; and
 - c. The County Matching Grants Program Administrator.
 The ex-officio members shall not have the power to vote on decisions by the Commission.

B. Terms.

1. Regular Terms.

The regular term of office for Commission members shall be three (3) years. Initial appointments for terms of less than three years shall not be considered regular terms. A member may be reappointed for a second term. After two consecutive regular terms, a member shall be ineligible for reappointment until one calendar year has elapsed from the date of termination of his or her second term. A term shall continue until a successor is appointed by the appropriate governing body.

2. Initial Appointments.

The terms of initial appointments shall be staggered as follows:

Council Appointments 1 and 2.....	One year term
Council Appointments 3, 4 and 5.....	Two year terms
Council Appointments 6, 7 and 8.....	Three year terms
Board Appointments 1 and 2.....	One year term
Board Appointments 3, 4 and 5.....	Two year terms
Board Appointments 6, 7 and 8.....	Three year terms
All Commission Appointments.....	Three years

Members who serve as representatives from other boards and commissions shall have initial terms that coincide with the terms of office on his or her respective boards. In making initial appointments to the Commission, the Board and the Council shall give special preference to the outgoing members of the County's Open Space Commission and the City's Urban Trails and Greenways Commission in order to provide continuity in open space and trail planning. In making appointments to this Commission, the Board and the Council shall make reasonable efforts to balance the representation between urban and rural interests.

Section V. Organization.

A. Officers.

Each year the Commission shall elect its own officers. The Commission shall elect a Chair, a Vice-Chair and a Secretary. The Chair shall preside over all regular and special meetings, and shall exercise such other powers as the Commission may prescribe in its By-Laws. No member may serve as Chair for more than two consecutive (2) terms. The Commission shall establish further procedures in its By-Laws regarding the election and length of terms of said officers.

B. Meetings.

The Commission shall establish a regular monthly meeting time. All meetings shall be subject to the applicable provisions of the North Carolina Open Meetings Law, NCGS Chapter 143, Article 33C. The Commission shall keep permanent minutes of its meeting. The minutes shall include the attendance of its members and its resolutions, findings, recommendations and other actions. Meetings may be held anywhere in or outside of Durham County as circumstances reasonably require. Notice of such meetings shall be given as required by law.

C. Quorum and Voting.

A quorum shall consist of a majority of the voting members of the Commission. All actions shall be decided by a majority vote of the voting members in attendance, a quorum being present.

D. Vacancies and Removal.

Upon resignation or removal of any member of the Durham Open Space and Trails Commission, the governing body or other group that appointed that member shall appoint a successor to fill the remainder of the unexpired term.

E. Committees.

The Commission may establish Committees that it deems necessary for the conduct of business of the Commission. These Committees may include additional citizens as associate members. The Chair of a Committee shall be a member of the Commission, and shall be appointed by the Chair of the Commission.

F. Attendance.

It is expected that members appointed to the Commission will regularly attend its meetings. The Commission shall establish within its By-Laws conditions which constitute an excused absence. Members may forfeit the remainder of their terms and may be replaced under the following conditions:

1. Any member who has three (3) unexcused absences of regular Commission meetings within a one-year period of time.
2. A member who has six (6) absences, excused or unexcused, of regular Commission meetings within a one-year period of time.

When the Commission finds that a member has become disqualified for membership, the Chair of the Commission shall notify the governing body that appointed the member so that a new member may be appointed for the remainder of the unexpired term.

G. Conduct of Business.

The Commission shall adopt and may from time to time amend its By-Laws for the conduct of its business. Such By-Laws shall be consistent with this Agreement and applicable County and City ordinances. The By-Laws and any amendments shall be approved by the Governing Bodies.

H. Annual Report.

The Commission shall prepare an annual report and submit it to the Board and the Council. The annual report shall include a comprehensive review of the Commission's activities, problems and actions of the Commission; plans for the up-coming year; attendance records of Commission members and any budget requests or other recommendations. The form, content and time of submission shall be determined by the City Manager and the County Manager.

I. Administration.

The Durham City-County Planning Department shall provide staff for the Commission and for open space and trail programs as specified in the Department's Annual Work Program and Budget. Staff shall be responsible for preparing notices and agendas for the Commission's meetings and keeping the records of the Commission, including records for member's attendance.

