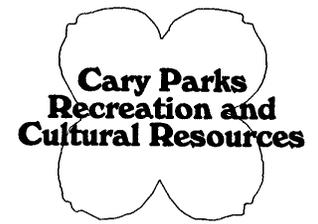


Chapter 1: Executive Summary



The Community

The Town of Cary is one of the fastest growing communities within the Research Triangle Area of North Carolina. Bounded by the communities of Raleigh and Apex, the Research Triangle Park, an international airport and Interstate 40, Cary has become a magnet for people moving into the region. The quality of life has been the Town's principal calling card for decades. This has resulted in a doubling of the population during the 1980's, and a growth rate of 81.5 percent between 1990 and 1996. Every day, new businesses and housing developments are being constructed to accommodate the needs of this rapidly growing community.



In the face of such explosive population growth, Cary must keep pace by meeting the recreation and alternative transportation needs of current and future residents. This will ensure the preservation of undeveloped green space and important natural areas, the landscape character of the Town, convenient access to community facilities, and opportunities for choosing nonmotorized modes as viable choices for transportation.

Evaluating and implementing such recreation and alternative transportation programs through the implementation of this Parks, Greenways and Bikeways Master Plan will be vital in sustaining and improving the community's quality of life for years to come.

The Master Plan

The Cary Parks, Greenways and Bikeways Master Plan is an essential step in meeting the current and future needs of local residents. This Plan addresses the enhancement and future implementation of a system of parks, greenways and bikeways to meet recreation and transportation needs of local residents to the year 2010. These needs were defined through an analysis of the current distribution of facilities, workshops with local residents, Town staff, and the Cary Town Council, a citizen survey, and research on programming needs. This Plan also provides recommendations on the type and quantity of facilities that should be developed, where they should be located, and how these facilities should be implemented.



The Vision

The vision for Cary's parks, greenways and bikeways was defined during meetings with residents and a Citizens Advisory Committee. The following vision statement represents the community's philosophy toward meeting the recreational needs of citizens:

Cary's Parks, Recreation and Greenway program should continue to provide convenient and affordable access to a balanced, diverse and comprehensive system of recreation resources and facilities. As our community continues to grow, it is important that parks, greenways and bikeways improve our quality of life; provide us access to active and passive recreation opportunities; connect us with important destinations; celebrate our unique history; protect our valuable natural resources; and foster cooperation and partnerships throughout our community.

This vision will be realized by following the recommendations that are defined within this Master Plan.



Existing Conditions

Chapter Three describes current recreation opportunities in the Town of Cary, which includes mini parks, neighborhood parks, a community park (Ritter Park), and a metro park (Bond Park). Each of these park types offer a different mix of passive and active recreation facilities and have differing service radii based on size. In addition to the parks currently provided by the Town, residents are also served by special use facilities located within Cary, adjacent parks located outside of Town limits, and regional parks that serve the Triangle region. Recreational needs in Cary are also being met, in part, through the local school system and the private sector. In some cases, recreational facilities are entirely provided by the private sector. For example, there are no public golf courses or swimming pools in Cary.

Existing conditions for greenways and bikeways were also examined. Cary's approximately ten miles of public greenways and more than 25 miles of private greenways comprises a system that currently serves the recreational needs of many citizens. However, the greenways serve primarily as isolated neighborhood recreation facilities, as half are unpaved and do not connect with nearby schools, shopping centers, or office parks. Existing bikeways in Cary do not include bike lanes, but consist of wide outside traffic lanes and paved shoulders along a few major roadways, such as Cary Parkway. Few bike routes are consistently signed, and do not comprise a logical system for transportation purposes.



The Population

The number of Cary residents now and in the future, as well as the demographics of this population, were examined and included in preparation of this Master Plan. The Town has grown steadily in the past and will continue to grow from 88,249 residents today to more than 144,696 by the year 2010. Parks, greenways and bikeways in Cary will need to be developed at a faster rate than has occurred in the past in order to keep pace with this growing population. National and local trends were examined to further understand the recreational needs of Cary residents. These trends indicate that the Town will need to provide a variety of recreation opportunities, typically outdoor activities which are close to home, to meet the needs of a community with decreased leisure time and increased interest in health and fitness. Development patterns within the Town were also studied to understand the direction in which Cary is growing, and the types of development that are planned to occur in these areas, as factors in selecting the most appropriate sites for future recreation facilities.

Public Input

Public involvement was an important part of the Master Plan's development. Local residents were involved through a Citizens Advisory Committee, public workshops and a citizen survey. The Advisory Committee consisted of: Town staff; members of the Town Council and the Parks, Recreation and Cultural Resources Advisory Board; and interested citizens who helped guide the development of the Master Plan. Comments from a public workshop were also incorporated into the Plan. Citizen input also came from the results of a comprehensive survey on current participation rates and interest levels in certain recreational activities. The survey was completed by 258 residents and the results of the survey are presented in Chapter Five.

Facility Needs

Chapter Six of the Master Plan defines the recreation needs of Cary residents. These needs are divided into three important components: the geographic distribution of recreational facilities throughout the Town; past and present levels of participation in Town-sponsored programs and activities, and demand for athletic facilities to accommodate program participants; and the citizen survey needs analysis. Each of these components provides important information on where future facilities are needed, which facilities are needed to accommodate resident interest in programmed activities, and the types and number of facilities which citizens are demanding.



Park Recommendations

Based on the needs identified in Chapter Six, recommendations for the number, type and location of various park types and facilities are provided in Chapter Seven. These recommendations are not based on a national standard, but are tailored to meet the specific needs of the Town of Cary and its residents. Neighborhood, community and metro park recommendations are provided, based on acreage needs for each park type. Facility recommendations are derived from a listing of typical facilities which would be provided within each park type.

Recommendations for the distribution of parks and proposed park types throughout Cary are also provided. The proposed equitable distribution ensures that the vast majority of current and future residents are served by one or more park types, providing close-to-home recreation. *Neighborhood/school parks* would be relatively small in size, serving those living within one mile, and would provide for unprogrammed active and passive recreation opportunities. *Community parks* would be larger parks, serving a two mile radius and would provide opportunities for organized sports, such as tennis courts and baseball fields, in addition to those opportunities provided by neighborhood parks. *Metro parks* are the largest park type recommended for development in Cary, usually over 100 acres in size, which would serve the entire community. Metro parks would be located along major roadways so that they are accessible to the community at large, providing more opportunities for organized sports and programmed activities than other park types. Although mini parks currently exist in Cary, further development of these facilities by the Town is not recommended.



Greenways & Bikeways

Recommendations for a continuous system of greenways and bikeways throughout Cary are provided in Chapter Eight. This proposed system would be multi-objective in nature. Not only could greenways be used to fulfill recreation objectives, but also alternative transportation, water quality improvement, natural resource protection, and floodplain management objectives. A comprehensive bikeways system would offer residents a viable alternative for using their automobiles on short range trips of less than 2 miles. Some residents may use Cary's bikeways for longer distance commuting trips.

The greenway and bikeway system is recommended to be off-road wherever possible, with on-road facilities developed as important linkages. Existing greenways would be extended and would connect to form continuous routes. Major origins and destinations would be linked with the system, including the Research Triangle Park, downtown Cary, Bond Park, Lake Crabtree, Cary Towne Center and numerous Cary neighborhoods.

Implementation

Turning the recommendations of the Master Plan into reality will require creative methods of generating revenue, acquiring land and forming public-private partnerships. Chapter Nine provides information on these methods based on what communities across the country are accomplishing. Cost estimates for typical facility development are also provided to define fiscal goals for the community. Forming partnerships with other public entities and the private sector is one such method that should be acted upon by the Town of Cary.

Through the implementation of this Master Plan, Cary will continue to meet the challenges of future growth and development in the twenty-first century. Residents will have access to the Town's unique natural resources, children will be able to participate in any number of community sponsored athletic events and programs, adults will be able to choose recreation and health management programs that best meet their personal lifestyle, and Cary will always be thought of as a great place to live and raise a family.

Chapter 2: Vision, Goals and Objectives



Introduction

Public input from recreation advocates, interested citizens, local government staff and elected officials is essential for the successful development of recreation master plans. The vision, goals and objectives which address how recreation facilities within the Town of Cary will be planned, designed, implemented and managed are defined within this report. The vision, goals and objectives reflect the community values and attitudes of local residents toward the development of a park, greenway and bikeway system that meets the recreation needs of Cary residents.



During the March 20, 1997, meeting of the Citizen Advisory Committee for the Cary Parks, Greenways and Bikeways Master Plan, local agency and citizen representatives provided input into the goals and objectives for recreation in Cary. Local residents were then asked to participate in an open workshop on April 22nd to further define appropriate goals and objec-

tives for recreation in Cary. Comments received during this workshop and the previous Committee meeting were used to compile the lists of goals and objectives provided in this report. Overall goal statements are defined as well as objectives within the primary categories of parks, greenways and bikeways. Goals and objectives include those addressing recreation, alternative transportation, economic growth, stewardship of natural resources, safety and security, maintenance and management within the Town of Cary.

Vision

Cary's Parks, Recreation and Greenways program should continue to provide convenient and affordable access to a balanced, diverse and comprehensive system of recreation resources and facilities. As our community continues to grow, it is important that parks, greenways and bikeways improve our quality of life; provide us access to active and passive recreation opportunities; connect us with important destinations; celebrate our unique history; protect our valuable natural resources; and foster cooperation and partnerships throughout our community.



Overall Goals of the Master Plan

The following goals define specific ways in which we can collectively achieve this vision.

1. Provide a balance of passive and active recreation facilities and programs which fulfill the current and future recreation needs of Cary residents.
2. Provide facilities and programs that respond to the diverse recreational needs of our residents, regardless of age or ability.
3. Establish public/private partnerships with developers, nonprofit organizations and local citizens to encourage park, greenway and bikeway development.
4. Establish intergovernmental partnerships with adjacent counties and municipalities, and the county school system to encourage joint development of park facilities.
5. Provide realistic and feasible strategies for the development and long-term maintenance of park, greenway and bikeway facilities and programs.
6. Encourage alternative transportation through greenway and bikeway development.
7. Provide park, greenway and bikeway facilities that are environmentally sensitive and cost effective.

Objectives

Objectives serve to guide recommended actions that enable the vision and goals to be implemented.

Parks

- A. Enhance existing park facilities and develop a balance of new parks and/or special use facilities that meet the recreational needs of Cary residents.
- B. Develop large, community-wide parks as well as smaller neighborhood parks for recreation activities.
- C. Provide recreational facilities for programmed and non-programmed activities.
- D. Provide recreation facilities with adequate numbers of trained staff and personnel.
- E. Integrate the needs of different age groups, including the active and passive recreation needs of the elderly and persons with disabilities.
- F. Encourage the development of environmentally sensitive park facilities by incorporating certain techniques such as the use of recycled materials, native plantings, water conservation and protection of wildlife habitat areas.
- G. Provide for special park uses, interests and activities, as identified in the user preference survey or through public input.

Greenways

- A. Encourage alternative transportation by providing linkages among existing greenways, on-road bikeways and sidewalks.
- B. Provide a continuous system of greenway trail facilities linking destinations within the Town, including neighborhoods, schools, parks, shopping and office developments.
- C. Emphasize the multi-objective role of greenways as recreational facilities, transportation corridors, habitats for wildlife and water quality improvement facilities.
- D. Encourage the development of environmentally sensitive greenway facilities by incorporating certain techniques such as the use of recycled materials, native plantings, streambank stabilization and protection of wetlands and other natural areas.
- E. Provide greenways which can be enjoyed by a variety of users and which minimize user conflicts through design and education.
- F. Provide for people with disabilities in the design of greenways, wherever practical.
- G. Develop greenways with specific standards that ensure the safety of trail users.

Bikeways

- A. Establish on-road bike lanes along roadway corridors in Cary as the backbone of a bikeways network and an important component of an intermodal transportation system.
- B. Use bikeways to link parks and greenways with community destinations.
- C. Establish on-road bicycle connections to workplaces, schools, parks and other destinations to encourage the use of alternative transportation in order to reduce congestion and improve air quality in the area.
- D. Develop bikeways with specific standards that ensure the safety of bicyclists.
- E. Consider the needs of bicyclists of all ages and abilities.
- F. Work with the North Carolina Department of Transportation to develop bicycle facilities throughout the Town.
- G. Connect Cary bikeways with state, regional and county bicycle facilities.
- H. Encourage the use of bikeways as recreation facilities.

