Capital Area Greenway
Master Plan - Update 1989

September 28, 1989

Prepared for: ***Parks and Open Space Element of the City of Raleigh Comprehensive Plan***

Prepared by: ***Raleigh Parks and Recreation Department***
Design/Development Division
Wayne Schindler, Parks Planner
Christine Hoeffner, Planning Intern

"...to preserve for our grandchildren what our grandparents enjoyed; trees, streams and quiet places from which we derive inner strength."

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Introduction

Greenways are linear parks interconnected to form a city-wide network of natural open space. Greenways usually follow stream beds, but other land areas are included to provide access or to protect natural and historical features. Greenways serve a variety of important purposes, among them:

1. To preserve unique natural features.
2. To provide open space.
3. To buffer non-compatible land uses and areas.
4. To control runoff and aid in floodplain management.
5. To provide wildlife habitat.
6. To provide hiking and bicycle paths.

Raleigh's greenway system, the Capital Area Greenway, has brought national recognition to the city for its more than 900 acres of land and nearly 25 miles of completed trails. It is a conservation-recreational system which has grown through an incubation period to emerge as a shaping force in both city recreation policy and zoning administration policy and law. Raleigh's greenway system is a linear park network containing inter-connected trails that link neighborhoods with schools, parks, shopping centers and other major facilities. Greenways are a major shaper of urban form and the quality of life of the city. These wooded stream corridors both protect and make accessible many of Raleigh's most unique and beautiful natural settings. They are a significant component of the Parks and Recreation program for the city and the current acreage to population ratio of the greenway system, 5.7 acres for every 1,000 citizens, is the largest acreage guideline among the park categories.

In 1976, the Raleigh City Council adopted the first Capital Area Greenway Master Plan, which was subsequently updated in 1986. Since greenways are predicated upon the location of natural drainage systems, the desired property to meet the systems goals is known and is not a major hurdle. Acquisition for the greenway system has occurred through donations of land, fee simple purchase, and dedication of easements through the development review process. Raleigh is aggressively pursuing land acquisition and development of the trail system.

The Capital Area Greenway System currently plays an important role in providing recreational opportunities to the citizens of Raleigh. That role will become increasingly important as trail segments are connected to form long routes and the user base increases with general population growth and development in outlying areas of the City. Greenways will supplement neighborhood park service,

especially in outlying districts where densities dictate that neighborhood parks be located further apart. Greenways will interconnect with planned bikeways and pedestrianways to provide an alternate transportation system. And they will continue to preserve natural areas important to the overall character and livability of the City.

The continued success of the program depends not only on the ability to acquire land for the system, but also on the *accessibility*, *continuity* and *linkage* of greenway trails. The Capital Area Greenway Master Plan adopted in 1986 provides a strong base in terms of achieving many of the goals for the system. However, future expansion of the City into outlying areas and increased use of greenways warrant several changes to the current plan.

The Capital Area Greenway Master Plan adopted in 1986 has been reviewed and modifications have been recommended to reflect the following:

1) Necessary extensions, additions and/or deletions of greenway corridors.
2) Designation of greenway connectors between existing or proposed corridors, isolated corridor segments or as a replacement for deleted corridors.
3) Identification of major and minor loops within the system.
4) Identification of node types/search areas to supplement neighborhood park service.
5) Expanded nomenclature to better identify and locate minor and penetrator corridors not previously named.
6) Revision of standard minimum corridor widths (minor corridors and penetrators) to more accurately reflect natural stream order and easement acquisition potential.

Greenway System Components

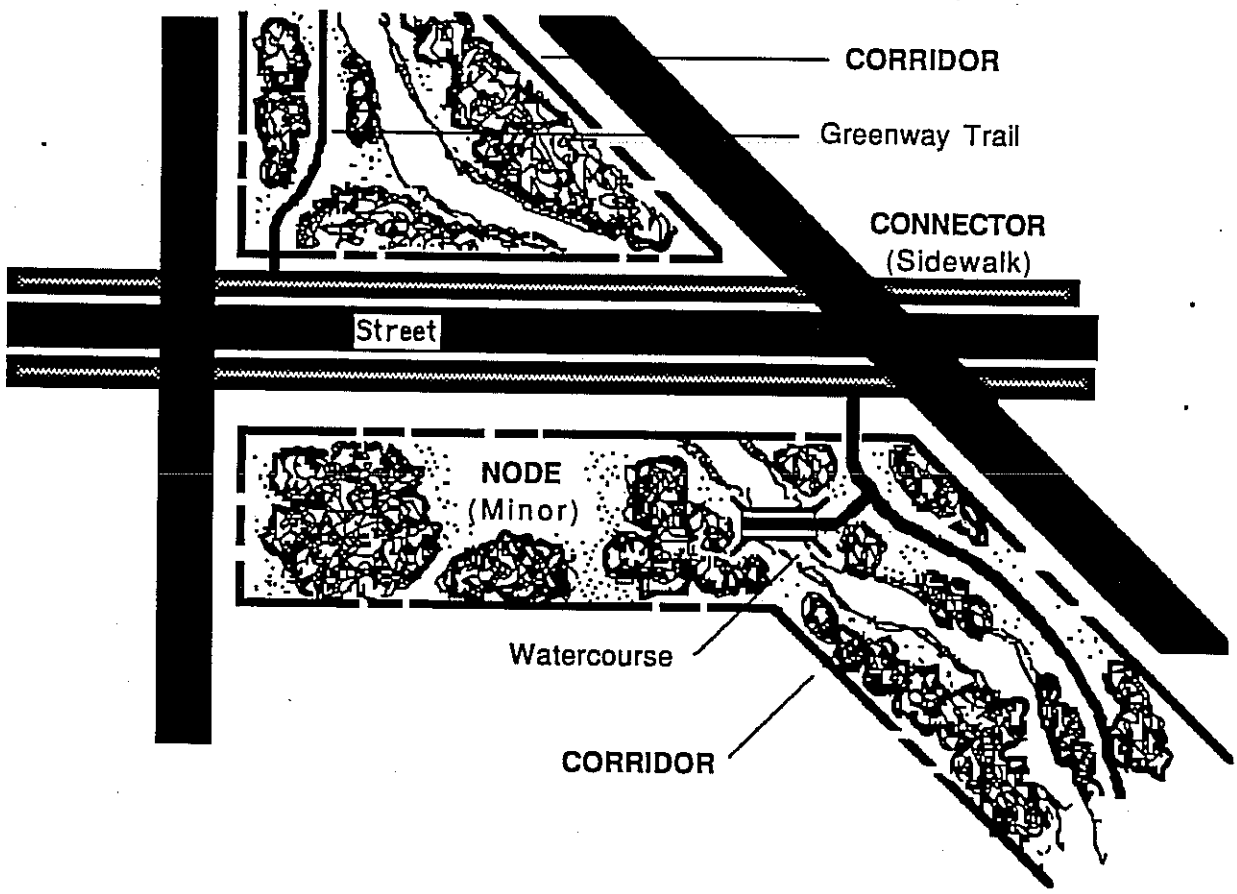
The Capital Area Greenway System is comprised of three primary components: *(See diagram - page 3)*

1) *Corridors*,
2) *Connectors*, and
3) *Nodes*

These components make possible a fourth element of the system - *Loops* .

Greenway Corridors

Corridors are the primary component of the Capital Area Greenway System. Raleigh's greenway system is based on a natural order or hierarchy of streams in the region. Greenway corridors are linear park areas located within these stream corridors that provide linkage to major nodes such as parks, schools,



Greenway System Components

shopping centers, and residential areas. Corridors vary in width depending on the natural stream order and their relative importance in the system. Along the Neuse River, the area's largest watercourse, the greenway corridor has a minimum standard width of one hundred and fifty (150) feet measured from the bank on both sides of the river. Along Crabtree and Walnut Creeks, the other two major spines of the greenway system, the minimum standard width is one hundred (100) feet measured from the bank on both sides of these major watercourses. Other creeks, streams, and tributaries are assigned minimum standard greenway widths of either seventy-five (75) feet or fifty (50) feet. *(See chart - Capital Area Greenway 1986 Master Plan, System - Wide Analysis, page 7)*

Greenway corridors can be classified as *Major Corridors*, *Minor Corridors* or *Penetrator Corridors*. The three Major Corridors - the Neuse River, Crabtree Creek and Walnut Creek - provide the backbone of this linear park system by dividing the City into three relatively equal subareas. Minor Corridors such as Leadmine, Marsh, House and Turkey Creeks further divide these subareas to provide additional recreational opportunities and linkage to the three Major Corridors. Minor Corridors also make possible

loop trails within the system. Penetrators are tributary corridors that provide access from residential areas to Minor and Major Corridors.

Major Corridors, Minor Corridors and Penetrator Corridors together create a finely meshed linear park net over the City. It is this fabric that will unify Raleigh's open space and recreational opportunities, making it truly the "Park with a City in it."

Greenway Connectors

Often greenway corridors are severed by man-made facilities such as the Beltline, natural topography such as ridgetops or by development that precludes acquisition of public greenway easements. In order to provide continuity along a particular corridor or link two corridors together, greenway connectors are necessary. These connectors can be sidewalks, bridges, pedestrian tunnels and underpasses or designated bicycle routes. They can also be trails located within the easement areas of major utilities such as cross-county transmission lines or abandoned railroad rights-of-way.

Greenway connectors play an increasingly important role in highly urbanized areas of the City where creeks and streams have been piped or where existing development may preclude acquisition. Connectors provide needed east/west routes, especially in the northern districts of the City where stream corridors run north to south. They also provide opportunities for loops within the system, increase accessibility to the overall system and strengthen the fabric of the open space network.