J. Ethics and Conflict of Interest.

All appointees to the Commission are subject to the Durham County Ethics Policy.

Other than to provide information, no Commission member shall take part in any discussion, consideration, determination or vote concerning a property in which the Commission member or a close relative (spouse, sibling, child or parent):

- a. Is the applicant before the Commission;
- b. Owns property within 600 feet of the subject property; or
- c. Has a financial interest in the subject property or improvements to be undertaken thereon.

Other than to provide information, no Commission member shall take part in any discussion, consideration, determination or vote concerning a property in which a business associate or employer of the Commission member:

- a. Is the applicant before the Commission;
- b. Owns property within 600 feet of the subject property; or
- c. Has a financial interest in the subject property or improvements to be undertaken thereon.

In situations that involve a non-profit or private organization for which a Commission member is an officer, he or she shall be required to publicly disclose that association and

shall not take part in any discussion, consideration, determination or vote concerning said situation.

Violation of this ethics and conflict of interest provision shall be cause for removal of a Commission member.

K. Removal of Members.

A member of the Commission may be removed by the body that appointed that member for any of the following reasons:

- a. Violation of the attendance provisions of Section V.F. Attendance.
- b. Violation of the ethics and conflict of interest provisions of Section V.J. Ethics and Conflict of Interest.
- c. Moving out of Durham County or out of the ward or township that a member represents.
- d. Non-payment of taxes.

In addition, a member of the Commission may be removed at any time by the appointing body.

Section VI. Amendments.

This Agreement may be amended at any time upon mutual written agreement of the City and County. The Commission may recommend to the Governing Bodies amendments to this agreement. The City Council and County Commissioners shall be the final authority in approving all amendments.

Section VII. Termination of Agreement.

Either the City or County may terminate this agreement by giving written notice of such termination to the other party at least ninety (90) days prior to the expected date of termination.

Section VIII. Entire Agreement.

This document contains the entire agreement of the parties, and there are no additional terms or conditions except those reflected herein.

IN WITNESS WHEREOF, the parties have authorized this Agreement to be executed and attested by their undersigned officers, to be effective from and after the date above.

CITY OF DURHAM

BY _____

Attest:

City Clerk

DURHAM COUNTY

BY _____

Attest:

County Clerk

E. The “Green Sheet”: Information on Trail and Greenway Dedications

Since the early 1980’s, Durham has been assembling a City-wide system of urban trails and greenways. The greenway system will extend along creeks throughout the City and will be connected where necessary by sidewalks and streets. It will offer scenic and safe routes for transportation and recreation. Shopping, recreation, and residential centers, schools, and parks will be connected by paths to accommodate bicyclists and pedestrians.

A greenway system provides many benefits to the urban community. Greenways can ameliorate the negative effects of urbanization upon water quality by allowing for infiltration of runoff, thus decreasing erosion and sedimentation. Greenways provide visual beauty and diversity within the urban landscape. Trails within the greenways provide facilities for health, fitness, and outdoor recreation for the whole community.

Because of this array of benefits for the community, the greenway system has been adopted as City policy. The Durham Urban Trails and Greenways Commission was established by the City Council in 1983. A master plan was adopted in 1988 (since amended several times) which states the goals and standards for the program and includes maps showing where greenways and trails are intended to be. The greenway system provides an opportunity for the City and land owners to cooperate in a mutually beneficial endeavor, increasing the quality of life and the attractiveness of the community to present and prospective businesses and residents.

Durham’s urban trails and greenways system is being created by various means: civic groups donate money for landscaping, property owners dedicate land and easements, and developers build trails in new development projects. In addition, the City regularly acquires easements or purchases land to construct trail segments in established neighborhoods. In new subdivisions, the greenway may be dedicated as part of the open space requirement, or reservation of greenways for future purchase by the City may be required. In other new developments, dedication of greenways may not be required, but land owners and developers are still encouraged to dedicate or reserve greenway rights-of-way.

The Durham Open Space and Trails Commission (DOST) acts as an advisory body to the City Council and the Board of County Commissioners and makes recommendations on zoning map change requests and site plans that have an impact on greenways and open space in the community. Developers and property owners interested in assisting in the development of the urban trails and greenways system should contact the Durham City-County Planning Department at 560-4137 or come to a DOST meeting on the third Wednesday of each month at 7:00 PM in the Committee Room of City Hall. The cooperation

and far-sightedness of developers and land owners will be appreciated by the citizens of Durham for generations to come.