Chapter 3: Existing Conditions



Description of the Study Area

The Cary Parks, Greenways and Bikeways Master Plan is designed to assist the Town in meeting the future recreation and transportation needs of this rapidly-growing community in a sustainable manner. This effort begins with the following evaluation of the current needs of local residents. These needs will be used as a basis for making recommendations for future park, greenway and bikeway development within the Town.



The recreation needs of Cary residents are currently being met through a variety of facilities including parks of all sizes, greenway trails and on-road bikeways. These facilities offer opportunities for passive recreation activities, such as picnicking, hiking and birdwatching, as well as active recreation activities, such as basketball, softball and tennis. The following text and charts describe the types of recreation facilities that currently exist in Cary and the specific opportunities provided by each.



Park Facilities

Park facilities provided by the Town of Cary can be categorized by size and population served. These include special use facilities and (in order from smallest to largest) mini parks, neighborhood parks, community parks, and metro parks which account for approximately 540 acres (developed). Other park facilities utilized by residents are regional parks, adjacent parks, schools and privately-owned recreation facilities. Each of these are described below.



Urban Park is a mini park which includes active recreation facilities

Mini Parks

Mini parks within Cary are generally very small in size (less than two acres) and located within residential areas. Heater Park and Dorothy Park primarily function as natural open space, complete with benches, trees and small streams, while Urban Park and Rose Street Park each contain a basketball court and playground. With the exception of Urban Park, mini parks are located away from major roadways and do not attract individuals from more than half a mile away, thereby serving as an “extended backyard” and gathering place for Cary residents living in adjacent neighborhoods. Additionally, Cary’s mini parks are not typically linked to surrounding areas by sidewalks or bicycle facilities.

Neighborhood Parks

Cary’s neighborhood parks are somewhat larger than the mini parks, averaging less than ten acres and generally serving those living within one mile of the park. Neighborhood parks contain opportunities for active and passive recreation activities, including tennis and basketball courts, baseball fields and playgrounds, as well as open space, dirt trails and picnic areas. Many of these parks are located close to major roadways in Cary and are connected to nearby land uses by sidewalks and/or greenways. Neighborhood parks in Cary include the following:

- R.S. Dunham Park
- Lions Park
- MacDonald Woods Park
- Annie Jones Park
- Lexie Lane Park
- Robert G. Godbold Park
- Davis Drive Park



MacDonald Woods Park, a neighborhood park, contains a playground and picnic areas.

Community Parks

H. D. Ritter Park is the only community park in Cary. Eleven and a half acres have been developed within this 34.5 acre park, which is located within a medium density residential development. It generally serves those living within a two mile radius and contains picnic

facilities, baseball fields, a basketball court, playground and a concession stand. A connection is also provided to Swift Creek Greenway at H. D. Ritter Park.



Attractive signage welcomes visitors to H. D. Ritter Park, the only community park in Cary.

Metro Parks

Fred G. Bond is the only metro park in Cary. This park serves the entire community of Cary and offers opportunities for both passive and active recreation. Approximately thirty of its more than 300 acres have been developed for recreational use. Facilities include picnic areas, an outdoor amphitheater, seven lighted baseball fields, a ropes course, boat rentals, playground, lakefront facilities, and 4.2 miles of unpaved



Bond Park visitors can rent canoes to take out on the

trails. These trails link to the privately owned, public use Oxxford Hunt Greenway and the Town of Cary's Parkway Greenway, providing nearby citizens with nonmotorized access to the park.



The observation tower at Lake Crabtree offers views of the lake.

Regional Parks

Regional Parks are generally the largest in size and attract the highest amount of visitors, as compared to other categories for parklands. Although the Town of Cary does not own or maintain any regional parks, Cary residents are served by Wake County's Lake Crabtree County Park and Umstead State Park, which is managed by North Carolina's State Parks Program. These parks attract visitors from Cary, Raleigh, Durham and Chapel Hill and offer a balance of passive and active recreation opportunities, including boating, camping, horse and hiking trails, mountain bike trails, observation areas, and open space. These parks are linked to the Cary park system via the Black Creek Greenway.



Trail users are provided with a bicycle and pedestrian bridge over Lake Johnson, as shown on right above.

Adjacent Parks

There are several park facilities located just outside of the jurisdictional boundaries of Cary that are likely to be used by Cary residents due to their close proximity. These include Apex Community Park, managed by the Town of Apex, Lake Johnson, managed by the City of Raleigh, and Cedar Fork District Park, managed by Wake County. Apex Community Park's facilities focus on passive recreation and are located adjacent to residential areas in Cary. A small lake is the focal point of this park, with opportunities for fishing and unpaved trail use available. Lake Johnson is focused on more passive recreation activities, offering an extensive paved and unpaved trail system surrounding the lake, opportunities for boating and fishing, and an observation area. Lake Johnson

connects to nearby residential areas through sidewalks and regularly attracts visitors living more than ten miles away. Cedar Fork District Park serves as a Capital Area Soccer League Complex, complete with six soccer fields and a concession stand. Although the public is allowed to use these facilities, priority is given to the Capital Area Soccer League.

Special Use Facilities

This category of recreation facilities includes those which are dedicated to a specific use. In Cary, all of the special use facilities focus on buildings, with the exception of Hemlock Bluffs Nature Preserve, which is dedicated to passive recreation and nature education programs, and MacArthur Park, which is dedicated to soccer use. Hemlock Bluffs contains natural surface and boardwalk trails, observation areas, educational signage, an outdoor classroom and a nature center. The remaining special use facilities in Cary include the Senior Center, Community Center, Jordan Hall Arts Center and

Special Facilities	restrooms	outdoor classrooms	dirt trails	nature center	indoor classrooms	art galleries	game room	soccer fields	indoor basketball/ volleyball	amphitheater
Hemlock Bluffs Preserve	●	●	●	●	●					
Page-Walker Hotel	●				●	●				
Senior Center	●				●					
Community Center	●				●		●		●	
Jordan Arts Center	●				●	●				
MacArthur Park								3		
Symphony Lake Park										●



the Page-Walker Arts and History Center. The majority of recreational programs offered by the Town take place at these facilities, which contain classrooms, indoor athletic facilities and art galleries.

Park Programs

Recreation programs offered by the Town of Cary are numerous and diverse, catering to the needs of young and old. Programs include community-wide events, camps, classes, exhibits, and day-long workshops. Both passive and active recreation interests of individuals are met through these programs, a majority of which take place in the Town's special use facilities. Park programs are described below by location.

Town of Cary: Several community-wide events are offered each year by the Town which take place in various locations. These include the highly successful Lazy Daze Arts and Crafts Festival as well as an Independence Day celebration, the Cary Road Race, concerts and other events.

Cary Community Center: The majority of Cary's active recreation programs take place at the Community Center. Recreation, fitness & exercise classes for ages 3 months to adult are offered, as well as youth special events and mini camps. An indoor basketball/volleyball court is also provided at this location for individuals and teams. Other teams and camps organized through the Town include baseball, softball, tennis and youth track and field.

Page-Walker Hotel Arts and History Center: This historic building is the site of tours, adult classes in film, history, arts and crafts, cultural and historical performances and fine arts exhibits.

Jordan Hall Arts Center: Programs offered in the Arts Center include gallery exhibits and camps and classes for youngsters, teens and adults in arts and crafts subjects.

Bond Park: This park is the site of several of Cary's programs, including sailing, canoeing, orienteering and guided hikes. A ropes course is also available at this location.

Stevens Nature Center: This Center, located within Hemlock Bluffs Nature Preserve, is dedicated to conservation and environmental education efforts. Numerous nature education programs are offered, including classes and camps for ages 4 and up, for both individuals and families.

Cary Senior Center: This facility is dedicated to the recreation needs of the Town's senior population, ages 55 and older. Programming includes ongoing and special social events, classes and trips.

Rental Opportunities: Certain rooms at the Community Center and Page-Walker Center, as well as shelters at Bond and Ritter Parks, and the Sertoma Amphitheater at Bond Park, are available for group rentals.



Schools and Private Park Facilities

In addition to parks which are open to public use and dedicated to the recreation needs of the general public, there are several facilities which serve the needs of certain residents or serve the needs of the public at certain times. These include public school facilities, such as playgrounds and tracks, and private residential facilities, such as swimming pools and golf courses.

School facilities can be used by the general public, but student activities are given priority, and many indoor facilities are not accessible by

the public. The exception to this is shared school-park facilities, such as Swift Creek and Penny Road Elementary Schools. Private recreation facilities generally exclude those living outside the boundaries of a certain residential area or require membership fee payment. The specific facilities provided by the schools, residential subdivisions and apartments in Cary are illustrated further in the charts provided.

Schools	playground	tennis courts	outdoor basketball	baseball/softball field	football field	multi-use/soccer field	track	indoor basketball	multi-purpose indoor court
Briarcliff Elementary	2		2	1		1	1	1	1
Cary Elementary	1		1	1		1		1	
Farmington Woods Elem.	2		2			1			1
Henry Adams Elementary	2					1		1	
Kingswood Elementary	1		1	1					
Northwoods Elementary	1		3			1			1
*Penny Road Elementary	1			1		1	1	1	
East Cary Middle			1	2	1	1	1		
West Cary Middle			1	1				1	
Cary Senior High			1	1	1		1	1	
Weatherstone Elementary	1		2			1			1
Oak Grove Elementary	2		1			1		1	
*Swift Creek Elementary	1	2		1		1			1
Davis Drive Elementary	1			1		1			1
Davis Drive Middle			1	1	1	1	1	1	

*shared Wake County school-park facilities



**Private Facilities:
Subdivisions**

	swimming pool	clubhouse	tennis court	golf course	volleyball court	basketball court	soccer field	amphitheater	picnic area	trails	small lake for boating	playground
Beechtree										●		
Blackhawk	1		2									
Cambridge Forest										●		
Edgehill Farm	1	1	2		1				●	●	1	1
Kildaire Farms	1	1	13			1	2			●	2	1
Lochmere		1	8	1						●	2	
Lochmere Highlands	1	1	2		1				●	●		1
MacGregor Downs	1	1	8	1							1	
Oxxford Hunt	1	1	4							●		1
Parkway	1		2									
Pirate's Cove	1	1										
*Preston & Preston Village	1	1	6	3			2					1
Regency Park								1	●	●		
Scottish Hills	1		2		1							
Silverton	1		2						●			
Wellington	1	1	2									
Weston									●			
Westpark	1	1	2			1			●	●		
Wimbledon	1	1	6									
Somerset	1		2									
The Reserves	1											
Park Village	1											1
Chesapeake	1		2									
Walden Creek	1											
Weston Point	1											
Waterford Place	1		2									1

Note: inventory of private facilities taken in February of 1997

*soccer fields are owned by the Town of Cary and leased to CASL (Capital Area Soccer League)

Private Facilities: Apartments	swimming pool	clubhouse	tennis court	golf course	volleyball court	basketball court	soccer field	amphitheater	picnic area	trails	small lake for boating	playground
Cornerstone	1	1	1						●			1
Brook Arbor	1											
Briarcliff		1			1	1			●			1
Waterford Forest	1	1										
Williamsburg Manor	1	1	1			1						1
Brookhill Townhomes	1											
Oxford Square	1	1										
Woodway	1	1										
Westover Hills	1	1	1									
Bowling Arms	1											
Cardinal Woods	1	1										
Woodcreek	1	1	2									
Merriwood	1	1										1
Oak Hollow	1	1	2			1				●		1
Wrennwood	1											1
Ashton Woods						1						1
Harrison Grande	1	1	1		1				●			
Misty Woods	1	1	1			1			●			
Page Mill	1	1	2			1						
Brampton Moors	1	1	1		1	1				●		
Hermitage at Beechtree	1	1	2		1					●		
Northwoods Village	1	1	1		1				●			
Bennington Woods	1	1	1									
Hidden Oaks	1	1	1		1							
Hyde Park	1	1							●			1
Amberwood	1	1	2									1
The Stratford	1	1	2		1	1						1
Northwoods Mews	1	1	2		1	1			●			1
Sedgebrooke												1
Audobon Park	1	1	1			1			●			1
Crescent Arbors	1	1	1									
Deerwood at Preston	1	1							●			

Greenways

Greenways within the Town of Cary are numerous and dispersed throughout the different geographical sections of the Town. Approximately half of these are unpaved and offer residents opportunities for walking, hiking and jogging for recreation and transportation purposes. A majority of Cary’s greenways are identified by high quality signage and trash receptacles at their endpoints, and connect to park facilities, encouraging residents to bicycle or walk between their homes and local parks. Five of Cary’s greenways—Hinshaw, Swift Creek, Black Creek, White Oak and Symphony Lake—are paved to accommodate the needs of bicyclists, people with disabilities, strollers and in-line skaters.