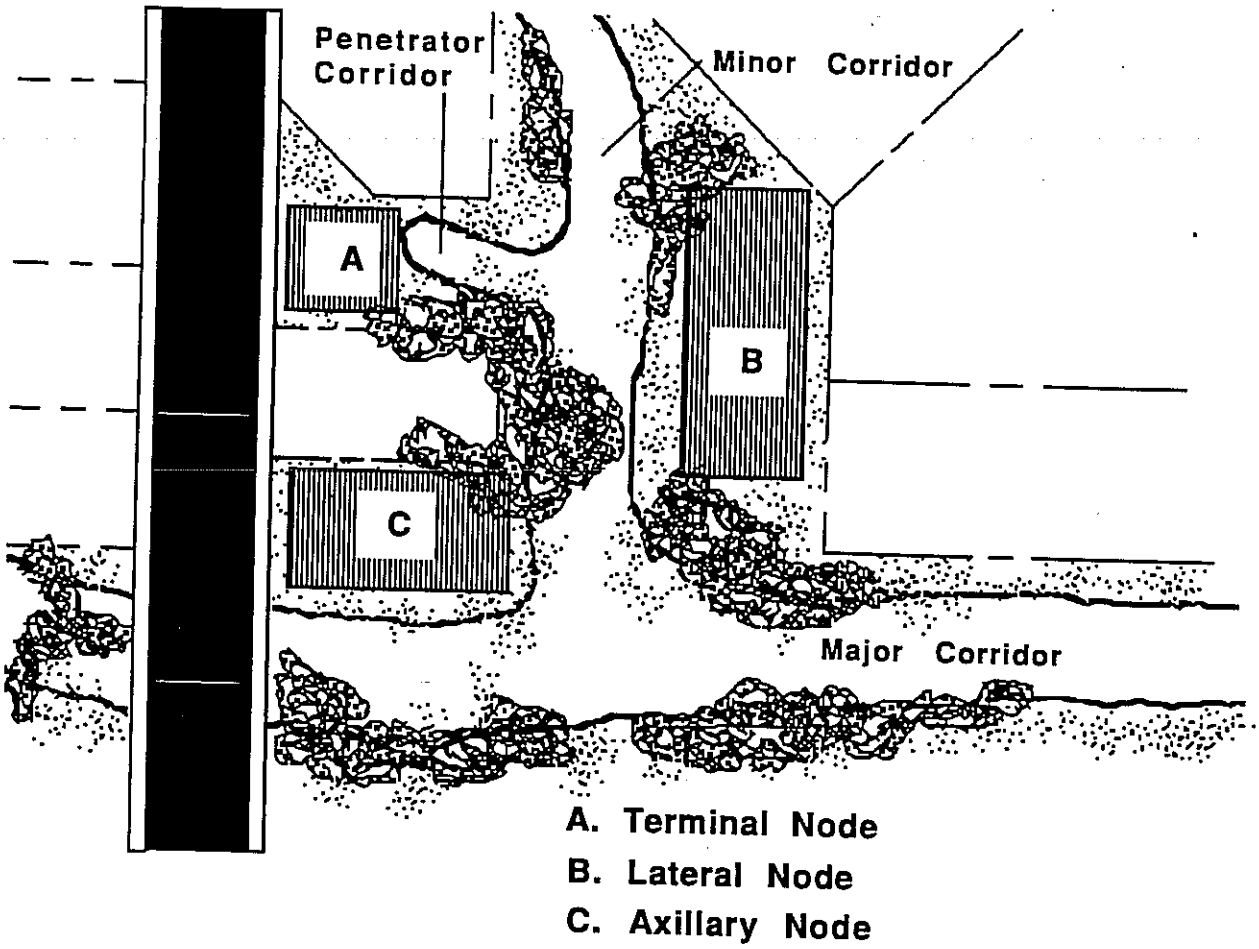
Nodes

Major nodes within the greenway system include existing and proposed parks, school sites, major shopping centers and commercial areas, employment centers, university and college campuses, and recreational areas. Major nodes are both destination points within the system and points of access to greenway corridors. Minor nodes are smaller open space areas adjacent to greenway corridors that allow for expanded recreational opportunities, access and/or parking. Minor nodes can be classified as one of the following three types, depending on their location: *(See diagram - page 5)*

1) *Terminal Nodes* - these areas occur at the ends of penetrator corridors.
2) *Lateral Nodes* - these expanded areas occur directly adjacent to a greenway corridor.
3) *Axillary Nodes* - these areas occur at the confluence of two greenway corridors.

Loops

Greenway loops have occurred primarily around lakes such as Shelley Lake or Lake Johnson within existing parks. These small, internal loops within park nodes provide important trail circuits for many recreational users, especially joggers and bicyclists.



Greenway Node Types

As the overall system grows and corridors are connected, larger loops become more possible. These large loops provide both increased recreational opportunities and a transportation alternative in that they not only provide longer trail circuits, but often shorten the distance to important nodes within the system.

Loops can be classified as follows:

1) *Regional Loop* - Raleigh's greenway system along with those of adjacent municipalities and Wake County have the potential to form a regional loop (Circle the Triangle Trail).
2) *Quadrant Loops* - Five large loops are possible, an Inner City loop and one in each of the four major quadrants of the City.
3) *District Loops* - smaller loops are possible within each planning district.

4) *Internal Loops* - loops around lakes and ponds or loop trail systems within larger acreages will continue as a possibility.

(See map - Capital Area Greenway Master Plan - Update 1989, page 29)

System Modifications

General System Expansion

As discussed previously, the acreage to population standard serves as a model goal and is less essential to the Greenway system as a measure of adequacy than it is for other Park categories.

The essence of the Greenway system is a linear park network containing interconnected trails. Service related issues of *accessibilty*, *continuity* and *linkage* of the Greenway corridors are a far better standard by which to measure program success than is total acreage. In fact, except for the West, Central and University Planning Districts, available Greenway acreages under the current master plan meet or exceed the total acreages necessary to meet the projected 2010 demand. *(See chart - Distribution of Greenways, page 33)*

Based strictly on acreage, this would indicate that little new acreage is needed to meet future growth. However, since the Greenway System will serve an increasingly important role in providing neighborhood-oriented recreational opportunities, some expansion of the present system is warranted. *(See map - Capital Area Greenway Master Plan - Update 1989, page 15)*

Accessibility provided by a limited number of penetrator corridors must be enhanced. The addition of penetrator corridors and the establishment of greenway connectors and loops will make major corridors and destinations more accessible.

Continuity of existing corridors must be maintained or reestablished by greenway connectors. Such a connection is needed to unite the Brier Creek Corridor with the rest of the system. Another is needed to continue the Walnut Creek Corridor through Centennial Campus. The extension of existing corridors must be considered in order to connect isolated segments such as Macon Road Trail with other corridors.

Linkage with systems proposed by adjacent municipalities and counties will also warrant the extension of several corridors. Cary, Garner, Morrisville, and Knightdale have either initiated or are planning greenway systems that would potentially link with Raleigh's. Wake County has developed an open space plan that incorporates the municipal greenway systems and expands upon our own Capital Area Greenway plan. Durham County will soon have a greenway plan with linkage potential along Brier and Sycamore Creeks. Such linkages would enable pedestrian and bicycle movement between towns and cities and would allow Triangle residents alternate access to recreational, cultural, and business centers in the area.

Finally, minor nodes will have to be acquired to provide expanded areas for neighborhood level recreational service - picnicking, open fields for pick-up games, playgrounds, etc.

Terminal nodes are important in providing access to major and minor greenway corridors at the end of penetrator corridors, especially from residential areas. Their proximity to residential development makes them a prime candidate for providing neighborhood level recreational service.

Lateral nodes will play an increasingly important role as greenway trail segments are linked together to form long, continuous trail systems. These nodes should be acquired to provide expanded recreational opportunities, as well as "point access" (both pedestrian and vehicular) along the length of long, linear trail corridors. Lateral nodes should also be considered when unique features, outside of the typical greenway corridor area, warrant preservation as part of the system.

Axillary nodes occur at the confluence of greenway corridors. Because bridge crossings and trail intersections naturally occur at these locations, they become important focal points of the system.

The acquisition of nodes should be a consideration during the determination of greenway easements as part of the subdivision and/or plan review process. This is especially appropriate and applicable to residential master plans and conditional use developments (CUD's). Expanded corridor width areas (nodes) can often be negotiated along a portion of the proposed easement when the standard minimum width adversely impacts lotting schemes, road location, etc., or where expansive floodplain occurs at the confluence of watercourses.

Specific Modifications to the System

The following are specific recommendations for extensions, additions and/or deletions of Greenway Corridors and recommedations for establishing several Designated Greenway Connectors. The 1986 Greenway Master Plan is presented on both a system-wide and district basis for review and comparsion purposes. The 1989 Master Plan Update, indicating recommended modifications on both a system-wide and district basis, follows.