1. Zoning Map Change Requests

Zoning map change cases are reviewed by staff to determine if the *Durham Trails and Greenways Master Plan* calls for a greenway on the land being rezoned. If the rezoning involves a development plan, the petitioner will be asked to show the greenway on the development plan. The zoning map change request will be reviewed by the Durham Open Space and Trails Commission as part of its advisory function for the City Council and the Board of County Commissioners.

2. Site Plans and Subdivisions

Site plans and subdivisions are reviewed by staff to determine if adopted open space and trail plans, such as the *Durham Trails and Greenways Master Plan*, shows a greenway on the land proposed for development. If so, a greenway dedication will be requested. On undeveloped land, the optimal greenway includes the 100-year floodplain or strip of land through the property at least 100 feet wide. The greenway can be used as part of the required open space, if open space is required for the proposed development. The greenway may be dedicated as an easement or in fee simple. Land dedicated for a greenway may also be land that is protected by some requirement of the Unified Development Ordinance.

In residential development, required dedications and impact fees for open space will provide greenways and trails as an amenity for these developments as well as the larger community. Therefore, where city greenways pass through a residential development, dedication of a strip of land 50 feet wide will be required as part of the requirements for the local subdivision. Additional land up to 100 feet in width or the 100-year floodplain may be dedicated in lieu of the open space impact fee. The value of land dedicated in excess of 50 feet will be credited against the impact fee. Where the impact fee is more than the value of the land dedicated, the balance of the impact fee will be paid by the developer.

3. Fee Simple Dedication

The following must be submitted at or before final plat approval:

1. A properly executed deed including a notarization section and, if applicable, a corporate execution section.
2. The final plats adjacent to or including the greenway must show metes and bounds for the greenway with a note stating:

“Deeded to the City of Durham in fee simple for City Greenway”

3. If a plat is not otherwise required during the development process, a plat showing metes and bounds for the greenway shall be recorded before issuance of Certificate of Occupancy. The site plan shall show the greenway and the note:

“Greenway plat to be recorded before issuance of Certificate of Occupancy”.

4. Easement Dedication

1. If a plat will be recorded during the development process, then the Preliminary Plat should show the location of the greenway with the note:

“City Greenway Easement--to be dedicated at the time of final plat approval”

The Final Plat shall show metes and bounds for the greenway with the note:

“Greenway Easement dedicated to the City of Durham according to the terms stated in Real Estate Book 1503, Pages 898-899. No building or land disturbance except according to those terms; public access granted.”

A mylar of the plat after it is recorded or three copies of the recorded plat shall be returned to the Trails and Greenways Planner in the Planning Department.

2. If a plat is not otherwise required during the development process, then a plat shall be recorded before a Certificate of Occupancy can be obtained. The greenway plat shall show metes and bounds for the greenway and the note shall read as for a greenway easement on a final plat.

The Site Plan shall show the location of the greenway and the note:

“Greenway plat to be recorded before issuance of Certificate of Occupancy”

A mylar of the plat after it is recorded or three copies of the recorded plat shall be returned to the Trails and Greenways Planner in the Planning Department.

5. For Further Information

Other information may be obtained from Beth Timson in the Durham City-County Planning Department at 560-4137 ext. 245 or at btimson@ci.durham.nc.us.

F. The “Green Sheet”: Frequently Asked Questions

1. “What rights does Real Estate Book 150, pages 898-899 give the City?”

The City may open the land to the following public uses: pedestrian traffic, the riding of vehicles powered wholly by the rider, and the riding of motorized wheelchairs. The City may prohibit anyone from constructing, planting, or building on the easement or destroying existing plant material on the easement. The City itself may, in constructing the greenway, build or plant on the easement. The City may use motor vehicles on the easement for construction, maintenance, and security purposes.

2. “When a trail is built on an easement, is the underlying landowner liable for any accidents on the trail?”

No. The first level of protection is NC General Statute 113A-95 which says that a landowner who allows a trail to be constructed without compensation owes a trail user only the same duty of care that he owes a trespasser. The second level of protection is the City’s assumption of the risk once the trail is built and maintained by the Parks & Recreation Department as one of its regular facilities, just like any City park.