Signs along the Swift Creek Greenway teach people about the use of recycled materials in greenway construction.

Most of the Town’s almost ten miles of greenways function primarily as recreation facilities. Many are located within residential areas and do not connect with nearby schools, shopping centers or office parks. With some exceptions, greenways in Cary also tend to lack connectivity among them and do not function as a continuous network. Additionally, many of the roadways that link to greenways do not



Several of Cary’s greenways are unpaved, such as the Pirates Cove Greenway shown here.

provide sidewalks or on-road bicycle facilities, thereby presenting a barrier to greenway users who wish to continue their journey. However, the endpoints of many greenways are located at quiet, residential roads with low volume, low speed traffic.

Greenways	signage	benches	paved surface	trash cans	bike/ped connections	park connection	fitness trail
Higgins Trail	●	●		●	●		●
Pirates Cove Trail	●			●			
Hinshaw Trail	●		●	●	●	●	
Swift Creek Trail	●	●	●	●		●	
Black Creek Trail	●	●	●	●	●	●	
Parkway Trail	●				●	●	
White Oak Trail	●	●	●	●	●	●	
Symphony Lake Trail		●	●	●			●
Oxford Hunt Trail							
Annie Jones Park Area Trails	●		1/2		●	●	

In addition to those greenways owned by the Town of Cary, a number of private greenways also exist which are open to public use, totaling more than 25 miles. These include those greenways located along Swift Creek near MacGregor Office Park and within the Kildaire Farms development.



Walnut Street contains wide outside lanes to accommodate bicyclists.

Bikeways

The two types of on-road bicycle facilities provided in Cary are wide outside roadway lanes and paved shoulders. Paved shoulders tend to be 3-4 feet in width and separated from automobile lanes by pavement striping. Wide outside lanes are usually 14-16 feet wide, allowing adequate room for an automobile to pass a bicyclist without needing to change lanes. The roadways which contain these bicycle facilities are generally 4 or 5 lanes and facilitate the movement of heavy, high speed traffic. Along some of the roadways, motorists are alerted to the existence of these bicycle facilities through “share the road” signage. On-road bicycle facilities in Cary are located on sections of the following major roadways.

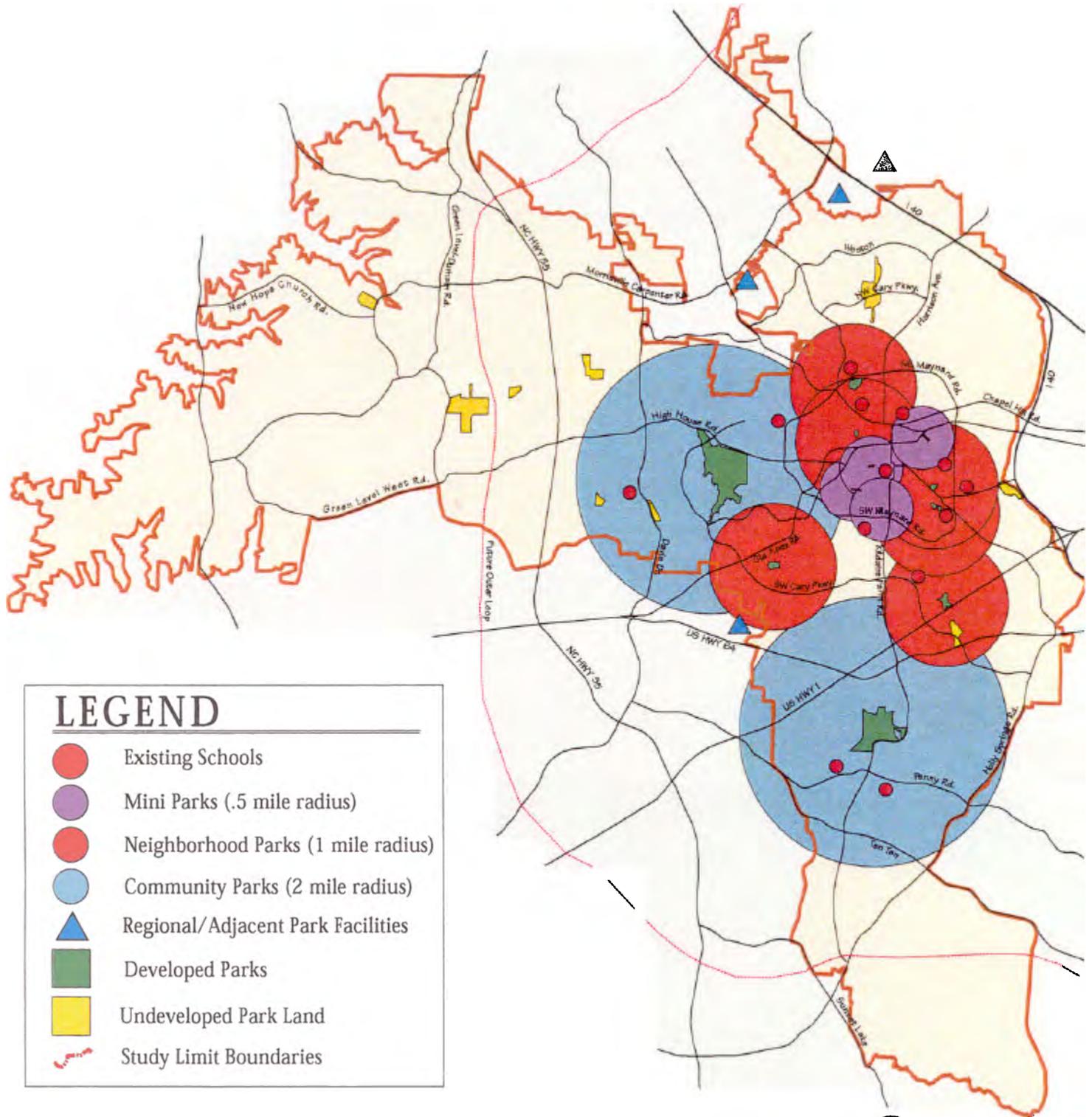
- Kildaire Farm Road (wide outside lanes)
- Maynard Road (paved shoulder)
- Cary Parkway (wide outside lanes)
- Walnut Street (wide outside lanes)
- High House Road (wide outside lanes)



Maynard Road contains paved shoulders for a short distance.

Town of Cary

Parks, Greenways & Bikeways Master Plan



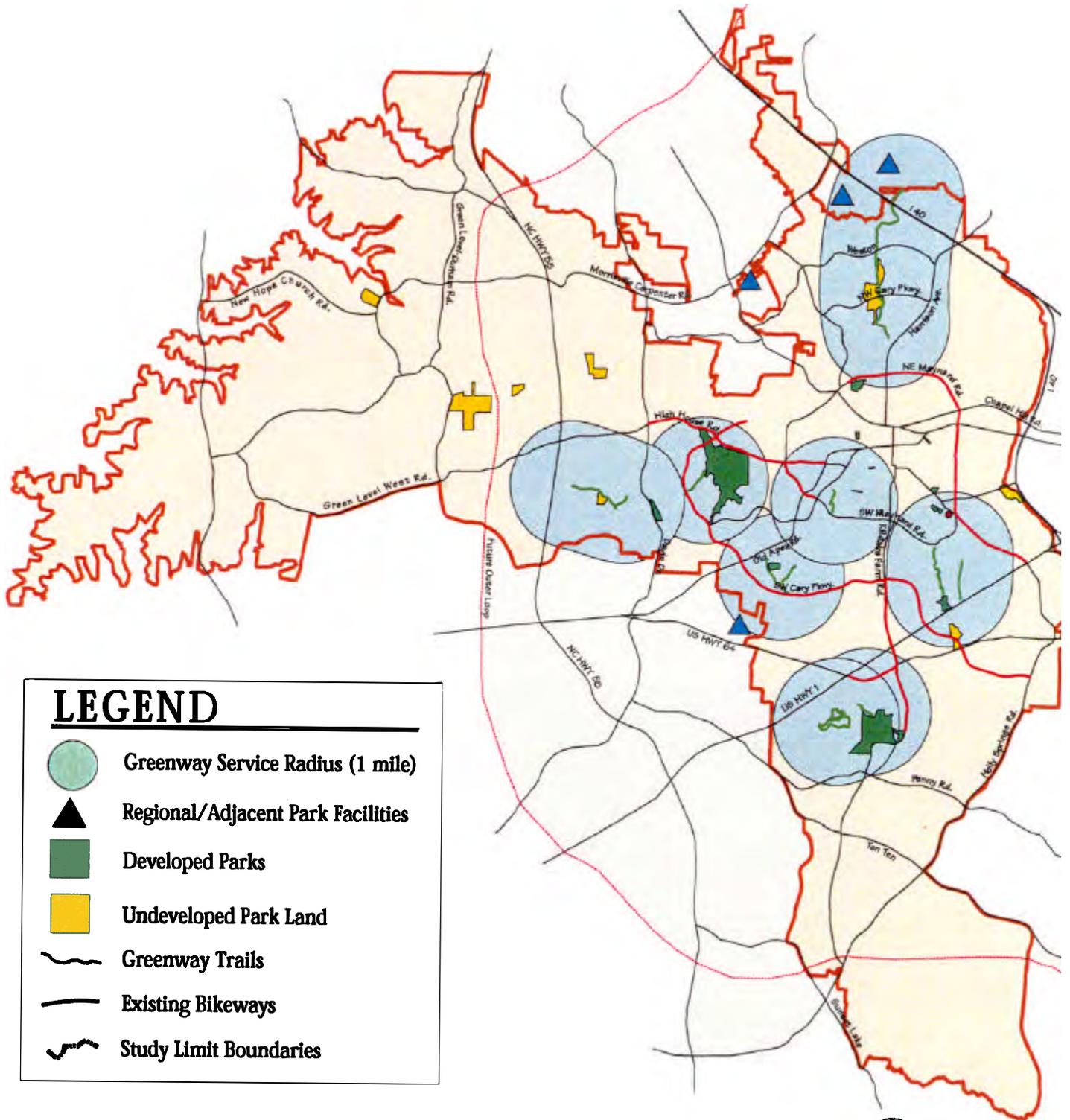
Existing Parks Distribution Map



SCALE: None

Town of Cary

Parks, Greenways & Bikeways Master Plan



Greenways & Bikeways Location and Distribution Map



SCALE: None

Chapter 4: Population/ Demographics Analysis

Population and Demographics

An assessment of current and future population statistics, as well as trends in demographics and recreation was conducted to accurately determine needed levels of recreation facilities. Past, current and future population figures are shown in the charts provided. These numbers are based upon information provided by the Town of Cary Development Services Department for this master plan.

As shown, Cary's population has grown steadily in the past, with the 1990s witnessing an upward trend in popula-



tion growth. During the last 15 years, the population of the Town has tripled in size. These high growth rates are expected to continue into the future, with the number of residents increasing from 88,249 today to over 144,000 by the year 2010.