Capital Area Greenway
1986 Master Plan
System-Wide Analysis

CORRIDOR	LENGTH (linear feet)	CORRIDOR WIDTH (from edge of bank)	ACREAGE
Neuse River	129,000	150'	888.4
Neuse River Trib. A	9,000	75'	30.9
Neuse River Trib. B	4,500	75'	15.5
Neuse River Trib. C	11,250	75'	38.7
Simms Creek	18,750	75'	64.6
Trib. A of Simms Creek	12,000	50'	27.5
Perry Creek	23,250	75'	80.1
Trib. A of Perry Creek	6,000	50'	13.8
Trib. B of Perry Creek	6,750	50'	15.5
Sanford Creek	22,500	75'	77.5
Trib. A of Sanford Creek	6,000	50'	13.8
Trib. B of Sanford Creek	1,500	50'	3.4
Tom's Creek	19,500	75'	67.1
Wake Crossroads Lake (Harris Creek)	19,500	75'	67.1
Trib. A of Wake Crossroads Lake	10,500	50'	24.1
Buffalo Creek	15,000	75'	51.7
Buffalo Road Branch of Buffalo Creek	3,750	50'	8.6
Beaver Dam/Neuseoca Lake	17,250	75'	59.4
Trib. A of Beaver Dam Lake	3,000	50'	6.9
Knightdale Creek (Mingo Creek)	18,750	75'	64.6
Crabtree Creek	87,000	100'	399.4
Crabtree Creek Trib. A	9,000	75'	31.0
Crabtree Creek Trib. B	13,500	75'	46.5
Branch #1 ofTrib. B	750	50'	1.7
Branch #2 of Trib. B	1,500	50'	3.4
Crabtree Creek Trib. C (Reedy Creek)	7,500	75'	25.8
Branch #1 of Trib. C	3,750	75'	12.9
Crabtree Creek Trib. D	9,000	75'	31.0
Crabtree Creek Trib. E	13,500	75'	46.5
Branch #1 of Trib. E	1,500	50'	3.4
Crabtree Creek Trib. F	4,500	75'	15.5

CORRIDOR	LENGTH (linear feet)	CORRIDOR WIDTH (from edge of bank)	ACREAGE
Sycamore Creek	40,500	75'	139.5
Trib. A of Sycamore Creek	6,000	50'	13.8
Turkey Creek	24,000	75'	82.6
Trib. A of Turkey Creek	12,750	75'	43.9
Richland Creek	21,750	75'	74.9
Trib. A of Richland Creek	5,250	75'	18.1
Branch #1 of Trib. A	1,500	50'	3.4
Trib. B of Richland Creek	2,250	50'	5.2
Trib. C Richland Creek	1,500	50'	3.4
Hare Snipe Creek	24,750	75'	85.2
Trib. A of Hare Snipe Creek	6,000	75'	20.7
Trib. B of Hare Snipe Creek	1,500	50'	3.4
House Creek	16,500	75'	56.8
Leadmine Creek	20,250	75'	69.7
Trib. A of Leadmine Creek	10,500	50'	24.1
Trib. B of Leadmine Creek	4,500	50'	10.3
Trib. C of Leadmine Creek	9,000	50'	20.7
Lake Park Br. of Leadmine Creek	5,250	50'	12.1
Snelling Branch of Leadmine Creek	5,250	75'	18.1
Trib. D of Leadmine Creek	1,500	50'	3.4
Trib. E of Leadmine Creek	3,750	50'	8.6
Trib. F of Leadmine Creek	4,500	50'	10.3
Fallon Park Branch	3,000	75'	10.3
Marsh Creek	24,750	75'	85.2
Trib. A of Marsh Creek	13,500	50'	31.0
Trib. B of Marsh Creek	8,250	50'	18.9
Trib. C of Marsh Creek	2,250	50'	5.2
Trib. D of Marsh Creek	750	50'	1.7
Walnut Creek	81,000	100'	371.9
Walnut Creek Trib. A	4,500	75'	15.5
Walnut Creek Trib. B	14,250	75'	49.1
Branch #1 of Trib. B	1,500	50'	3.4
Branch #2 of Trib. B	6,000	50'	13.8
Walnut Creek Trib. C	4,500	75'	15.5

CORRIDOR	LENGTH (linear feet)	CORRIDOR WIDTH (from edge of bank)	ACREAGE
Walnut Creek Trib. D	6,000	75'	20.7
Walnut Creek Trib. E	5,250	75'	18.0
Rocky Branch Creek	21,000	75'	72.3
Little Rock Trail	8,250	75'	28.4
Biltmore Hills Trail	4,500	75'	15.5
Gatling Branch Trail	3,750	75'	12.9
Big Branch Creek	12,000	75'	41.3
Brier Creek	27,000	75'	92.9
Trib. A of Brier Creek	10,500	50'	24.1
Trib. B of Brier Creek	3,000	50'	6.9
Trib. C of Brier Creek	10,500	50'	24.1
Macon Road Trail	5,250	75'	18.1
Mt. Vernon Church Rd. Trail	8,250	75'	28.4
Trib. A of Mt. Vernon Trail	6,000	75'	20.7
Honeycutt Creek	18,000	75'	62.0
Trib. A of Honeycutt Creek	9,000	50'	20.7
Falls Lake Trib. A	12,750	75'	43.9
Cedar Hills Park Trail	2,250	50'	5.2
Marsh Creek Park Trail	2,250	50'	5.2
Swift Creek	16,500	75'	56.8
Trib. A of Swift Creek	9,000	50'	20.7
Trib. B of Swift Creek	3,750	50'	8.6
Swift Creek- Lake Wheeler/ Lake Benson	15,000	75'	51.7
Trib. A of Lake Wheeler/Benson	11,250	50'	25.8
Branch #1 of Lake Wheeler/Benson	2,250	50'	5.2
Beaver Dam Creek-SW (Dixie Trail)	8,250	50'	18.8
Beaver Dam Creek-SE (Gardner Street)	3,750	50'	8.6
Southwest Branch	29,250	75'	100.7
Trib. A of Southwest Branch	12,750	50'	29.3
Trib. B of Southwest Branch	12,000	50'	27.5
Trib. C of Southwest Branch	2,250	50'	5.2
Totals:	**1,203,750 l.f. or 228.0 miles**		**4,506.2 acres**

Capital Area Greenway

1986 Master Plan
District Analysis

CORRIDOR	LENGTH (linear feet)	CORRIDOR WIDTH (from edge of bank)	ACREAGE
UMSTEAD DISTRICT			
Crabtree Creek	15,750	100'	72.3
Crabtree Creek Trib. C (Reedy Creek)	7,500	75'	25.8
Branch #1 of Trib. C	3,750	75'	12.9
Richland Creek	8,250	75'	28.4
Turkey Creek	9,000	75'	31.0
Hare Snipe Creek	2,250	75'	7.7
Briar Creek	16,500	75'	56.8
Trib. A	6,750	50'	15.5
Trib. B	3,000	50'	6.9
Trib. C	10,500	50'	24.1
Sycamore Creek	37,500	75'	118.8
Trib. A of Sycamore Creek	6,000	50'	13.8
Total:	126,750 l.f. or **24.0 miles**		**414.0 ac**
NORTHWEST DISTRICT			
Crabtree Creek	14,250	100'	65.4
Crabtree Creek Trib. D	9,000	75'	31.0
Richland Creek	9,000	75'	31.0
Trib. A of Richland Creek	5,250	75'	18.1
Branch #1 of Trib. A	1,500	50'	3.4
Turkey Creek	15,000	75'	51.6
Trib. A of Turkey Creek	12,750	75'	43.9
Hare Snipe Creek	22,500	75'	77.5
Trib. A of Hare Snipe Creek	6,000	75'	20.7
Trib. B of Hare Snipe Creek	1,500	50'	3.4
House Creek	6,000	75'	20.7
Total:	102,750 l.f. or **19.5 miles**		**366.7 ac**
NORTH DISTRICT			
Tributary A of Marsh Creek	9,000	50'	20.7
Leadmine Creek	14,250	75'	49.1
Trib. A of Leadmine Creek	10,500	50'	24.1
Trib. B of Leadmine Creek	4,500	50'	10.3
Trib. C of Leadmine Creek	9,000	50'	20.7
Lake Park Br. of Leadmine Creek	5,250	50'	12.1
Snelling Br. of Leadmine Creek	5,250	75'	18.1
Trib. D of Leadmine Creek	1,500	50'	3.4
Trib. E of Leadmine Creek	3,750	50'	8.6
Trib. F of Leadmine Creek	4,500	50'	10.3
Honeycutt Creek	9,000	75'	31.0
Trib. A of Honeycutt Creek	9,000	50'	20.7
Falls Lake Trib. A	11,250	75'	28.4
Cedar Hills Park Trail	2,250	50'	5.2
Neuse River	4,500	150'	15.5
Neuse River Trib. A	9,000	75'	30.9

CORRIDOR	LENGTH (linear feet)	CORRIDOR WIDTH (from edge of bank)	ACREAGE
NORTH DISTRICT (continued)			
Simms Creek	10,500	75'	36.2
Trib. A of Simms Creek	12,000	50'	27.5
Perry Creek	9,750	75'	33.6
Total:	144,750 l.f. or **27.4 miles**		**406.4 ac**
NORTH HILLS DISTRICT			
Crabtree Creek	24,000	100'	89.5
Crabtree Creek Trib. A	9,000	75'	31.0
House Creek	8,250	75'	28.4
Leadmine Creek	6,000	75'	20.6
Beaver Dam Creek-SW (Dixie Trail)	8,250	50'	9.4
Total:	55,500 l. f. or **10.5 miles**		**178.9 ac**
NORTHEAST DISTRICT			
Crabtree Creek	13,500	100'	31.0
Crabtree Creek Trib. B	6,000	75'	20.7
Branch #1 of Trib. B	750	50'	1.7
Branch #2 of Trib. B	1,500	50'	3.4
Marsh Creek	24,750	75'	85.2
Trib. A of Marsh Creek	4,500	50'	10.3
Trib. B of Marsh Creek	8,250	50'	18.9
Trib. C of Marsh Creek	2,250	50'	5.2
Trib. D of Marsh Creek	750	50'	1.7
Marsh Creek Park	2,250	50'	5.2
Neuse River	44,250	150'	152.4
Neuse River Trib. C	11,250	75'	38.7
Simms Creek	8,250	75'	28.4
Perry Creek	13,500	75'	46.5
Trib. A of Perry Creek	6,000	50'	13.8
Trib. B of Perry Creek	6,750	50'	15.5
Buffalo Creek	15,000	75'	51.7
Buffalo Road Branch of Buffalo Creek	3,750	50'	8.6
Total:	173,250 l.f. or **32.8 miles**		**538.9 ac**
WEST DISTRICT			
Walnut Creek	18,750	100'	86.1
Walnut Creek Trib. E	5,250	75'	18.0
Walnut Creek Trib. D	6,000	75'	20.7
Southwest Branch	12,000	75'	25.8
Trib. A of Southwest Branch	3,000	50'	6.9
House Creek	2,250	75'	7.7
Richland Creek	4,500	75'	15.5
Trib. B of Richland Creek	2,250	50'	5.2
Trib. C of Richland Creek	1,500	50'	3.4
Total:	55,500 l.f. or **10.5 miles**		**189.3 ac**
UNIVERSITY DISTRICT			
Beaver Dam Creek-SW (Dixie Trail)	8,250	50'	9.4
Beaver Dam Creek-SE (Gardner St.)	3,750	50'	8.6
Crabtree Creek	5,250	100'	12.1