3. “Are there tax incentives for donating an easement that is not required?”

Yes, there are federal and state tax incentives you may be eligible for, up to \$100,000 for an individual and up to \$250,000 for a corporation. However, these incentives are based on the effect that an easement has on the site’s land value. A small corridor might not make much difference between “before easement” and “after easement” land values; a larger piece of dedicated land might make a significant difference in a market with high land values. Only an appraisal can tell, but the value of a large dedication might be worth exploring.

4. “Can I get a copy of a model easement and of the full text of Real Estate Book 150, pages 898-899?”

Sure. Just contact the greenways planner at 560-4137 in the Planning Department.

5. “The greenway trail on my property is on a sidewalk. Do you still need an easement?”

Yes. The greenway will be built to be 10 feet wide to accommodate both bicycle and pedestrian traffic safely. The City sidewalk is not that wide, so we need the extra right-of-way to build the trail even when it “overlaps” the regular City sidewalk. The only time we wouldn’t ask for an easement is when the developer wants to build a 10 foot sidewalk himself, within the City’s transportation right-of-way.

G. A Resolution In Support of a Policy for City Council to Consider Condemnations of Property for Trail Development

A Resolution In Support of a Policy for City Council to Consider Condemnations of Property for Trail Development

- Whereas,** City Council adopted in 1988 a Trails and Greenways Master Plan that called for the development of 120 miles of trails throughout the City and surrounding areas; and
- Whereas,** trails offer a variety of benefits to Durham citizens, including recreational, transportation, and environmental; and
- Whereas,** City voters approved in 1986, 1990, and 1996 a total of approximately \$7.8 million in G.O. bond funds for use in trail development; and
- Whereas,** additional funding is also now available to help develop trails, such as impact fees and state/federal funds for pedestrian and bicycle projects; and
- Whereas,** a total of nearly \$10 million is currently available and has a goal of building 35-40 miles of trails over the next 6 years; and
- Whereas,** all of these funds have legal time deadlines requiring their use within the next few years; and
- Whereas,** the City has always had an informal policy that it would negotiate to acquire needed trail right-of-way from property owners on a voluntary purchase basis without considering condemnation, particularly since the overall program was just getting started in Durham; and
- Whereas,** the City has always looked for feasible alternative routes for trails when property owners along a proposed route were unwilling to sell or donate the needed right-of-way; and
- Whereas,** the City has occasionally, despite its best efforts, been unable to either negotiate the voluntary acquisition of a needed trail parcel or identify a feasible alternate trail route; and
- Whereas,** that not being able to consider use of condemnation of parcels to complete acquisition of a trail section can cause a waste of public funds on not being able to use other parcels in that section already acquired and delay both the expenditure of substantial available funds for the trails construction and the completion and opening of that trail section for public use; and
- Whereas,** the City may now need to for the first time consider condemnation of a property for trail acquisition if it is to meet its trail development goals and legal deadlines; and

Whereas, the City has always had the legal power to condemn property for trail development but has chosen not to use it to date; and

Whereas, other local municipalities have chosen to condemn one or more properties for trail development purposes, including Raleigh, Chapel Hill, and Cary; and

Whereas, the Durham Open Space and Trails Commission has reviewed and recommended the City's use of condemnation of property for trail development;

Now, Therefore Be It Resolved by the City Council of the City of Durham That a policy be established where the City Council would consider condemnation of property for trails acquisition under the following conditions:

1. That all reasonable efforts have been made by the City to educate and negotiate with property owners to reach a voluntary agreement to acquire needed property for trail development; and
2. That all other reasonable routes for the trail have been investigated and are not judged to be feasible alternatives for trail; and
3. That the property proposed for condemnation is the minimum amount of land necessary to be acquired to develop a standard trail; and
4. That all reasonable efforts would be made during trail design and construction to include landscaped buffers and other features that would limit impacts on adjacent properties or address other concerns of property owners affected by this action; and
5. That a significant show of support from residents and property owners living near the entire section of trail involving the proposed condemnation action be documented and reviewed at the time of City Council action; and
6. That the City would continue discussions and negotiations with the affected property owners throughout the process of consideration and final execution of the property condemnation in an ongoing effort to arrive at a voluntary acquisition agreement if at all possible.

Passed by the Durham City Council on March 3, 1997.