Trends in Recreation

There are several local and national trends that have a significant bearing on the use of the Town's parks and facilities:

National Trends

- ¥ Recent trends in lifestyles indicate less leisure time. With the growing number of two income families (57 percent of Cary households) and single parent households in this country, people are preferring recreation activities that are high quality and close to home.
- ¥ Communities across the country are encouraging bicycling and walking as alternatives to automobile use, especially in areas with poor air quality and heavy congestion.
- ¥ Americans are more concerned with health and fitness issues than in the past. Activities such as bicycling, jogging, and playing sports are enjoying increased participation across the country.

<u>Year</u>	<u>Population</u>
1982	26,775
1983	27,205
1984	31,308
1985	35,688
1986	37,455
1987	39,387
1988	40,810
1989	42,681
1990	43,858
1991	48,130
1992	52,403
1993	56,621
1994	61,439
1995	69,500
1996	76,800
1997	81,960
1998	88,249



¥ Nationally, interest in all types of outdoor activities is up, representing increased demand for active and passive recreation within park areas.

¥ Participation in outdoor activities has been fueled by technological improvements in equipment such as mountain bikes, rollerblades, and camping gear.

¥ A more pronounced concern for environmental issues has arisen nationally, with individuals wanting environmental themes, environmental education and conservation efforts incorporated into recreation facilities. This is especially true of affluent and well educated individuals, such as Cary residents.

¥ Water-based recreation activities are more in

demand in the Southeast than in other areas of the country, due to the relatively warm climate of the region.

Local Trends

¥ The average age of residents in Cary is increasing, a reflection of national trends. Residential areas that were once comprised of young parents and children are now made up of older couples. Recreation opportunities at the neighborhood level should be adjusted appropriately to meet the new demands of these areas.

¥ Cary is evolving from a community dominated by families with children to a community with a larger mix of singles, couples and smaller families. This trend results in an increased need for a variety of recreation services.

¥ Due to the nature of the Triangle region, many

Population age distribution based on 1998 estimates and under the assumption that age and gender distributions within categories will remain stable. (Source: Town of Cary Development Services Dept.)

age years	1993		proportion		2002		2007		2010	
	male	female	male	female	male	female	male	female	male	female
0-4	2,485	2,351	4.39%	4.15%	4,656	4,405	5,709	5,401	6,352	6,005
5-9	2,317	2,229	4.09%	3.94%	4,341	4,176	5,323	5,121	5,918	5,701
10-14	2,031	1,921	3.59%	3.39%	3,805	3,599	4,666	4,413	5,195	4,905
15-19	1,615	1,545	2.85%	2.73%	3,026	2,895	3,710	3,549	4,124	3,950
20-24	1,728	1,834	3.05%	3.24%	3,237	3,436	3,970	4,213	4,413	4,688
25-29	2,547	2,906	4.50%	5.13%	4,772	5,444	5,851	6,676	6,511	7,423
30-34	3,410	3,454	6.02%	6.10%	6,389	6,471	7,834	7,935	8,711	8,826
35-39	3,050	3,225	5.39%	5.70%	5,714	6,042	7,007	7,409	7,799	8,243
40-44	2,568	2,690	4.54%	4.75%	4,811	5,040	5,899	6,180	6,569	6,873
45-49	2,016	2,109	3.56%	3.72%	3,777	3,951	4,631	4,845	5,151	5,383
50-54	1,426	1,379	2.52%	2.44%	2,672	2,584	3,276	3,168	3,646	3,531
55-59	885	859	1.56%	1.52%	1,658	1,609	2,033	1,973	2,257	2,199
60-64	691	643	1.22%	1.14%	1,295	1,205	1,587	1,477	1,765	1,650
65-69	487	553	0.86%	0.98%	912	1,036	1,119	1,270	1,246	1,418
70-74	331	422	0.58%	0.75%	620	791	760	969	839	1,085
75-79	166	280	0.29%	0.49%	311	525	381	643	420	709
80-84	75	187	0.13%	0.33%	141	350	172	430	188	478
85+	51	155	0.09%	0.27%	96	290	117	356	130	395
Totals	27,879	28,742	49.23%	50.77%	52,231	53,848	65,432	66,028	71,234	73,462
	56,621				106,079		130,073		144,696	

residents commute to areas outside of Cary and are, therefore, more aware of other opportunities for recreation that the region provides. This broadens their sphere of influence beyond the limits of the Town so that Chapel Hill or north Raleigh may be considered close to home.

- ¥ The teenage population bracket is relatively small at present, yet as the children who are under the age of ten grow up (during the life of this plan), the teenage segment will become more significant. Therefore, this plan should account for the increased demand for programmed, active recreation that will take place in the future.
- ¥ The 20-29 year-old age bracket in Cary is relatively large, and (as indicated in our survey) 31% of couples do not have children. This would suggest that the population projections for young people may be underestimated, as these couples begin to have children.
- ¥ Cary's population is relatively well-educated (95% have high school degrees), and therefore residents tend to search for information in order to make well informed decisions about a wide range of recreation opportunities. Consequently, it is especially important for the Town of Cary to provide diversity in recreation and information for residents.
- ¥ Cary's population is also relatively affluent, with residents enjoying more discretionary income that can be spent on a wider range of recreation opportunities, including such nontraditional activities as attending outdoor performances. Affluent individuals are willing to pay for fee-recreation opportunities, such as private facilities, but are also willing to pay for (and are attracted to) high quality public facilities.

Development Patterns

As previously discussed, the Town of Cary is rapidly growing. Future recreation facilities will need to be developed in order to meet the needs of an expanding population. Although the number and type of facilities will be important, their location deserves equal consideration. In order to choose the most appropriate sites for future recreation facilities, one must first understand the direction in which the Town is growing and the types of development that are planned to occur in these areas.

The Town of Cary's Growth Management Plan, adopted in November of 1996, provides information on the geographic distribution of future growth. Cary is bounded by Research Triangle Park, RDU International Airport, Umstead State Park, Apex, Holly Springs and Jordan Lake, which limits the potential for expansion. However, undeveloped land exists in many places, especially to the west and southeast, which is the direction in which the Town will be growing within the next 10 to 20 years. The majority of these areas are proposed to be zoned residential, with activity centers scattered throughout. These centers are meant to serve as pedestrian-friendly "clusters" where office complexes, shopping areas and residential developments will be concentrated, with densities decreasing as one moves further away from the activity center. New roadways are also proposed to be built in the west and southeast as the Town grows, including the Outer Loop, a major interstate highway that will bring more development to the area once it is completed.

Chapter 5: Summary of Public Input

Public involvement was an important part of the development of the Cary Parks, Greenways and Bikeways Master Plan. Citizen comments were valuable in creating goals and objectives for the project, and measuring the participation rates and demand for recreation services and facilities. Local residents were involved through a Citizens Advisory Committee, public workshop and citizen survey.

Citizens Advisory Committee

The Citizens Advisory Committee (CAC) was formed to assist in guiding the development of the Master Plan, creating vision, goals and objectives, and reviewing recommendations. This Committee consisted of members of the Parks, Recreation and Cultural Resources Advisory Board, the Town Council, Town staff and interested citizens.



Public Workshop

A public workshop was held on April 29, 1997 to present information on existing parks, greenways and bikeways and to solicit comments from citizens regarding the vision, goals and objectives of the Master Plan. These comments were incorporated into the Plan's listing

of goals and objectives, found in Chapter 2 of this document. Residents were also encouraged to use maps to highlight areas of concern or suggested locations for facilities.

Citizen comments were also solicited toward the end of the planning process. Residents were encouraged to speak at a Town Council public hearing or to provide written comments on the draft master plan document. The majority of citizen comments were in support of the recommendations included within the master plan. Examples include support for “community swimming pools”, “larger

park areas similar to Bond Park”, “more greenways and bikeways inside the Maynard loop”, and more “greenways in the downtown area, preferably connecting to greenways in other, newer areas”. At the public hearing, two residents spoke in support of the plan.

Citizen Survey

A comprehensive citizen survey was conducted to gather information on current participation rates and levels of interest in certain recreation activities. This survey was designed by the Consultant Team, incorporating input from the CAC, and distributed to approximately 800 households. Exactly 258 resident responses were received by the Town, reflecting a higher than average response rate of 31.2%. The response rate and the random sampling



contributed to the resulting representative sampling of Cary residents. Responses for two questions were compared to census statistics to determine the validity of the findings. The number of persons in the household and the age of individuals were compared to the 1993 special census distributions. The largest difference in the number of persons in the household was a 3.04% difference in the proportion of single households. The largest difference in the age categories was a 5.09% difference in the 13-19 years age class. This class was slightly under-represented in the sample. The reported statistics are within the standard of a 5% margin of error. Survey results are summarized in the text and charts that follow.

Survey Summary

The first question of the Cary resident survey determined the respondents who had not lived in Cary for longer than 6 months prior to the survey. Only 6.4 percent of the respondents had lived in Cary for less than 6 months. Two percent of the respondents had moved from one location to another within Cary in the last six months. Residents of Cary that responded who have lived in the community for more than 6 months made up 93.6 percent of the respondents. There was no correction factor used to adjust the reported statistics based on these proportions.

Were you living at this residence in November 1996?		
		Percentages
Total responding to this question	251	100.0%
Did not live in Cary in 1996	16	6.4%
In Cary in 1996, but not this residence	5	2.0%
Lived here in November of 1996	235	93.6%

The length of residence in the community was asked and proportions of the respondents for this question were calculated. The distribution among the categories should not be compared due to unequal time periods. New residents made up 12.6 percent of the respondents, having lived in Cary for less than one year. Long term residents made up a little over 10 percent of the respondents. From this analysis there is clear evidence that the majority of residents have lived in Cary for less than 10 years. No adjustment was made in the reported statistics based on these distributions.

How long have you lived in Cary?						
	<1 year	1-3 years	4-10 years	11-20 years	>20 years	Sum of totals
TOTALS:	32	67	97	31	27	254
Percentages:	12.60%	26.38%	38.19%	12.20%	10.63%	100.00%



Respondents provided their zip code for the third question on the survey. Over 90 percent of the respondents live in the two main zip code areas of Cary.

Zip code Summary		
		Percentages
27502	12	4.78%
27511	143	56.97%
27513	93	37.05%
27560	1	0.40%
27606	1	0.40%
27607	1	0.40%
Total	251	100.00%

The responses of the park nearest to the resident's home provided an indication of the distribution of the sampled households within Cary. This distribution information does not account for instances where residents are unaware of the park located closest to their home. Responses also provided a relative indicator (among parks) of the level of service provided by each park.

# of Households	Park nearest to home
85	Bond Park
19	R. S. Dunham
18	MacDonald Woods
14	Godbold
14	unknown
13	Annie Jones
8	Ritter
6	Regency Park (Symphony Lake)
3	William B. Umstead
2	Dorothy Park
2	Kildaire Farms (private)
2	Black Creek Greenway
1	Apex Park
1	Rose Street
1	Higgins Greenway
1	Lake Crabtree
1	Penny Road School
1	Hemlock Bluffs



The number of visits in the past 12 months by anyone in the household to the nearest park was 10.77 visits. This average included all the households responding, even households with no park visits. The average number of visits for the households which reported at least one visit was 14.24 visits.

MEAN # visits to the nearest park
10.77 visits

Mode of transportation to parks in Cary was an issue raised at one of the CAC meetings. Responses to the question on mode of transportation used for the most recent visit to a park show that most of the respondents are using their cars to get to the parks (74.5 percent).

Car	153
walk	37
bike	7
other	3

The average number of minutes it takes to get to a park from the respondent's house is 7.88 minutes and it is located an average of 2.70 miles from the house.

Mean # of Minutes to Park	Mean # of Miles to Park
7.88	2.70

The number of persons in the household, for those responding to the survey, was compared to the 1993 census estimates of number of persons in households. The distribution of number of persons in the households for those responding was very similar to the 1993 census estimates.

Households	Count	Percent	1993 census
Single	29	11.42%	14.46%
Two Persons	81	31.89%	32.24%
Three Persons	53	20.87%	20.67%
Four Persons	63	24.80%	23.17%
Five Persons	19	7.48%	7.11%
Six Persons	9	3.54%	1.80%
Seven Persons	0	0.00%	0.34%
Eight Persons	0	0.00%	0.22%
TOTAL	254	100.00%	100.01%

The proportion of males and females who were included in the sample households were nearly split evenly with 51.26 percent of the household occupants being female.