CORRIDOR	LENGTH (linear feet)	CORRIDOR WIDTH (from edge of bank)	ACREAGE
UNIVERSITY DISTRICT (continued)			
Fallon Park Branch	3,000	75'	10.3
Rocky Branch Creek	13,500	75'	46.5
Total:	33,750 l.f. or **6.4 miles**		**86.9 ac**
SOUTHWEST DISTRICT			
Walnut Creek	19,500	100'	89.5
Rocky Branch Creek	2,250	75'	7.7
Southwest Branch	7,500	75'	12.9
Trib. A of Southwest Branch	9,750	50'	22.4
Trib. B of Southwest Branch	9,000	50'	20.6
Total:	48,000 l.f. or **9.1 miles**		**153.1 ac**
CENTRAL DISTRICT			
Rocky Branch Creek	5,250	75'	18.1
Little Rock Trail	8,250	75'	28.4
Total:	13,500 l.f. or **2.6 miles**		**46.5 ac**
EAST DISTRICT			
Crabtree Creek	21,750	100'	49.9
Branch #1 of Crabtree Trib. E	1,500	50'	3.4
Total:	23,250 l.f. or **4.4 miles**		**53.3 ac**
SOUTHEAST DISTRICT			
Neuse River	20,250	150'	69.7
Crabtree Creek	19,500	100'	79.2
Crabtree Trib. B	7,500	75'	25.8
Crabtree Creek Trib. E	13,500	75'	46.5
Crabtree Creek Trib. F	4,500	75'	15.5
Walnut Creek	33,750	100'	155.0
Walnut Creek Trib. A	4,500	75'	15.5
Walnut Creek Trib. B	12,750	75'	43.9
Branch #1 of Trib. B	1,500	50'	3.4
Branch #2 of Trib. B	2,250	50'	5.2
Walnut Creek Trib. C	4,500	75'	15.5
Big Branch Creek	5,250	75'	9.0
Biltmore Hills Trail	4,500	75'	15.5
Gatling Branch Trail	3,750	75'	12.9
Total:	138,000 l.f. or **26.1 miles**		**512.6 ac**
OUT OF DISTRICTS			
Neuse River	129,000	150'	650.8
Neuse River Trib. B	4,500	75'	15.5
Sandford Creek	22,500	75'	77.5
Trib. A of Sandford Creek	6,000	50'	13.8
Trib. B of Sandford Creek	1,500	50'	3.4
Tom's Creek	19,500	75'	67.1
Wake Crossroads Lake	19,500	75'	67.1
Trib. A of Wake CrossroadsLake	10,500	50'	24.1

CORRIDOR	LENGTH (linear feet)	CORRIDOR WIDTH (from edge of bank)	ACREAGE
OUT OF DISTRICTS (continued)			
Beaver Dam/Neuseoca Lake	17,250	75'	59.4
Trib. A of Beaver Dam Lake	3,000	50'	6.9
Knightdale Creek (Mango Creek)	18,750	75'	64.6
Macon Road Trail	5,250	75'	18.1
Mt. Vernon Church Rd. Trail	8,250	75'	28.4
Trib. A of Mt. Vernon Church Rd. Trail	6,000	75'	20.7
Honeycutt Creek	9,000	75'	31.0
Falls Lake Trib. A	7,500	75'	15.5
Walnut Creek	9,000	100'	41.3
Walnut Creek Trib. B	1,500	75'	5.2
Branch #2 of Trib. B	3,750	50'	8.6
Big Branch Creek	12,000	75'	32.3
Swift Creek	16,500	75'	56.8
Trib. A of Swift Creek	9,000	50'	20.7
Trib. B of Swift Creek	3,750	50'	8.6
Swift Creek- Lake Wheeler/ Lake Benson	15,000	75'	51.7
Trib. A of Lake Wheeler/Benson	11,250	50'	25.8
Branch #1 of Lake Wheeler/Benson	2,250	50'	5.2
Briar Creek	10,500	75'	36.1
Trib. A of Briar Creek	3,750	50'	8.6
Sycamore Creek	9,000	75'	20.7
Southwest Branch	26,250	75'	62.0
Trib. B of Southwest Branch	3,000	50'	6.9
Trib. C of Southwest Branch	2,250	50'	5.2
Total:	426,750 l.f. or **80.8 miles**		**1559.6 ac**

CAPITAL AREA GREENWAY

System Total:	1,203,750 l.f. or **228.0 miles**	**4,506.2 acres**


FALLS LAKE
MACON RD TR
Proposed North Wake Expressway
US 70/Glenwood Ave
Durham Co
Wake Co
RDU
AIRPORT
I 40
Leesville Rd
Strickland Rd
NC-50
TRIB A
CEDAR HILLS
PARK TR
Millbrook Rd
Six Forks Rd
Leadmine Rd
CRABTREE CK
Beltline
Blue Ridge Rd
BEAVER DAM
FALLON
PARK BR
Wake Forest Rd
North Blvd
Wade Ave
NC 54
Hillsborough St
ROCKY BRANCH
US 1/US 64
Beltline
WALNUT CK
BILTMORE
HILLS TR
SOUTHWEST BR
Holly Springs Rd
Lake Wheeler Rd
SWIFT CK
SWIFT CK
LAKE WHEELER
LAKE BENSON
LAKE WHEELER
SR 1010
US 401
NC 50
LAKE BENSON

Capital Area Greenway
Master Plan - Update 1989
System-Wide Recommendations

CORRIDOR	LENGTH (linear feet)	CORRIDOR WIDTH (from edge of bank)	ACREAGE
EXTENSIONS AND ADDITIONS			
1. Briar Creek Tributary D	7,500	50'	17.2
Branch #1 of Trib. D	4,500	50'	10.3
2. Crabtree Creek extension	6,000	100'	27.5
3. Sycamore Creek Tributary A extension	5,250	50'	12.1
4. Macon Road Trail extension	7,500	75'	25.8
5. Mount Vernon Church Rd. Tributary B	7,500	75'	25.8
6. Honeycutt Creek Tributary B	7,500	50'	17.2
7. Neuse River Tributary G	6,000	75'	20.7
8. Neuse River Tributary H	11,250	75'	38.7
Branch #1 of Trib. H	4,500	50'	10.3
9. Neuse River Tributary I	10,500	75'	36.2
10. Big Branch Creek extension	8,250	75'	28.4
11. Crabtree Creek Pigeon House Creek Trib.	3,000	75'	10.3
12. Swift Creek Tributary B extension	9,000	50'	20.7
13. Lake Wheeler Loop Trail	30,000	75'	51.7
Total:	128,250 l.f. or **24.3 miles**		**352.9 ac**
DELETIONS			
D-1 Honeycutt Creek Tributary A	5,250	50'	12.1
D-2 Neuse River Tributary C	5,250	75'	18.1
D-3 Crabtree Creek Tributary F	1,500	75'	5.2
Total:	12,000 l.f. or **2.3 miles**		**35.4 ac**

DESIGNATED GREENWAY CONNECTORS	LENGTH (linear feet)
A. Briar Creek /Sycamore Creek	6,000
B. Turkey Creek /Hare Snipe Creek	4,500
C. Briar Creek/Lake Crabtree	6,000
D. Mt. Vernon Church Rd. Trail/Honeycutt Creek Trib. A	4,500
E. Honeycutt Creek/Trib. A of creek	4,500
F. Neuse River Trib. A/Simms Creek	3,000
G. Millbrook Park/Marsh Creek	3,000
H. Perry Creek/Buffalo Creek	5,250
I. Buffalo Creek/Crabtree Creek Trib. B	12,000
J. Neuse River Trib. C/Crabtree Creek Trib. B	4,500
K. Crabtree Creek Trib. B/Marsh Creek	750
L. Crabtree Creek/Beaver Dam Creek-SW	6,000
M. Richland Creek /House Creek	6,000
N. Lake Johnson/Walnut Creek Trib. D	7,500
O. Beaver Dam Creek-SW/Faircloth Street	1,500
P. Beaver Dam Creek-SW/Beaver Dam Creek SE	3,000
Q. Rose Garden/Pullen Park	3,000
R. Pullen Park/Centennial Campus	6,000
S. Crabtree Creek/Downtown	12,000
T. Downtown/Walnut Creek	3,000
U. Crabtree Creek Trib. F/Walnut Creek	2,250
V. Southwest Branch/Swift Creek	3,000
W. Neuse River Trib. I/Big Branch Creek	750
Total:	108,000 l.f. or **20.4 miles**

NOTE: Letters and numbers refer to location on Master Plan update map.

Explanation of Proposed Revisions

Greenway Corridor Extensions and Additions

1. Briar Creek Tributary D, Branch #1 of Tributary D Addition

   Justification:
   - Improves access to the Briar Creek greenway corridor.
   - Provides linkage with future Durham County system.

2. Crabtree Creek Extension

   Justification:
   - Provides connection to Lake Crabtree recreation facility.
   - Completes Umstead District loop.
   - Recommended by Umstead District Plan.

3. Sycamore Creek Tributary A Extension

   Justification:
   - Connects Sycamore Creek and Turkey Creek corridors.
   - Creates loop utilizing Sycamore and Turkey Creeks.
   - Recommended by Umstead District Plan.

4. Macon Road Trail Extension

   Justification:
   - Existing corridor isolated from rest of system.
   - Improves access to Falls Lake.
   - Recommended by Wake County Greenway Plan.

5. Mount Vernon Church Road Tributary B Extension

   Justification:
   - Existing Macon Rd. corridor isolated from rest of system.
   - Improves access to Falls Lake.
   - Recommended by Wake County Greenway Plan.

6. Honeycutt Creek Tributary B Addition

   Justification:
   - Replaces east-west tributary lost to Chateau La Pointe.
   - Provides access to Honeycutt Creek corridor and Falls Lake.

7. Neuse River Tributary G, Addition

   Justification:
   - Provides additional access to Falls Lake Recreation Area.
   - Recommended by Wake County Greenway Plan.

8. Neuse River Tributary H., Branch #1 of Tributary H. Addition

Justification:
- Improves access to the Neuse River corridor within the Southeast quadrant.
- Future linkage with Knightdale Greenway system.

9. Neuse River Tributary I. Addition

Justification:
- Improves access to the Neuse River corridor within the Southeast quadrant.
- Completes Southeast District loop.

10. Big Branch Creek Extension

Justification:
- Completes Southeast District loop.
- Future linkage with Garner Greenway system.

11. Crabtree Creek - Pigeon House Creek Tributary

Justification:
- Part of planned greenway/bikeway/pedestrianway for Bicentennial Blvd. corridor.
- Improves access from Downtown to Crabtree Creek Greenway.
- Part of minor loop inside the Beltline.

12. Swift Creek Tributary B Extension

Justification:
- Improves access to Lake Wheeler Park.
- Forms part of minor loop in Southwest quadrant of the City.
- Recommended by Wake County Greenway Plan.

13. Lake Wheeler Loop Trail

Justification:
- Provides continuity for Swift Creek corridor.
- Recommended by Wake County Greenway Plan.

Designated Greenway Connectors

A. Briar Creek / Sycamore Creek

Justification:
- Unites isolated Briar Creek corridor with rest of system.
- Improves access to Falls Lake Recreation Area.
- Completes Umstead State Park loop.
- Recommended by Umstead District Plan.

Possible Type (s): Sidewalk / Bike trail

B. Turkey Creek / Hare Snipe Creek

Justification: • Improves access to Falls Lake.
• Completes Northwest District loop.

Possible Type (s): Combination of Utility easement/sidewalk.

C. Briar Creek / Lake Crabtree

Justification: • Connects Briar Creek corridor to Lake Crabtree facility
• Linkage with future Morrisville Greenway (Iron Creek).

Possible Type(s): Combination Sidewalk/ Bike trail and greenway trail.

D. Mt. Vernon Church Rd. Trail / Honeycutt Creek Tributary A

Justification: • Provides connection to system inside of Outer Loop.
• Improved access to Shelley Lake from northern districts.

Possible Type(s): Sidewalk/ Bike trail/trail adjacent to Beltline R.O.W.

E. Honeycutt Creek / Tributary A of creek

Justification: • Replaces portion of Six Forks Rd. Branch lost through Chateau La Pointe.
• Provides connection to system inside of Outer Loop.
• Improved access to Shelley Lake from northern districts.

Possible Type(s): Bike trail/pedestrianway adjacent to Beltline R.O.W.

F. Neuse River Tributary A / Simms Creek

Justification: • Makes possible minor loop in Northeast quadrant.
• Improves access to Durant Nature Park.

Possible Type(s): Bike trail/pedestrianway in major utility easement.

G. Millbrook Park / Marsh Creek

Justification: • Makes possible major loop in Northeast quadrant.
• Improves access to Millbrook Exchange Park.

Possible Type(s): Bike trail/sidewalk/pedestrianway along Spring Forest Rd..

H. Perry Creek / Buffalo Creek

Justification: • Makes possible minor loop in Northeast quadrant.
• Improves access to Spring Forest Road Park.

Possible Type(s): Bike trail/pedestrianway in major utility easement.

I. Buffalo Creek / Crabtree Creek Tributary B

Justification:
- Unites several tributary corridors.
- Replaces Neuse River Trib. C lost to Pinehall Plantation.
- Makes possible minor loop in Northeast quadrant.
- Improves access to Marsh Creek Park.

Possible Type(s): Bike trail/pedestrianway in major utility easement.

J. Neuse River Tributary C / Crabtree Creek Tributary B

Justification:
- Makes possible minor loop in Northeast quadrant.
- Improves access to Neuse River Corridor.
- Replaces Neuse River Trib. C lost to Pinehall Plantation.

Possible Type(s): Bike trail/pedestrianway along future road R.O.W.

K. Crabtree Creek Tributary B / Marsh Creek

Justification:
- Unites several tributary corridors.
- Improves access to Crabtree Creek Corridor.
- Makes possible minor loop in Northeast quadrant.
- Improves access to Marsh Creek Park.

Possible Type(s): Bike trail/pedestrianway along Willow Oak Road .

L. Crabtree Creek / Beaver Dam Creek - SW

Justification:
- Provides needed alternative to Beaver Dam Branch.
- Improves access from Downtown to Crabtree Creek Corridor.

Possible Type(s): Bike trail/pedestrianway in major utility easement.

M. Richland Creek / House Creek

Justification:
- Makes possible minor loop in Northwest quadrant.
- Provides access to major facilities.
- Improves access to Loblolly Trail and Umstead State Park.

Possible Type(s): Bike trail/pedestrianway through Art Museum property, State Fairgrounds and Baseball Stadium areas.

N. Lake Johnson / Walnut Creek Tributary D

Justification:
- Makes possible minor loop in Southwest quadrant.
- Improves access to Lake Johnson Park.

Possible Type(s): Bike trail/pedestrianway in utility easement along Beltline.

O. Beaver Dam Creek - SW / Faircloth Creek

Justification:
- Connects Beaver Dam Greenway to Meredith Campus.
- Improves access to Crabtree Creek Corridor.

Possible Type(s): Bike route/pedestrianway along Beaver Dam Rd./Furches St.

P. Beaver Dam Creek - SW / Beaver Dam Creek - SE

Justification:
- Connects Beaver Dam Greenway with Gardner Street Greenway.
- Improves access to Crabtree Creek Greenway from Downtown.
- Designated pedestrian/bikeway to NCSU campus.

Possible Type(s): Bike trail/designated pedestrianway/sidewalk through neighborhood.

Q. Rose Garden / Pullen Park

Justification:
- Makes possible minor loop in central City area.
- Improves access to Pullen Park and NCSU.

Possible Type(s): Bike route/pedestrianway/sidewalks through neighborhood.

R. Pullen Park / Centennial Campus

Justification:
- Makes possible minor loop in central City area.
- Improves access to Pullen Park and Walnut Creek Greenway.

Possible Type(s): Exact form to be determined by University.

S. Crabtree Creek / Downtown

Justification:
- Major access to Central Business District.
- Major access to Crabtree Creek Greenway from Downtown.
- Part of planned Bicentennial Boulevard Project.

Possible Type(s): Pedestrianway/abandoned R.R. R.O.W. along Downtown Blvd.

T. Downtown / Walnut Creek

Justification:
- Major access to Central Business District.
- Major access to Walnut Creek Greenway from Downtown.
- Part of planned Western Boulevard Extension.

Possible Type(s): Bike trail/designated pedestrianway.

U. Crabtree Creek Tributary F / Walnut Creek

Justification:
- Improves access to Anderson Point Park.
- Replaces portion of tributary corridor lost to Eastpark.
- Provides minor loop in Southeast quadrant.

Possible Type(s): Pedestrianway/abandoned R.O.W. along Downtown Blvd.

V. Southwest Branch / Swift Creek

Justification:
- Major access to Central Business District.
- Major access to Crabtree Creek Greenway from Downtown.
- Part of planned Bicentennial Boulevard Project.

Possible Type(s): Bike trail/designated pedestrianway/abandoned railroad R.O.W. along Downtown Blvd.

W. Neuse River Tributary I / Big Branch Creek

Justification:
- Overland connector between two typical greenway corridors.
- Creates major loop in Southeast quadrant.
- Improved access to Neuse River Corridor.

Possible Type(s): Extension of greenway trail/sidewalk.

Capital Area Greenway
Master Plan - Update 1989
District Analysis

UMSTEAD DISTRICT
Extensions and Additions

CORRIDOR	PROPOSED LENGTH (linear feet)	PROPOSED WIDTH (from edge of bank)	RESULTANT ACREAGE
Briar Creek Tributary D	3,000'	50'	6.9
Sycamore Creek Tributary A	5,250'	50'	12.1
Total:	**8,250 l.f. or 1.6 miles**		**19.0 ac**
Connectors			
Briar Creek/Sycamore Creek	2,250'	N/A	N/A
Turkey Creek/Hare Snipe Creek	3,000'	N/A	N/A
Total:	**5,250 l.f. or 0.9 miles**		

NORTH WEST DISTRICT - no change.