Gender	number	percentage
female	385	51.26%
male	366	48.74%
TOTAL	751	

The respondents were asked to provide their household income and to designate if it was a single income or two incomes. For those reporting, 42.6 percent of the households were a single income. The average income for the single income households was about \$60,000 and for the two income households the average was \$86,850. For the 200 respondents who reported their household income the average was \$75,865.

Income Statistics	
Mean	\$75,865
Median	\$73,500
Count	200

Nearly 52 percent of the households that responded were couples with children. Just over 11 percent were singles and just over 31 percent were couples with no children.

Households	Count	Percent
Individual	30	11.81%
Couple	80	31.50%
Single Parent	6	2.36%
Unrelated Adults	6	2.36%
Couple w/Children	132	51.97%
TOTAL	254	100.00%



The survey respondents were asked to select the individual in the household with the most recent birthday to reply to the questions regarding recreation participation and preferences. This random selection method resulted in a distribution of ages which is representative of the general population based on the 1993 census estimates.

Age of individuals with recent birthday			
	Totals	Percent	1993 census
# 12 and under	56	22.31%	20.85%
# 13-19	8	3.19%	8.28%
# 20-29	31	12.35%	15.92%
# 30-39	60	23.90%	23.21%
# 40-49	41	16.33%	16.57%
# 50-59	29	11.55%	8.03%
# 60+	26	10.36%	7.14%

Respondents were then asked about which recreational activities they had participated in during the previous twelve months and which recreational activities they were interested in participating in. Interest was indicated by "extremely interested", "very interested", "moderately interested", "slightly interested", or "not at all interested". Responses to the level of interest and participation questions for 39 recreational activities are presented in the following table. The activities are listed in order according to the left-hand column which indicates interest level. The percentages shown only indicate the number of respondents who reported an "extreme" or "very high" level of interest. The percentages of respondents who participated in an activity during the previous 12 months are also reported in the right-hand column. Levels of participation and levels of interest of 20 percent or more are **bolded** in the table.

For only two activities, *walking along a trail* and *playing at a playground*, the percentages for participation are greater than the percentages of respondents who are extremely interested or very interested in these activities. Interest levels are higher than participation levels for the remaining activities. The greatest percentages of respondents were interested in walking on a trail (65.3 percent), walking in a natural area (60.6 percent), swimming at a pool (49.6 percent), and picnicking (49.1 percent). Less than 10 percent of the respondents had an extreme or very high interest in football (8.9 percent), horseshoes (4.8 percent), or skateboarding (3.8 percent). No respondents showed an interest nor had anyone participated in shuffleboard during the previous 12 months.

Activity Interest and Participation

Activity	% Interest	% participation (12 months)
Walking along a trail	65.30%	71.83%
Walking in a nature area	60.60%	46.01%
Swimming at a pool	49.60%	16.43%
Picnicking	49.10%	45.07%
Viewing wildlife	45.40%	21.13%
Art show or festival	42.80%	33.80%
Bicycling	41.80%	29.58%
Eating lunch at a park	41.40%	28.17%
Attend performance	37.40%	34.74%
Looking at gardens	35.60%	9.86%
Playing at a playground	35.10%	42.72%
Outdoor arts/crafts	33.30%	10.33%
Fitness trail	32.30%	12.21%
Tennis	29.50%	14.08%
Watch sports events	29.20%	23.94%
Mountain biking	28.00%	9.39%
Swimming at a lake	25.60%	5.16%
Golf	24.90%	11.74%
Pedal boats	24.40%	10.80%
Kite flying	23.30%	13.62%
Roller skating/blades	22.10%	13.15%
Soccer	21.10%	16.43%
Canoeing	21.10%	8.96%
Reading outdoors	21.00%	18.31%
Jogging	20.20%	11.79%
Basketball	19.00%	10.38%
Fishing	18.90%	10.80%
Volleyball	17.60%	5.63%
Sailing	17.40%	5.16%
Bird watching	15.10%	12.21%
Softball	15.00%	7.04%
Photography	14.90%	9.39%
Nature study	14.60%	4.23%
Baseball	14.00%	7.04%
Frisbee	12.60%	9.39%
Football	8.90%	3.76%
Horseshoes	4.80%	2.35%
Skateboarding	3.80%	1.88%
Shuffleboard	0.00%	0.00%

Bold > 20%



There were six activities with at least a 20 percent difference between those respondents who had an "extreme" or "very high" interest in the activity and those that participated during the previous 12 months. These six activities were: swimming at a pool, viewing wildlife, looking at gardens, outdoor arts/crafts, fitness trail, and swimming at a lake. There were 11 additional activities with at least a 10 percent difference between those interested and those respondents who had participated. These activities included: walking in a nature area, bicycling, eating lunch at a park, tennis, mountain biking, golf, pedal boats, canoeing, volleyball, sailing, and nature study. For all but three of these activities (volleyball, sailing and nature study), at least 20 percent of the respondents had a "very high" or "extreme" interest in the activity. An assessment of the current level of service and recommendations will be presented in the following section.

Chapter 6: Facility Needs Analysis



This chapter provides general information on the recreational needs of Cary. This includes the number and type of specific recreation facilities needed according to the survey, and the geographic distribution and programmatic needs of the Town. Final recommendations, presented in Chapter 7, are based on all of the needs identified in this chapter. Facility needs can be divided into three important components:

1) the distribution of recreational facilities throughout the Town, which provides information on where facilities currently exist and where they are needed;

2) programmed activity needs, which identifies past and present participation levels of Town-sponsored programs and activities, and defines demand for programmed activity facilities; and

3) the citizen survey needs analysis, which provides information on current public and private needs based on the interest and participation levels identified through the citizen survey;

Information on population figures and the inventory and analysis, discussed in previous chapters, was also used to calculate facility needs.

The first and second sections of this chapter provide important additional information on distribution and programmed activities. The final

section of this chapter provides a facility needs analysis based on information provided by the citizen survey.

Facility Distribution Analysis

In addition to the number and types of facilities needed in Cary, the places where they are needed are an important component of the Facility Needs Analysis. Through an analysis of the location of existing recreation facilities, certain conclusions can be made as to the geographic needs for future parks and greenways. These are summarized below.

In general, the recreational needs of residents living near the downtown area and east of downtown are being met by a combination of mini and neighborhood parks and schools while Ritter Community Park and a few

schools in southern Cary serve the needs of that area. Bond Metro Park serves the needs of residents living to the west of downtown. In some cases, especially near the downtown area, residents may even be overserved by certain recreation facilities. Conversely, citizens living to the north and farther east are in need of recreation facilities. As the Town of Cary grows toward the west and southeast, these areas will also be in need of facilities, since there are none currently located in these relatively undeveloped areas.





Parks

The service radii of community, neighborhood and mini parks were discussed previously and are the basis for the geographic needs analysis. Although the entire Town is served by two regional parks and a metro park, many areas are underserved by neighborhood and community park facilities. As shown in the following location and distribution maps, residents living in northern and eastern Cary are currently underserved by parks (although these areas are more oriented toward commercial and office use). Neighborhood parks are concentrated near the downtown area, and while Ritter and Bond also serve neighborhood park needs, areas to the west and southeast are underserved by park facilities and will be in need of them as the Town grows.

One of the accompanying maps also illustrates the location and distribution of undeveloped park land. This represents land owned by the Town that, if fully developed, could become community and neighborhood park facilities, according to acreage figures. Although much of this land is located in areas of Cary that are currently underserved, gaps in the system remain.

Schools

As discussed earlier, schools are not considered a perfect substitute for parks due to the fact that the needs of students are, of course, a priority. However, in some cases, school facilities such as tracks, multi-use fields and playgrounds are used by citizens when not needed by students. In the Town of Cary, schools are concentrated near the downtown (inside Maynard Road loop) and just east of downtown. The service radii for school facilities overlap in these areas. The only schools located outside the downtown area are Swift Creek Elementary and Penny Road Elementary in the south near Hemlock Bluffs Nature Preserve,

Weatherstone Elementary to the west, and Davis Drive Elementary located just west of Bond Park. It is anticipated that schools will be built in the west and southeast areas of Cary as development occurs.

Private

Private recreation facilities also meet the needs of certain residents. Generally, these facilities are exclusive, admitting only residents of a certain apartment complex or subdivision, but due to the number of these facilities, it would seem that they play a large role in meeting the recreational demands of residents. Two types of private facilities are of special note—swimming pools and tennis courts—and are described below. Private mini-parks are also provided in Cary and are similar in distribution to private playgrounds.

Individual Recreation Facilities

Distribution patterns for certain activity-specific recreation facilities are provided below.

Swimming Pools: All of the swimming pools within the Town of Cary are private facilities. They are scattered throughout the Town, located within certain apartment complexes and subdivisions, with an apparent grouping in the recently developed sections of northern Cary, due to a concentration of apartment complexes. Service gaps for private facilities are in the downtown area and underdeveloped areas to the southeast and west. It is anticipated that private swimming pools will continue to be provided to residents of apartments and subdivisions to be developed in the future. The entire community is underserved by public swimming pools.

Tennis Courts: The majority of tennis courts in Cary are private facilities. The location pattern of private tennis courts is very similar to that of

swimming pools, since many residential areas provide both facilities. Tennis courts are also located in three neighborhood parks which surround the downtown area. Since schools in Cary do not contain tennis courts, all other areas are underserved by public tennis courts at this time.

Playgrounds: Public and private playgrounds in Cary are numerous. The downtown and areas surrounding the downtown could be considered overserved while the north and undeveloped areas to the west and southeast are underserved. Most playgrounds are public, located within neighborhood parks for the most part, with private facilities concentrated at Kildaire Farms and located at a few other PUDs and apartment complexes.

Soccer Fields: Cedar Fork, which is a Wake County park on the northern border of Cary, and the soccer fields near Preston and Park Village developments are public soccer facility locations that serve Cary residents. These are complemented by school soccer fields near the downtown area and semi-private facilities at Kildaire Farms development. Areas in southern, southeast western and northeast Cary are underserved at this time.

Football Fields: Only three fields in Cary are currently used for football play. These are at the multi-use field at Cary Elementary and the football fields at Cary High School and East Cary Middle School. These schools are located near the downtown area, with other areas of the Town underserved.

Amphitheaters: The two amphitheaters located in Cary are at Regency Park and Bond Park. Underdeveloped sections to the west and north are underserved at this time.

Golf Courses: The three private and semi-private golf courses in Cary are located on the northwestern and southern outskirts of the downtown. Underserved areas include the downtown and areas to the west, south and extreme north.

Volleyball: Indoor basketball courts can be used as volleyball courts. Their distribution is discussed below. The only public outdoor volleyball courts provided to Cary residents are located at Lake Crabtree, a Wake County Park to the north of the Town. Private volleyball courts are located in several apartment complexes and subdivisions located on the outskirts of the downtown. Residents living in all areas of Cary, with the exception of these certain residential areas and areas near Lake Crabtree, are underserved.

Basketball: Indoor basketball courts are located at the Community Center and at several schools in the Town. Areas outside of the downtown are underserved by indoor basketball facilities. This is especially true for non-programmed indoor basketball games, where schools cannot be used. Outdoor basketball courts are more prevalent, with public and private facilities serving residents in the downtown area and south of downtown. Underdeveloped areas to the west, south and north are underserved at this time.

Picnic Areas: Picnic areas are numerous and scattered throughout Cary, with the majority of the current population being served. The exception to this are residents living in small sections of the Town to the north, northeastern, and just south of downtown, and the underdeveloped sections to the west and southeast.



Baseball/Softball Fields: The majority of current residents are served by these recreation facilities, especially the downtown area, since many schools and neighborhood parks are located there. Small sections to the east and north are underserved in addition to undeveloped areas to the southeast and west.

Greenways

Greenways are primarily recreational facilities that can also serve transportation purposes. Due to the nature of Cary's greenways, many currently function primarily as recreation places for hikers, joggers, in-line skaters, and/or bicyclists. The greenways and bikeways location and distribution map shows the service areas of existing greenways when they are evaluated as recreation facilities (a neighborhood park service radius was used). Gaps are apparent in many areas, including underdeveloped areas to the west and south, the downtown area, and some northern locations. Residents living in the Bond Park area and within a short distance of the Black Creek Greenway are being adequately served.