NORTH DISTRICT
Deletions

CORRIDOR	CORRIDOR LENGTH (linear feet)	CORRIDOR WIDTH (from edge of bank)	ACREAGE LOSS
Honeycutt Creek Tributary A	**5,250 l.f. or 1.0 miles**	50'	**12.1 ac**
Connectors			
Mt. Vernon Church Rd. Trail/ Honeycutt Creek Tributary A	3,000'	N/A	N/A
Honeycutt Creek/Tributary A of creek	4,500'	N/A	N/A
Neuse Tributary A/Simms Creek	3,000'	N/A	N/A
Millbrook Park/Marsh Creek	3,000'	N/A	N/A
Total:	**13,500 l.f. or 2.6 miles**		

NORTH HILLS DISTRICT
Connectors

Crabtree Creek/Beaver Dam Creek-SW	**6,000 l.f. or 1.1 miles**	N/A	N/A

NORTHEAST DISTRICT
Deletions

Neuse River Tributary C	**5,250 l.f. or 1.0 miles**	75'	**18.1 ac**
Connectors			
Perry Creek/Buffalo Creek	5,250'	N/A	N/A
Buffalo Creek/Crabtree Creek Trib. B	12,000'	N/A	N/A
Neuse River Trib. C/ Crabtree Creek Trib. B	4,500'	N/A	N/A
Crabtree Creek Trib. B/Marsh Creek	750'	N/A	N/A
Total:	**22,500 l.f. or 4.3 miles**		

CORRIDOR	PROPOSED LENGTH (linear feet)	PROPOSED WIDTH (from edge of bank)	RESULTANT ACREAGE
WEST DISTRICT			
Connectors			
Richland Creek/House Creek	6,000'	N/A	N/A
Lake Johnson/Walnut Creek Trib. D	7,500'	N/A	N/A
Total:	**13,500 l.f. or 2.6 miles**		
UNIVERSITY DISTRICT			
Connectors			
Beaver Dam Creek-SW /Faircloth Street	1,500'	N/A	N/A
Beaver Dam Creek-SW/ Beaver Dam Creek-SE	3,000'	N/A	N/A
Rose Garden/Pullen Park	3,000'	N/A	N/A
Total:	**7,500 l.f. or 1.4 miles**		
SOUTHWEST DISTRICT			
Connectors			
Pullen Park/Centennial Campus	**6,000 l.f. or 1.1 miles**	N/A	N/A
CENTRAL DISTRICT			
Connectors			
Crabtree Creek/Downtown	9,000'	N/A	N/A
Downtown/Walnut Creek	3,000'	N/A	N/A
Total:	**12,000 l.f. or 2.3 miles**		
EAST DISTRICT			
Extensions and Additions			
Crabtree Creek /Pigeon House Creek Branch	**3,000 l.f. or 0.6 miles**	75'	**10.3 ac**
Connectors			
Crabtree Creek/Downtown	**3,000 l.f. or 0.6 miles**	N/A	N/A
SOUTHEAST DISTRICT			
Deletions			

CORRIDOR	CORRIDOR LENGTH (linear feet)	CORRIDOR WIDTH (from edge of bank)	ACREAGE LOSS
Crabtree Creek Tributary F	**1,500 l.f. or 0.3 miles**	100'	**5.2 ac**
Connector			
Crabtree Creek Trib. F/ Walnut Creek Trib. A	**2,250 l.f. or 0.4 miles**	N/A	N/A

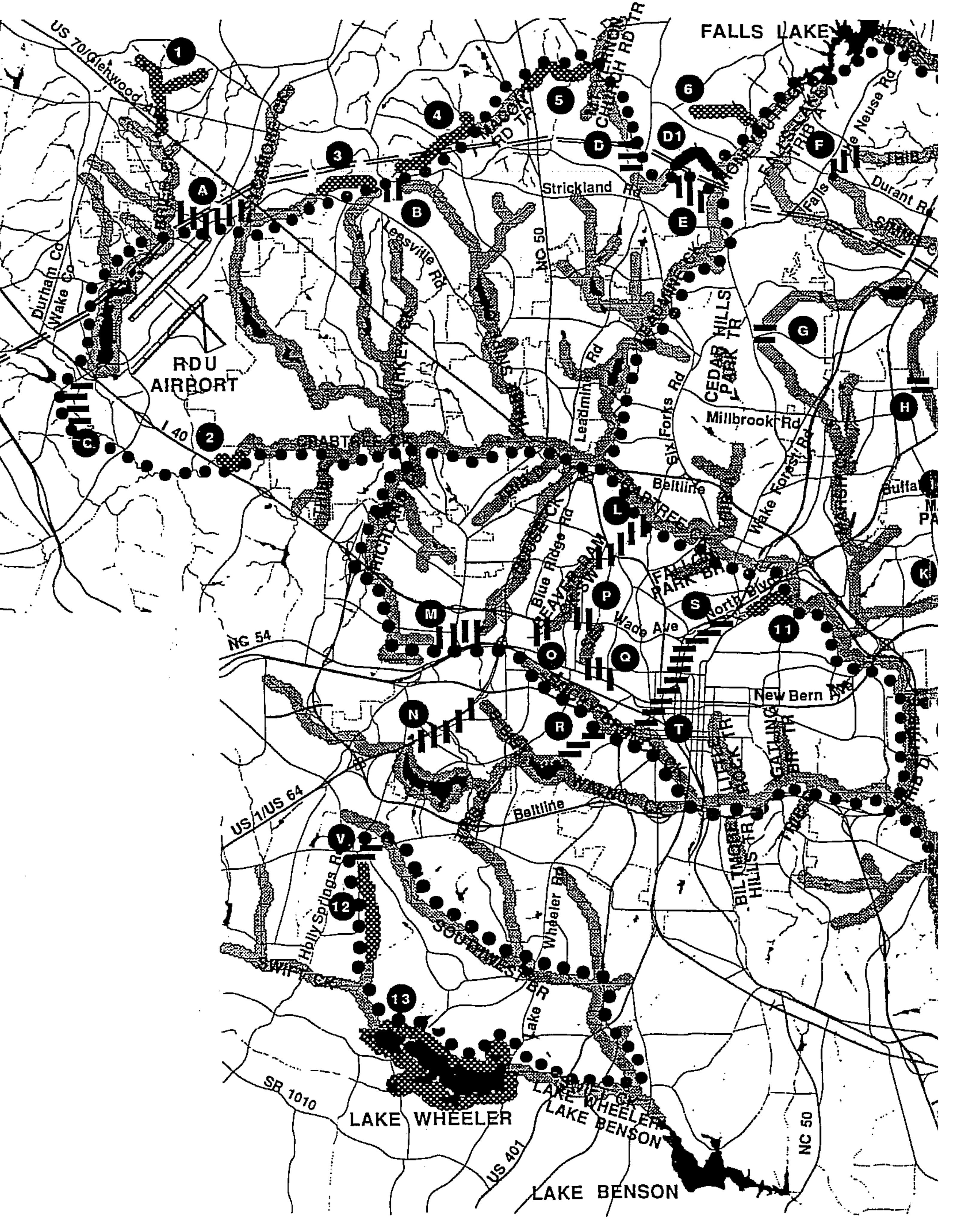
OUT OF DISTRICTS
Extensions and Additions

CORRIDOR	PROPOSEDLENGTH (linear feet)	PROPOSED WIDTH (from edge of bank)	RESULTANT ACREAGE
Crabtree Creek extension	6,000'	100'	27.5
Briar Creek Tributary D	4,500'	50'	10.3
Branch #1 of Trib. D	4,500'	50'	10.3
Macon Road Trail extension	7,500'	75'	25.8
Mt. Vernon Church Road Tributary B	7,500'	75'	25.8
Honeycutt Creek Tributary B	7,500'	50'	17.2
Neuse River Tributary G	6,000'	75'	20.7
Neuse River Tributary H	11,250'	75'	38.7
Branch #1 of Trib. H	4,500'	50'	10.3
Neuse River Tributary I	10,500'	75'	36.2
Big Branch Creek extension	8,250'	75'	28.4
Swift Creek Tributary B extension	9,000'	50'	20.7
Lake Wheeler Loop Trail	30,000'	75'	51.7
Total:	**117,000 l.f. or 22.1 miles**		**323.6ac**
Connectors			
Briar Creek/Sycamore Creek	3,750'	N/A	N/A
Briar Creek/Lake Crabtree	6,000'	N/A	N/A
Turkey Creek/Hare Snipe Creek	1,500'	N/A	N/A
Mt. Vernon Church Rd./Honeycutt Creek Tributary A	1,500'	N/A	N/A
Southwest Branch/Swift Creek	3,000'	N/A	N/A
Neuse River Trib. I/Big Branch Creek	750'	N/A	N/A
Total:	**16,500 l.f. or 3.1 miles**		

1989 Update Master Plan Recommendations

Totals		
Extensions and Additions	128,250 l.f. or **24.3 miles**	**352.9 ac**
Deletions	12,000 l.f. or **2.3 miles**	**35.4 ac**
Connectors	108,000 l.f. or **20.4 miles**	N/A
Revised System Total		
1986 Master Plan	1,203,750 l.f. or 228.0 miles	4,506.2 ac
1986 Deletions	12,000 l.f. or 2.3 miles	35.4 ac
Subtotal:	1,191, 750 l.f. or 225.7 miles	4,470.8 ac
1989 Extensions/Additions	128,250 l.f. or 24.3 miles	352.9 ac
Corridor Total:	**1,320,000 l.f. or 250.0 miles**	**4,823.7 ac**
1989 Designated Connectors	108,000 l.f. or 20.4 miles	N/A
Grand Total:	**1,428,000 l.f. or 270.4 miles**	**4,823.7 ac ***

*Total acreage dependent upon specific methods utilized to establish connectors.


FALLS LAKE
US 70/Glenwood
Durham Co
Wake Co
RDU AIRPORT
I 40
Strickland Rd
Leesville Rd
NC 50
Leadmine Rd
Six Forks Rd
CEDAR HILLS PARK TR
Millbrook Rd
Wake Forest Rd
Neuse Rd
Durant Rd
Falls
Beltline
Blue Ridge Rd
Wade Ave
North Blvd
New Bern Ave
NC 54
US 1/US 64
Beltline
Holly Springs Rd
Wheeler Rd
BILTMORE HILLS TR
SR 1010
LAKE WHEELER
LAKE BENSON
US 401
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Acquisition Program and Priorities

The key to meeting future greenway needs begins with land acquisition. Without substantial stretches of acquired easements or fee simple properties along the greenway corridors, trail development cannot occur. The chart entitled "Distribution of Greenways" relates current (acquired) versus needed acreage in order to meet future demand. Only in two planning districts - Southeast and East - do acquired acreages meet or exceed the total acreages that will have to be acquired in order to meet the 2010 standard. *(See chart - page 33)*

The recent passage of the Facility Fees Ordinance has accelerated the rate of greenway acquisition; requiring the dedication of greenway easements in new *residential* developments. Owners or developers are reimbursed for the dedicated greenway easement according to a payment schedule established by the ordinance. Acquisition is limited to floodplain areas within designated corridors of the approved Greenway master plan.