The current distribution of greenways in Cary is not conducive to their role as transportation facilities for bicyclists and pedestrians. The greenway system lacks continuity and facilities do not connect origins with destinations, such as shopping centers, schools and office complexes. Additionally, many greenways are unpaved and not recommended for bicyclists, which further diminishes their transportation value.

Bikeways

Bikeways are on-road bicycle facilities that are developed to primarily serve the transportation needs of residents, although they may also serve as recreation facilities. In Cary, bikeways are few

in number, and do not connect to greenways or provide for the needs of inexperienced and child cyclists. As stated in Chapter Three (Existing Conditions), there are five designated bikeways within the Town of Cary, which continue along major roadways. The Greenways and Bikeways Location and Distribution Map indicates that, in many cases, bikeways do not connect with greenway facilities. These connections are important in providing continuity for bicyclists, encouraging transportation use of greenways and bikeways.

The primary bikeway need in Cary is the accommodation of inexperienced cyclists. In order to encourage alternative forms of transportation, which improve air quality and decrease congestion, inexperienced bicyclists need to feel comfortable on local roadways. Cary's current bikeways provide wide outside lanes and shoulders for bicyclists, but do not provide bicycle lanes. Bicycle lanes are the preferred type of bikeway for inexperienced and child cyclists, according to the Federal Highway Administration, and are needed within the Town. Comments from the public workshop for this project also reflect residents' reluctance to use any on-road facility. This may stem from the absence of bicycle lanes in the Town.

Participation Analysis

In addition to the needs identified by the distribution analysis, a comprehensive facility needs analysis for the Town will also include needs identified through an analysis of program participation. In the first section of this chapter, barriers to access for recreation facilities were addressed by presenting information on areas where residents are currently under- or over-served. In this section, the participation analysis, skill and ability barriers to recreation participation are addressed. The programming activities provided by the Town are successful attempts to teach needed skills and

abilities, and offer a competitive environment for teams and individuals. The needs of recreation programs provided by the Town should, therefore, also be included as the third component of the comprehensive needs analysis.

The Town of Cary provides athletic, recreation and arts and crafts programs to the public. Sailing, bird watching, and nature study are activities included in the category of recreation programs. Photography and outdoor arts and crafts are included in the category of arts and crafts. A more detailed discussion of these programs is provided in Chapter Three: Existing Conditions.

Participation in Programmed Activities

	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>
Youth Individual Participants					
Baseball/Softball	1950	2415	2264	2454	2475
Basketball	1260	1270	1190	1190	1180
Other (tennis, golf, volleyball)	350	368	165	180	135
Youth Camp Participants					
Volleyball	N/A	N/A	N/A	37	40
Basketball	N/A	N/A	N/A	225	300
Tennis	N/A	N/A	N/A	53	61
Baseball	N/A	N/A	N/A	84	86
Golf	N/A	N/A	N/A	80	100
Adult Team Participants					
Basketball	495	496	396	492	540
Softball	2200	2240	1635	1560	1665
Volleyball	1581*	1566*	960	1120	1360
Tennis	N/A	N/A	64	80	128
Recreation Program Participants	4350	5000	8793	25387^	27000
Arts & Crafts Program Participants					
Children	1787	2442	2833	5647	7633
Adult	324	369	869	1505	1469

^increase due to change in reporting methods

*includes tennis



Through analyzing the participation figures for Cary's recreation programs over the past five years, it is apparent that participation in all categories is generally increasing, with the exception of individual youth participants. It is anticipated that this trend will continue as the population increases.

Programming deficits are apparent for three athletic programs: youth softball/baseball, youth basketball and adult volleyball. The Town of Cary was forced to turn away a total of 41 individuals interested in youth softball/baseball and 24 individuals interested in youth basketball in the spring of this year. In the fall of 1997, the Town turned away 5 volleyball teams, or 50 individuals, interested in playing adult volleyball. This is the second consecutive season where volleyball teams have been turned away.

The predominant reason cited for these programming deficits was a lack of available facilities at the times when they are needed. (The only alternative to turning away interested individuals would be to adjust scheduling so that games were played late at night or at other inappropriate times.) This information indicates a greater need for softball/baseball, basketball and volleyball facilities.

Additional information on the programmatic needs of residents comes from a 1997 analysis which projected athletic facilities needed to maintain service levels. Based on population figures, the percentage of the population that participated in specific athletic programs, and the number of participants per athletic facility, existing service levels were calculated and forecast into the year 2003. This method indicated that the Town would need eighteen additional ballfields and eight additional gymnasiums by the year 2007.

Citizen Survey Needs Analysis

Summaries of the participation and interest results from the citizen survey provide additional information on the recreational needs of residents. The number of facilities needed according to the survey is factored into the Level of Service recommendations in the following chapter. The method used to calculate these figures is discussed in the following section. Accompanying charts can be found in Appendix A.

Latent Demand

Throughout this section, tennis will be used as an example to demonstrate the method used for calculating level of service. According to the survey, 14.08 percent of the population in Cary participated in tennis during the past 12 months. When compared to those *interested* in playing tennis it is found that 29.5 percent of the respondents had a high interest in tennis. Comparing these results, it seems that about 15 percent of the population who are interested in playing tennis have not done so in the past 12 months:

29.5 % interested
 - 14.1 % participate
 15.4 % latent demand

There may be many reasons for this latent demand, since recreation participation is a function of not only facility availability but also facility location, time and equipment availability, individual skills and abilities, and the level of resident interest in any given day. However, for the purposes of this survey needs analysis, we assume that this shortfall is due to a lack of facilities, because we cannot accurately measure these other factors. In order to adjust our figures so that latent demand is not as inflated, we have only

used the “very high interest” and “extremely high interest” survey responses for each activity. “Slightly interested” and “moderately interested” survey responses were not used.

Minimum Population Service Requirement

The minimum population service requirement combines the available supply generated by one facility and the current demand generated by one individual. The calculation provides an estimate of the number of individuals served annually by current facilities and services.

Current

For example, the current supply of tennis courts, both public and private, is 113, as identified in Chapter Three (Existing Conditions). This number is divided into the total population of Cary to calculate the current level of service requirement of 725 persons per tennis court:

$$81,960 \text{ pop} , 113 \text{ courts} = \mathbf{725} \text{ persons/court}$$

(Note: the population figures used in calculating survey results differ slightly from population figures used to calculate recommendations, due to the fact that revised population figures were not available until after the survey results had been published.)

Needed

This calculation shows that 725 people are currently being served by each available tennis court. It was determined, however, from the survey results that 14.08 percent of the population was participating in tennis while 29.5 percent had a high interest in participating. These results suggest only about half (47.7 percent) of the residents who were interested in tennis are actually participating. Therefore, the number of courts is too low and needs to be adjusted if current needs (as identified in the survey) are to be met.



To remedy this shortfall identified by the survey , the total number of courts needed can be calculated by dividing the current number of courts by the proportion of the demand that these courts are currently satisfying:

113 existing public and private courts
 .477 proportion of current tennis demand being satisfied (roughly half of the population)

113 courts , .477 = **237** Total courts Needed
 (237-113 = 124 additional courts needed)

A population service requirement which includes the latent demand (what is needed based on the survey) can then be calculated by dividing the number of total courts needed into the population:

81,960 pop , 237 courts = **346** persons/court

Table 1 showing the current and needed number of public and private facilities, and Table 2 showing the population service requirement for all recreation facilities, are provided in Appendix A.

Level of Service

Current

The total number of facilities needed to provide recreation opportunities at the current level of use can be presented as a level of service (LOS) value. A LOS value indicates the number of residents served by a facility and can be calculated by dividing the number of units by the population (in thousands).

The current level of service can be calculated by dividing the number of existing facilities by the current population:

113 tennis courts , 81,960 persons =
1.38 courts per 1,000 population
 (1000 , 1.38 = 725 persons per court)

Needed

Similarly, facilities per thousand population needed can be calculated, to account for the current use plus the latent demand.

237 tennis courts , 81.960 persons =
2.89 courts per 1,000 population

(1000 , 2.89 = 346 persons per court)

Tables 3, provided in Appendix A, lists the current level of service for all activities and needed level of service based on the interest of residents as expressed in the survey.

Public Facility Needs

The LOS for facilities provided in Cary are a mix of public and private offerings. For example, of the 113 tennis courts inventoried in Cary, 94 courts are private. These courts are provided by private clubs and housing complexes. The 19 public courts (including schools) make up 18.58 percent of the total. *Assuming the current private/public mix of facilities will remain constant as new facilities are added*, the public proportion of facilities can be calculated. The number of public courts that would be needed based on the current public/private proportion can be calculated by multiplying the current public portion provided by the total number of courts needed.

18.58% public portion x 237 courts needed =
44 public courts needed

Table 4, provided in Appendix A, shows all the facilities that are currently provided by the Town (including schools) and those that would be needed based on the current public/private proportions.

Chapter 7: Park and Facility Recommendations



Based on the recreational needs of Cary residents, as defined in the previous chapter, recommendations for park and facility development to the year 2010 were defined as shown on the following pages.

Park recommendations are derived from Level of Service (LOS) figures for each park type. These LOS numbers are based on the distribution needs for future parks (to ensure that all areas of Cary are served), the need for facilities to accommodate Town athletic programs, and the Town's vision for how parks and recreational facilities should be developed into the next century.

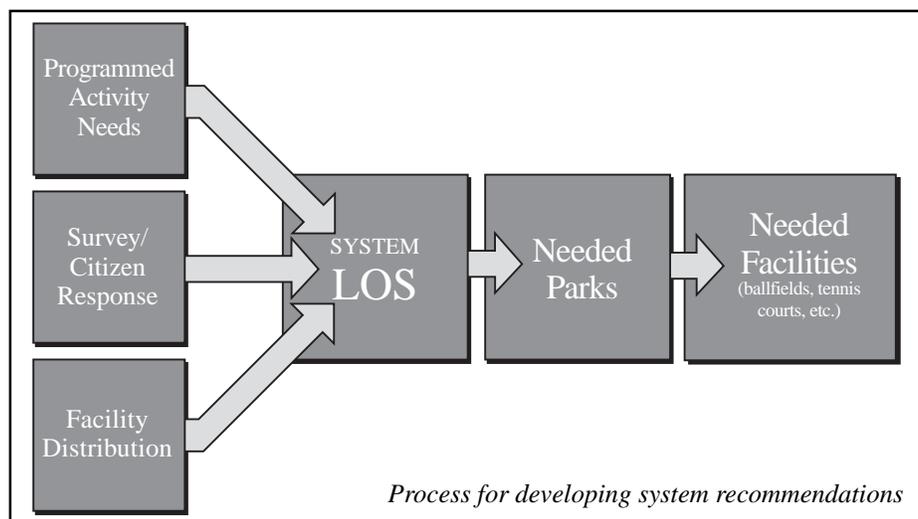
In order to provide this level of service, a total of 25 public park facilities will need to be developed by 2010. This includes 17 neighbor-

hood parks (which includes school park facilities), 5 community parks, 1 metro park, 1 tennis center, and 1 aquatic center. These park facilities are in addition to the 9 existing neighborhood, community and metro parks in Cary.



Recommendations for private facilities are not included in the figures for needed public parks and park facilities, as shown in this chapter. It is assumed that the private sector will continue to provide private recreation facilities at current levels.

Recommendations for parks and park facilities are comparable to standards set by other state and local municipalities, as well as the results of the citizen survey, as shown in this chapter.