The City of Raleigh's current greenway acquisition program is four-fold:

1) *Systemwide Greenway Acquisition*: includes previously designated parcels and on-going dedication of greenway easements in new residential development through the subdivision and plan review process.
2) *Greenway Reservations*: involves negotiating for greenway easement through non-residential properties as part of the subdivision and plan review process. Typically, the specified greenway area is reserved by the developer or owner for a period of twelve (12) months from the date of submittal, during which time the City can negotiate for the greenway easement or property.
3) *Targeted Acquisition* : involves the acquisition of specified properties or easements along corridors for the purpose of trail construction over the next several years. Major emphasis for this kind of acquisition will be along the Neuse River and Crabtree, Walnut, and Leadmine Creeks in an attempt to complete acquisition along these primary corridors and link existing trails to form longer trail routes.

4) *Coordinated Acquisition*: involves obtaining joint-use easements by acquiring greenway easements over or in addition to required sewer easement, road rights-of-way, wetlands required for mitigation or other possible joint-effort situations. This type of acquisition was very successful along the Neuse River, where greenway easements were "piggy-backed" over required sewer easements as part of the Neuse /Perry Interceptor Project. In most instances, the greenway easement width is 60 feet along the Neuse River and 40 feet along Perry Creek. However, additional width has been obtained in several cases, providing for total acquisition to the river bank. Coordinated acquisition should be utilized for future sewer projects (Turkey Creek), road projects (Outer Loop), etc.

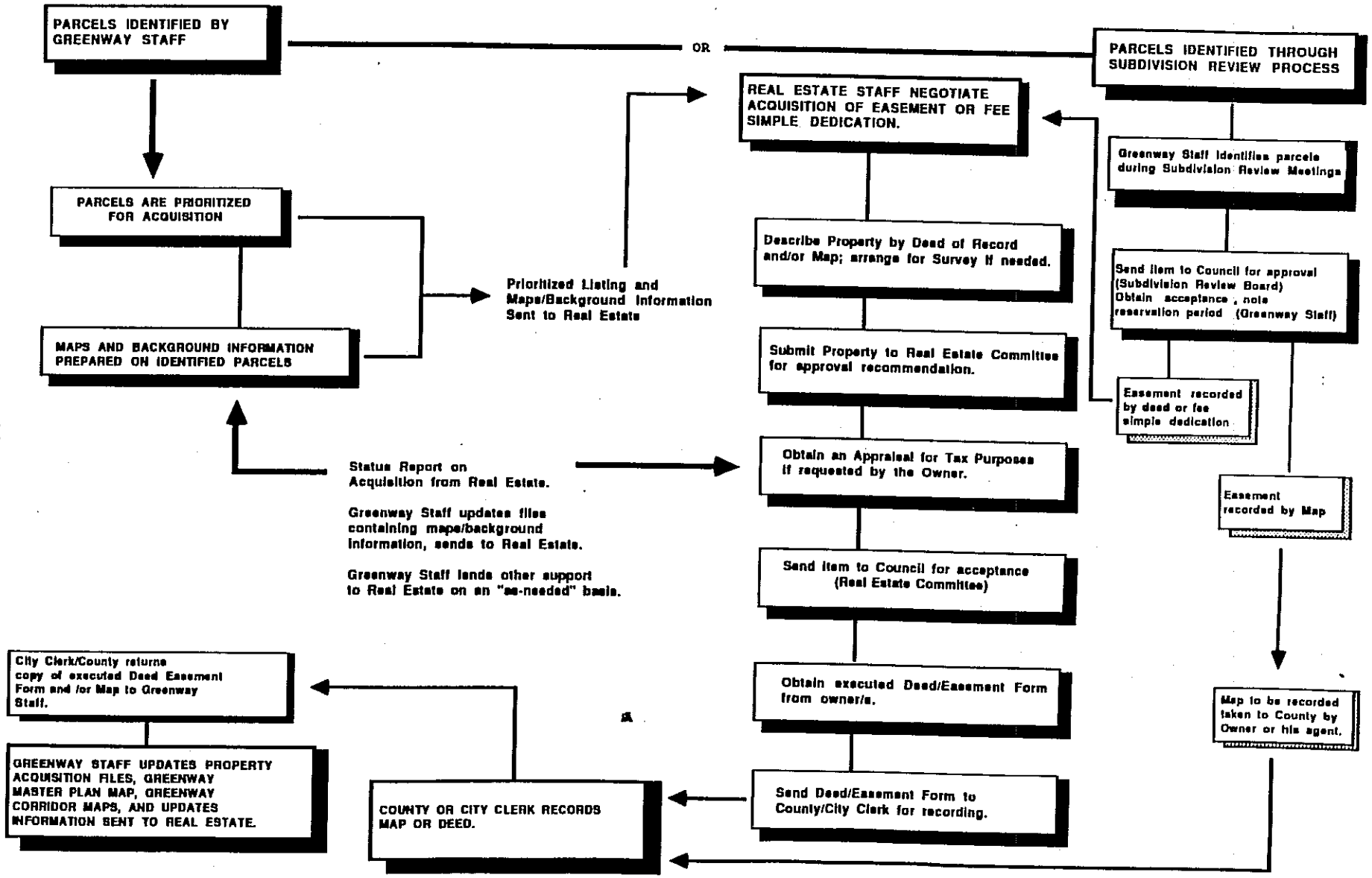
The acquisition of land for the Capital Area Greenway System is a multi-faceted process involving the coordination and cooperation of private landowners, developers, several City of Raleigh depart - ments, several City boards and commissions, the City Manager's office, City Council and the County Registrar of Deeds. This process is outlined in detail on the chart entitled, "Greenway Acquisition Procedure". *(Page 34)*

DISTRIBUTION OF GREENWAYS
(Current Standard: 5.7 acres per 1000)

District	Available Acreage	Current Acres	1988 Population	1988 Acres per 1000	2010 Population	2010 Acres per 1000 With No Change	Acreage Needed to Meet 2010 Standard*	Total Acreage (Current + Needed)
Northwest	366.8	55.58	32700	1.70	64000	0.87	309.22	364.8
North	411.6	161.47	48200	3.35	71200	2.27	244.37	405.84
Northeast	562.2	107.73	26500	4.07	61600	1.75	243.39	351.12
University	86.9	4.08	30000	0.14	34600	0.12	193.14	197.22
Umstead	414	0	1100	0.00	32600	0.00	185.82	185.82
West	189.3	42.79	22400	1.91	33800	1.27	149.87	192.66
Central	46.5	1.47	19800	0.07	23300	0.06	131.34	132.81
Southwest	153.2	13.31	9900	1.34	18700	0.71	93.28	106.59
North Hills	179	121.42	25400	4.78	31300	3.88	56.99	178.41
Southeast	512.6	242.26	19800	12.24	37700	6.43	-27.37	214.89
East	53.3	183.47	9900	18.53	12500	14.68	-112.22	71.25
Total	2975.4	933.58	245700	3.80	421300	2.22	1467.83	2401.41

(*Acreage needed = ((2010 population / 1000) * standard) - current acreage .

Greenway Acquisition Procedure



Trail Construction Program and Priorities

The stated goal of 200 miles of trail by the year 2000 would require the acquisition of nearly all of the available acreage contained within the present system. Acquisition would actually need to be completed prior to the year 2000, so that planning and design of the proposed trails could be accomplished. Approximately 26 miles of trail have been developed since the inception of the trail construction program in 1976. This is an average of just over two (2) miles per year. In order to reach the objective, 174 additional miles of trail would have to be constructed over the next 12 years; an average of14.5 miles per year.

Trail construction is handled by the 15 man Greenway Crew assigned to the Parks Division of the City's Parks and Recreation Department. The 1987-88 Greenway construction schedule yielded about 4.5 miles of new trail and the 1988-89 schedule proposes the completion of 9.6 miles. In order to attain the required construction level of 14.5+ miles per year, additional forces must be brought to bear.

Priority corridors for trail construction over the next five (5) years include the Neuse River and Crabtree, Walnut, and Leadmine Creeks. This approach will help achieve the proposed development in most of the planning districts. It will also allow the connection of many existing trails to form longer trail routes which will serve as the backbone of the system and provide linear corridors to two major recreational opportunities - Umstead State Park and the Neuse River Corridor. Another principle objective will be to link the trail system developed along Leadmine Creek with trail development along Honeycutt Creek. This will provide the citizens of Raleigh with a direct connection to the Fall Lake Recreational Area.

Beyond this directed approach, greenway trail development should be based on a combination of need and opportunity. Trail construction should be balanced between existing residential areas located close to the urban core and growing residential areas on the suburban fringes. Acquisition will dictate the selection of trail construction projects to a great degree. A logical sequence cannot be fully anticipated ahead of time but should reflect such considerations as:

1) Improved accessibility to a major greenway corridor or node such as a school, park, shopping mall, or business district.
2) Ease of implementation - trails utilizing existing sidewalk connectors or bicycle routes or an unpaved surface may be more easily implemented than typical construction projects.
3) The availability of readily acquired corridor alternatives or connectors such as major utility easements or abandoned railroad rights-of-way.

Issues Related to Future Greenway Development

Background

The Capital Area Greenway system continues to grow as additional easements are acquired and new trails are constructed. Continued acquisition of land for the system and construction of new trails must be as unrestricted as possible if the system is to reach it intended goals. Several important issues must be addressed now since they will have both an immediate and long-range limiting effect on the development of the system. These issues deal with accessibility, continuity and linkage throughout the entire system - keys to providing the anticipated levels of service.