Park and Facility Recommendations

Park Type	Current	Needed	Current <u>Acres*</u>	Additional Acres Needed to Meet LOS			
	<u>LOS^</u>	<u>LOS^</u>		1998	2002	2007	2010
Neighborhood	.89	2.2	73.27	120.88	39.23	52.79	32.17
Community	.42	2.1	34.54	150.78	37.44	50.39	30.71
Metro	3.5	3.2	283.25	< 0	56.20	77.63	46.79

^acres per 1,000 residents *developed park site acreage

Park Type	Current	Number of Additional Parks Needed to Meet LOS				
	<u>Parks</u>	1998	2002	2007	2010	Total
Neighborhood Parks	7	8	3	4	2	17
Community Parks	1	2	1	1	1	5
Metro Parks	1	0	0	1	0	1
Special Use facility: tennis	0	0	1	0	0	1
Special Use facility: aquatic	0	0	1	0	0	1

Park Facilities Needed	Current	Number of Additional Facilities Needed to Meet LOS				
	<u>Facilities</u>	1998	2002	2007	2010	Total
playgrounds	25	10	4	7	3	24
outdoor basketball courts	27	16	7	12	6	41
picnic shelters	4	4	2	5	2	13
walking trail (miles)	16.7	8.0	3.5	7.0	3.0	21.5
sand volleyball	0	10	4	7	3	24
baseball fields	24	10	5	11	5	31
free play fields	13	10	4	7	3	24
multi-purpose courts	13	10	4	6	3	23
tennis courts	19	8	16	4	4	32
community center	1	2	1	2	1	6
amphitheater	2	0	0	1	0	1
soccer fields	19	8	3	4	2	17
indoor basketball/ volleyball courts	10	5	3	5	3	16

Assumes the following population figures: 88,249 in 1998; 106,079 in 2002; 130,073 in 2007; 144,696 in 2010.

Includes public parks and facilities only

Current Parks and Facilities

The number of current parks and acreage shown in the recommendations chart is derived from the inventory of existing conditions, as described in Chapter Three. Neighborhood, community and metro parks are included as current parks, while mini parks and special use facilities are not included.

Current park facilities shown on the recommendations chart are also derived from the inventory of existing conditions. All current park facilities listed include those found in Town parks (mini, neighborhood, community, and metro parks), schools, and special use facilities. Facilities within adjacent and regional parks are not included. Specific details on current park facilities included on the recommendations chart are provided below.

- Playgrounds include those found in Town parks and schools. Two playgrounds at Lake Crabtree and one playground at Cedar Fork District Park are not included.
- Indoor basketball/volleyball courts include those within schools and the Community Center. The Center accounts for two courts, while school courts account for one court each since they are shared facilities.
- Outdoor basketball courts and tennis courts include those found in Town parks and schools.
- Picnic shelters include those within Town parks.
- Miles of walking trail include the Town's greenways and trails located within Town parks.
- There are no sand volleyball courts within Town parks. The two courts at Lake Crabtree are not included.
- Baseball fields include those found in Town parks and schools.
- Free play fields include the fields at Bond Park and Godbold Park. One free play field is also included for each elementary school.
- Multi-purpose courts include one court for each elementary and middle school, with the exception of West Cary Middle School. There are no multi-purpose courts in Town parks.

- Community centers include the Town's Community Center, and do not include other special use facilities. Amphitheatres include one in Bond Park and one at Symphony Lake Park.
- Soccer fields include those within Town parks and schools. The seven soccer fields at Cedar Fork District Park are not included.

Park Recommendations

Park recommendations are derived from Level of Service (LOS) figures for each park type. These LOS numbers are based on the distribution needs for future parks (to ensure that all areas of Cary are served), the need for facilities to accommodate Town programs, and the Town's vision for how parks and recreational facilities should be developed into the next century.

In order to provide this level of service, 25 new park facilities will be needed, in addition to current facilities, by 2010. Acreage recommendations were derived from the level of service and population figures. Average park sizes were used to formulate the number of parks needed from acreage recommendations. The average size for a neighborhood park is 10-20 acres, the average size for a community park is 25-100 acres and the average metro park is 100 or more acres.

Mini Parks

Mini parks are not included in park recommendations, since the Town is not planning to build additional parks of this type. Mini parks are small facilities, less than two acres in size, which serve residents within one-half mile of the park. Mini parks generally function as open space or contain a limited number of small facilities such as picnic areas, play structures and basketball slabs. Although the Town will continue to maintain these parks currently in its system, it does not plan to continue to acquire new tracts of land in this category. Exceptions to this, however, might



occur in highly developed areas where larger tracts of land cannot be obtained. The private sector should also provide new mini parks in the future. In place of new mini parks, the Town intends to concentrate future land acquisition efforts on neighborhood parks. By consolidating facilities into these larger tracts of land, efficiency is increased for both maintenance and security operations and residents can still benefit from parks which are in close proximity to their homes.

Neighborhood Parks

The neighborhood parks recommended for Cary are intended to serve the daily recreational needs of citizens by providing less formal, more spontaneous usage. They will be between 10 and 20 acres in size and will serve citizens living within one mile of the park. The location of neighborhood parks, as shown on the recommendations map, will ensure convenient access by nearby residential areas. Generally, non-programmed facilities will be provided, such as playgrounds and multi-purpose fields for kite flying, frisbee throwing or ball throwing. Neighborhood park facilities usually include:

- playground
- small outdoor basketball court
- paved or unpaved walking trail
- sand volleyball court
- free play area
- multi-purpose court
- ¥ soccer field
- ¥ buffer or open space

School parks are also included in the category of neighborhood park facilities, as the two park types have the same service radius and provide similar facilities. School parks are defined as shared Town/School facilities and are an excellent example of public partnerships which combine available resources to suit the recreation needs of students and residents alike. In addition

to the facilities listed above, school parks may provide a gymnasium with indoor basketball and volleyball courts, and additional athletic fields.

Neighborhood parks at Wellington, Davis Drive, Jenks Carpenter Road, Preston Village, Sears Farm Road, and East Cary are currently planned by the Town. These six parks would be included as part of the 17 recommended neighborhood parks.

Community Parks

A total of five additional community parks are recommended to be developed by the Town of Cary by 2010. These parks are typically 25 to 100 acres in size and would serve those living within a 2 mile radius. Community parks typically serve the needs of several neighborhoods although they may also serve as a neighborhood park for nearby residential areas. Like metro parks, community parks are accessed largely by automobile and focus on facilities for organized sports, ranging from baseball to tennis. Community parks may include community centers or other special use facilities. Typically, community park recreation facilities include:

- ¥ picnic shelters and tables
- ¥ small outdoor basketball courts
- ¥ baseball/softball fields
- ¥ paved or unpaved trails
- ¥ playground
- ¥ tennis courts
- ¥ sand volleyball courts
- ¥ free play area
- ¥ multi-purpose court
- ¥ community center
(including indoor basketball/volleyball courts)
- ¥ buffer or open space

A community park in North Cary is currently planned and would be included as one of the five recommended community parks. Additionally,

another of the proposed community parks is recommended to be located near Jordan Lake. Sections of this community park could be focused on nature-oriented activities, similar to the Hemlock Bluffs Nature Preserve, since this is an environmentally sensitive area within the watershed.

Community centers, as listed for community and metro parks, include traditional community centers as well as enhanced school park gymnasiums.

Metro Parks

One metro park, in addition to Bond Park, is recommended to be developed in Cary. This metro park would be over 100 acres in size, serving the entire community. Access would be primarily by vehicles and the park site would be located along major transportation routes, if possible. The metro park will provide more programmed service and may have lighted components for extended hours of use. Typical recreation facilities within a metro park could include:

- lake for boating/fishing
- paved or unpaved trails
- picnic shelters and tables
- baseball/softball fields
- community center
(including indoor basketball/volleyball courts)
- playgrounds
- amphitheater
- small outdoor basketball courts
- sand volleyball courts
- free play area
- multi-purpose court
- buffer or open space

A metro park in West Cary, to be named Tom Brooks Park, is currently planned as the recommended metro park.

Special Use Facilities

Special use facilities are dedicated to one specific recreational use and serve the entire community. A tennis center and aquatic center are special use facilities recommended for development by 2010, since the tennis center is already planned for development in West Cary and a high level of interest was identified for an aquatic center. No specific size is recommended for this park type. Eight to twelve courts are planned for immediate development at the tennis center, while the facility could be expanded to include as many as 36 courts. The aquatic center could be developed at a community or metro park, possibly as part of a community center. Other special use facilities, such as nature parks, gardens, museums, and amphitheaters, are also recommended for development as opportunity and need arise, within proposed park sites or at independent locations.

Comparative Standards

The level of service for park types that is recommended for the Town of Cary is comparable to that of other local communities. Wake County's Park Plan calls for a level of service of 7.5 acres per 1,000 residents, which is very similar to the level of service proposed for Cary. Apex is planning on developing 11 acres for every 1,000 residents. This figure is higher than Cary's level of service because regional parks, adjacent parks and special use facilities are included in this figure for Apex, and not for Cary. In the past, Cary has strived to meet a 10 acres per 1,000 residents level of service. This acreage figure, however, includes double-counting for park facilities. For example, a community park's total acreage would count towards a community park, and the portion of the acreage within that community park that is the size of a neighborhood park (10-20 acres) would also count towards a neighborhood park. The justification for this double-counting is that the community park would also serve as a neighbor



hood park for surrounding communities. Although this is true, level of service figures within this Plan do not use a method that involves double-counting of acreage and, therefore, are lower than previous figures. Raleigh's parks plan proposes a level of service of 15.6 acres per 1,000 people. This figure is high because it includes special use facilities, greenways and regional parks, none of which are included in Cary's proposed level of service figures.

Parks Distribution

The distribution of future parks in Cary is equally as important as the number of parks recommended for development. The map of proposed park type distribution shows general locations for all existing and proposed neighborhood, community and metro parks in 2010. Park locations were chosen based on existing undeveloped park sites, the service radius of each park type, locations of existing recreation facilities, existing and proposed land use, and future development patterns in Cary. As the map demonstrates, build-out would occur in 2010, with a vast majority of the future population of Cary served by one or more park types. The proposed tennis center is shown at its planned location. The aquatic center is proposed to be located near downtown Cary, closer to the underserved residents living in older sections of the town, where private swimming opportunities are currently limited.

Facility Recommendations

Facility recommendations are derived from the lists of facilities contained within each park type, as defined above. These figures are not based on facility standards, but on the individual facilities which are envisioned to be developed within neighborhood, community and metro parks. Since these lists represent typical facilities,