Greenway to Falls Lake Recreation Area

Continued acquisition and trail development within both the Leadmine Creek and Honeycutt Creek greenway corridors would make possible an important pedestrian connection between central Raleigh and the Falls Lake Recreation Area. This would also create the potential for a greenway loop encompassing the entire northeast quadrant of Raleigh. Two major issues impact these objectives:

Watershed Restrictions

The Honeycutt Creek greenway corridor is located within the Primary and Secondary Watershed Protection Areas for Falls Lake. Restrictions placed upon development within these districts also impact the acquisition and development of greenway. Primary and secondary watercourse buffers are required adjacent to existing ponds and proposed ponds used for stormwater impoundment, as well as adjacent to existing creeks and streams (50 feet for Primary Watercourse Buffer and 25 feet for Secondary Watercourse Buffer). These buffer areas prohibit any clearing of vegetation or development of impervious surface area. Greenway is typically acquired adjacent to creeks, streams, and other water bodies located within the floodplain area. Along Honeycutt Creek, the standard minimum width for greenway is 75 feet measured from the creek bank. Along tributary creeks, the minimum standard width is 50 feet measured from the creek bank . Current regulations therefore severely restrict greenway development within primary watercourse buffers along the Honeycutt Creek corridor.

A recent text change 133 TC 305, adopted 3-1-88, allows the establishment of "ungravelled natural footpaths" within Primary Watercourse Buffer areas. The issue here is that of additional impervious surface that must be accounted for within the maximum established percentages. The importance of this greenwayconnection warrants consideration of the standard paved asphalt surface as a continuation of trail that is usable by a large cross section of the population including not only pedestrians, but bicyclists and handicapped individuals.

The same text change also suggests that the width of the primary and secondary buffers be increased by adding 4 times the average percent of slope adjacent to the watercourse. (A primary watercourse buffer of 50 feet would be increased to 90 feet if the adjacent slope was 10%.) This additional vegetative buffer, along with the construction of simple impoundment, diversion and velocity reducing structures for controlling runoff from upslope development (and paved trail surfaces) might provide adequate control to permit the additional, minimal impervious surface generated by paved greenway trails.

Corridor Continuity

The North Wake Expressway (Outer Loop) presents a major obstacle in connecting the Leadmine Creek corridor with the Honeycutt Creek corridor. If the greenway to Falls Lake is ever to be achieved, a major connective facility must be constructed. Connectors have typically involved a pedestrian underpass (tunnel) associated with standard box culverts constructed to carry streamflow under roads. Many of these pedestrian underpasses have been constructed in the past and provide a continuation of the greenway trail under roads where an "at-grade" crossing would be unsafe. Another option would be a pedestrian overpass (bridge). A ramp system would be necessary to accommodate bicyclists and the handicapped. This kind of structure may be necessary at locations where a pedestrian underpass was needed, but was never constructed. Pedestrian underpasses or bridges should be constructed in conjunction with road widening projects and new construction which impact the development of the Capital Area Greenway system. Planning for greenway connectors should also coincide with design efforts for these road projects. An assessment of all locations, present and future, where major greenway structures and greenway connectors will be necessary in order to connect or expand Greenway Corridors should be a primary consideration.

Neuse River Greenway Development

A major area of focus is the acquisition and development of greenway along the Neuse River. The Real Estate Department is involved with the acquisition of greenway easement over sewer easement for the proposed Neuse/Perry Sewer Interceptor Project. The location of the sewer line is often several hundred feet from the bank of the Neuse River. Consequently, attempts are being made to acquire easement between the sewer line and the river 's edge to provide access to the river wherever possible. Also, several tracts along the river corridor are being investigated for possible purchase as park sites in order to create a system of park nodes connected by greenway. These park nodes would provide access to the greenway as well as provide active recreation opportunities. Two major issues need to be addressed:

Coordinated Acquisition Effort

Steps taken to coordinate acquisition efforts internally between the Real Estate Department and the Parks and Recreation Department should continue. The City should also continue its planning efforts with Wake County to acquire greenway on the east side of the Neuse River to insure that this important greenway corridor remains intact and reaches its potential as a major recreational resource.

Tributary Corridors and Greenway Connectors

As the Neuse River develops into a major recreational amenity, it will become increasingly important to insure pedestrian access from neighboring residential areas. Greenway corridors alongtributary creeks of the Neuse River provide such a means. Where this opportunity has been lost to corridor deletion, greenway connectors should be established. Efforts to preserve, acquire, and develop these important connectors should be given high priority.

Privatization of Greenway Around Lakes, Ponds and Impoundments

Several of the greenway corridors in the system include major waterbodies - Leadmine Creek Corridor/Shelley Lake, Walnut Creek Corridor/Lake Johnson, Perry Creek Corridor/Gresham's Lake, Hare Snipe Creek Corridor/Lake Lynn, etc. In the case of Lake Johnson and Shelley Lake, the waterbodies are located within City parkland and consequently we have been able to develop extensive loop trail systems around them.

The acquisition and development of public greenwys is more difficult around lakes and other waterbodies contained within private development. More often than not, "lake-front" lots are created or the lakes perimeter is retained as "community" open space under the control of the developer or a homeowner's association. In these instances, the developer typically desires to "privatize" the greenway area by excluding public access around the lake and restricting use to the residents of the development. Portions of several Greenway Corridors have been lost to "privatization."

The acquisition and development of public greenways around lakes is further hampered by narrow floodplain areas adjacent to these waterbodies. Greenway easement acquisition under the Facility Fee Ordinance is limited to those areas within the floodway and flood fringe. Greenway easement located outside of the floodplain commands a higher land value because of its developability.

In order to ensure corridor continuity and accessibility, it is important to acquire public access rights around these lakes and ponds while minimizing any impacts to developers or adjacent lot owners. The following strategy has been developed:

- Both sides of the lake or pond are studied in terms of ease of acquisition, potential impact to adjacent property owners, trail construction possibilities, and linkage to existing or proposed trail outside of the development.
- The floodplain area is reviewed to determine the extent of floodway and flood fringe as it relates to greenway acquisition under the Facility Fee Ordinance.
- One side of the lake or pond is selected for greenway easement acquisition and future trail construction.
- The acquisition and trail development plan is reviewed with the developer, homeowner's association, or individual property owners. Negotiations may involve joint-use or joint-development efforts.

Greenway Structures In Floodway Areas

In addition to the actual trail surface, the following are often associated with Greenway trail development:

- Bollards - as control and separation devices and as a signage device.
- Signs - location, directional, mileage, other information.
- Boardwalks - utilized through marshes and swamplands; Shelley Lake, Walnut Creek.
- Decks/Observation Areas - Buckeye Trail.
- Picnic Areas - picnic tables, picnic shelters, trash receptacles and associated facilities.
- Open Field Areas (Greenway Nodes) - field games, informal picnic areas, etc.
- Fences - for separation and control; Rocky branch Greenway.
- Parking Lots - public access points with off-street vehicular parking.
- Drainage Structures- catch basins, piping, drainage swales, etc. to control runoff.
- Retaining Walls - necessary in steep topographic conditions; North Hills Trail.
- Docks - future canoe launch facilities; Neuse River, Crabtree Creek.
- Bridges - trail continuity over creeks and streams; footbridges to major structures.

Chapter 4 of the Raleigh City Code (Floodprone Area Regulations) establishes guidelines for development in floodpain areas. Section 10-4006. Floodway areas - Permitted Uses, lists parks, greenways and bikeways as permitted uses based on their low flow -obstructing characteristics. It also references any use employing a structure as defined in the North Carolina Building Code (basically anything employing vertical elements) as prohibited due to adverse impact on the capacity of channels, floodways, or drainage facilities or potential to redirect velocities of water onto adjacent properties.

The conflict between greenway as a permitted use and restrictions on construction facilties such as fences, picnic shelters, bollards, etc. which employ vertical elements must be resolved if the system is to function safely and meet many of its goals and objectives. The current interpretation of this section of

code has impacted trail construction by extending the time needed for review and approval of plans for greenway trails. It is recommended that staff work with the Inspections Department, City Attorney's Office, etc. to establish criteria that will allow the construction of minor greenway facilities within the floodway. Staff should also work with the Inspections Department to develop a procedure for streamlining the review and approval process (FEMA) for the construction of major greenway facilities such as bridges.

Linkage with Developing Systems

Another important consideration is the linkage of the Capital Area Greenway system with greenway systems now being developed by Cary, Garner, Morrisville, Knightdale and Wake County. Staff has been in touch with Greenway Planners from Cary, Garner and Wake County about possible future connections. The Open Space Action Plan that was recently adopted by Wake County establishes that agency as a "greenway coordinator" for the area. Formal lines of communication might be established between the City of Raleigh, neighboring municipalities and Wake County in order to better facilitate the achievement of common objectives related to greenway development and better coordinate efforts where cooperative opportunities may exist.

Overall Action Plan

a) Incorporate the proposed Designated Greenway Connectors as part of the overall program for the Capital Area Greenway System.

b) Secure greenway nodes to enhance access to major/minor corridors, to preserve unique natural features outside of the typical easement areas, and to provide expanded areas for neighborhood level recreational opportunities (especially in outlying districts where warranted because of lower development densities).

c) Establish a position on greenway development within the Watershed Protection Areas; specifically the development of greenway from Raleigh to the Falls Lake Recreation Area.

d) Secure a pedestrian connector under/over the North Wake Expressway.

e) Secure other such connectors as part of road widening projects or new construction that impact the Capital Area Greenway system.

f) Continue to secure public greenway access rights around lakes, ponds and impoundments within private developments contained by designated Greenway Corridors.

g) Work with the Inspections Department, City Attorney's Office, etc. to establish criteria that will allow the construction of minor greenway facilities within the floodway. Work with the Inspections Department to develop a procedure for streamlining the review and approval process for the construction of major greenway facilities such as bridges.

h) Coordinate with Wake County to preserve the Neuse River Greenway corridor and secure tributary greenway connectors.

i) Establish formal lines of communication with Wake County and neighboring municipalities in order to coordinate regional greenway efforts.

j) Update the Capital Area Greenway Master Plan as needed to insure service objectives of the system meet the developing demand.

k) Continue to explore opportunities for volunteer involvement in trail construction, trail maintenance and stream clean-up projects.

l) Continue to coordinate greenway acquisition with the City's Real Estate Department, utilizing targeted acquisition for immediate trail development needs and coordinated acquisition of multi-use corridors.

m) Improve public awareness of the Capital Area Greenway System through an expanded marketing program.