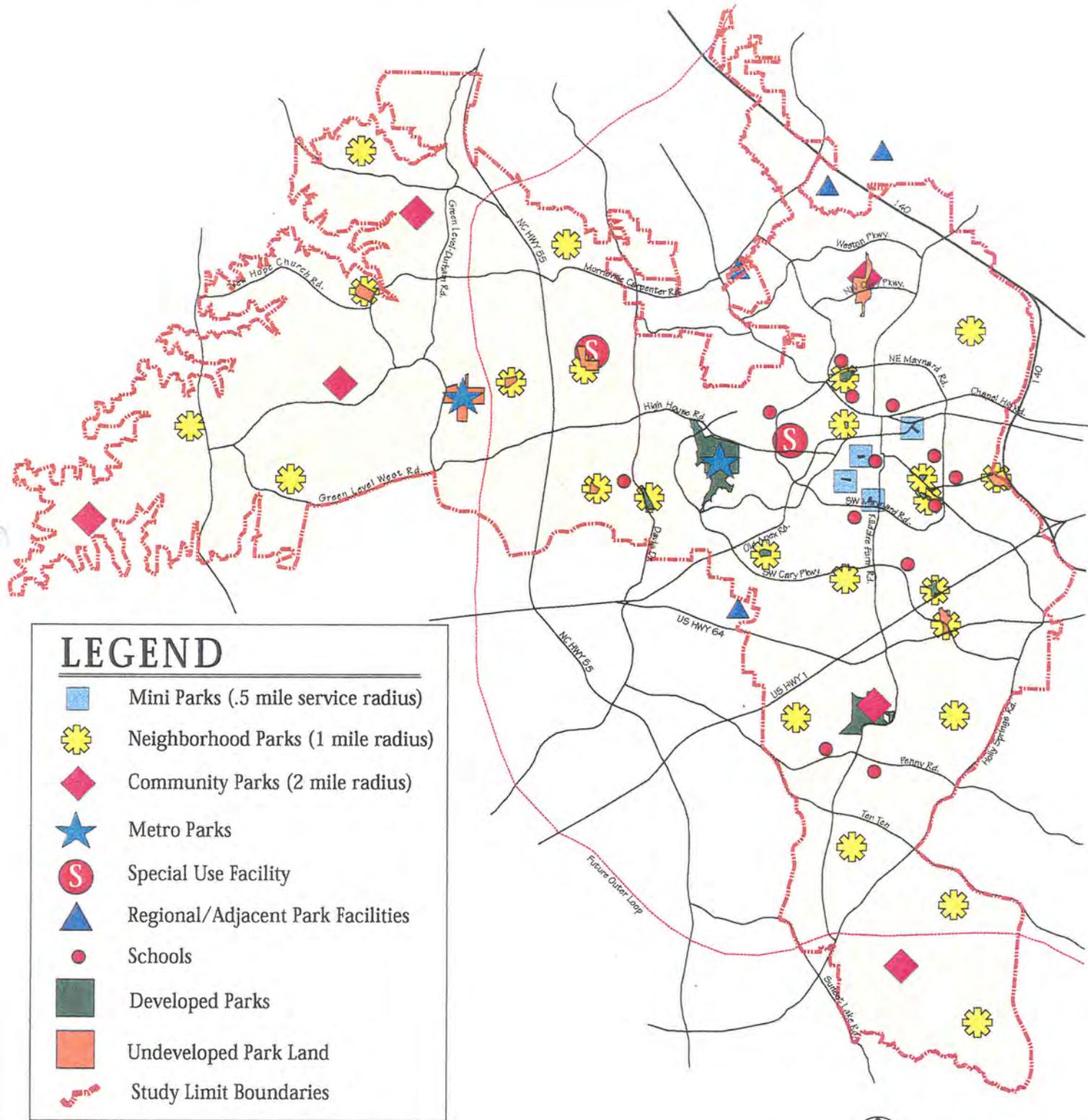
the numbers assigned to future facilities, therefore, represent typical numbers and should be considered flexible guidelines which can be adapted to unique opportunities or situations. For example, one community center is envisioned to be developed for each future community or metro park in Cary. However, this does not necessarily mean that the center must be developed within the park site. A community center at Bond Park is scheduled to be built in the near future. Although this facility would not be located within one of the six new community or metro parks, it would account for one future community center facility. This would imply that one of the six future park sites would not include a community center.

Citizen Survey Comparison

The total numbers for facility recommendations were compared to figures generated by the citizen survey in order to ensure that the needs of citizens would be met by these recommendations. Figure 4 in Appendix A, Public Facility Needs, shows the 1998 needed facilities as identified by the citizen survey to be higher than the 1998 figures, but very similar to the total (1998-2010) figures, for facility recommendations. The total facility recommendations and the 1998 survey needs are comparable when one takes into account the fact that the survey numbers are somewhat inflated. (This inflation exists because survey results assume that the reason a resident is interested in an activity, and is not participating in that activity, is due solely to a lack of facilities. In actuality, this deficit could be attributed to a lack of abilities, initiative or leisure time.)

Town of Cary

Parks, Greenways & Bikeways Master Plan



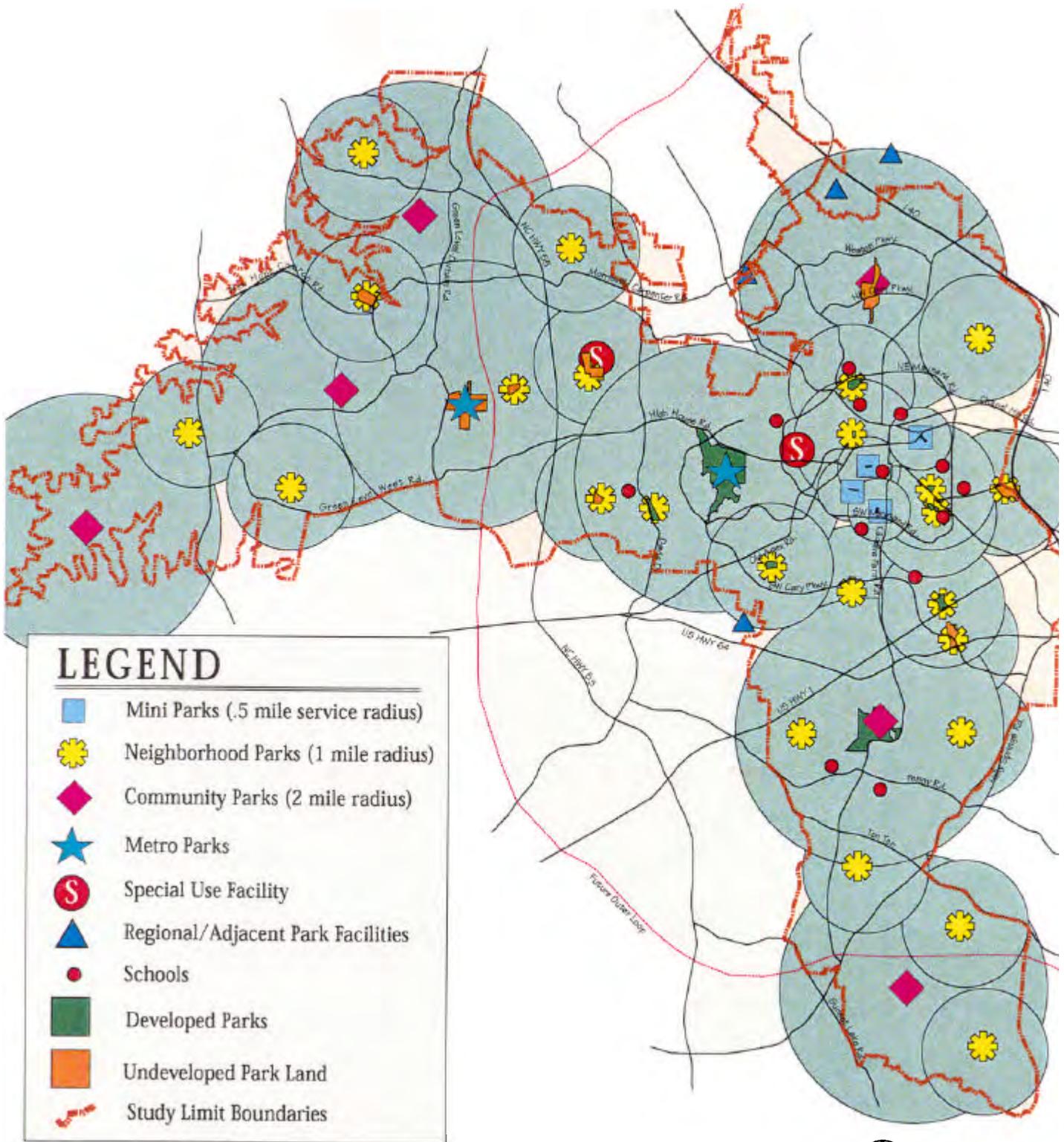
Proposed Park Distribution



SCALE: None

Town of Cary

Parks, Greenways & Bikeways Master Plan



Proposed Park Distribution

 **SCALE: None**

Chapter 8: Greenway and Bikeway Recommendations



System Recommendations

A continuous system of greenways and bikeways is needed throughout Cary to transform the current system of fragmented recreational paths into a multi-objective system. Not only could greenways and bikeways be used to fulfill recreation

objectives, but also alternative transportation, water quality improvement, natural resource protection, and floodplain management objectives.

The greenway and bikeway system is recommended to be off-road wherever possible, with on-road facilities developed to "fill the gaps". Existing greenways would be extended and would connect to form continuous routes. Major origins and destinations would link with the system, including RTP, downtown Cary, Bond Park, Lake Crabtree, Cary Towne Center and numerous Cary neighborhoods. The system should also link with any future regional rail stops within the Town to encourage alternative transportation use.



The system is comprised of approximately 70 miles of greenways and 50 miles of bikeways. It is designed to connect with existing and proposed on- and off-road facilities within adjacent municipalities. Greenways and bikeways in Cary would connect with Raleigh's greenway and

bikeway system, Apex's greenway system, the American Tobacco Trail, and the trail system within RTP.

Greenways

Through the public input process of this Plan, citizens identified their preferences for off-road bicycle and pedestrian recreation facilities. Cary is

primarily a place for families with small children to live, according to demographic data, and parents feel more comfortable if their children are riding bicycles on a trail, rather than a roadway.

In addition to recreation and fitness facilities, greenways could also serve as alternative transportation routes for bicyclists and pedestrians. These routes would provide residents with the option of traveling to work, school, shopping centers and parks without an automobile. This would, in turn, help to reduce roadway congestion and improve air quality.



Off-road greenways are proposed along several waterways within the Town of Cary. Greenways along waterways can serve a variety of purposes. Not only can they be used for trail development, which provides recreation and transportation benefits, but greenways can also contribute to water quality, floodplain management and wildlife habitat benefits in the community. Greenways can improve water quality by providing a natural, vegetated buffer along waterways which acts as a pollutant filter. This buffer absorbs sediment, pesticides, oil, and other non-point source pollutants which run into waterways every time it rains. This natural buffer also serves to absorb more water than pavement and other impervious surfaces, and, therefore, slows down the flow of rainwater. In doing so, the amount of water reaching the creek or stream during a storm event is reduced and so the amount of downstream flooding is reduced. As Cary continues to develop, more impervious surfaces will be built, making the need for greenways as floodplain management tools even greater. Greenways, as natural streamside areas, can also provide precious habitat for a variety of plants and animals in an area that is developing at a rapid rate.

In addition to the greenways located along waterways, a rail-with-trail facility is proposed as part of the system. This trail would share the railroad right-of-way with Amtrak and would extend into Raleigh. Studies by the Rails-to-Trails Conservancy have shown that rail-with-trail facilities, if designed properly, are extremely safe, as proven by successful projects across the United States.

Neighborhood greenways are not considered a part of the greenway and bikeway system recommendations. However, the Town strongly encourages private developers to implement these

private greenways as opportunities become available. Such greenways would serve as connectors which would "feed into" the primary system.

Greenways proposed for Cary would connect with existing and proposed facilities in Raleigh, Apex, and west of the proposed Outer Loop. The proposed Walnut Creek greenway in Cary would connect with Raleigh's greenway system and eventually extend to Lake Johnson and the Walnut Creek amphitheater. The greenway proposed along Swift Creek would connect to Apex Community Park and a greenway proposed by the Town of Apex. Two proposed greenways, along Panther Creek and White Oak Creek, are proposed to connect with the American Tobacco Trail, a regional rail trail proposed to extend to Durham and Jordan Lake.

The level of use for greenway facilities could range from no facility development to development of a 12-foot wide paved trail and associated amenities (signage, parking, benches, etc.) Wherever possible, paved trail development is recommended to provide bicyclists with an alternative transportation system throughout the Town. Where this is not possible, due to physical or other constraints, greenways could serve as natural buffers to improve water quality, reduce the impacts of flooding, and provide habitat. In areas where paved trail development is discontinuous, connections should be made via on-road pedestrian facilities. It is also recommended that existing greenway trails be upgraded to 10-foot wide paved facilities in order to better serve as transportation trails.

Due to the developed nature of many areas of Cary, future greenways will cross major thoroughfares. Several options are available that provide

safe roadway crossings for greenway users: signalized at-grade crossings, underpasses and overpasses. Major roadways carrying heavy, high speed traffic will require that one of these options be implemented for safe greenway crossings. Although signalized at-grade crossings are less expensive, overpasses/underpasses are considered safer alternatives and may be necessary if such a device would significantly impact traffic flow.

Proposed greenway corridors are listed below, in order of implementation priority. Priorities should be considered flexible and are subject to change according to future opportunities. Priorities are based on connectivity of proposed greenways as well as development feasibility.

High Priority

- American Tobacco Trail (portion through Cary's planning area)
- White Oak Creek (American Tobacco Trail to Davis Drive)
- Black Creek (Chapel Hill Road to existing greenway)
- Walnut Creek (Maynard Road to Buck Jones Rd)

Medium Priority

- Swift Creek (existing trail east to Raleigh)
- Coles Branch (Crabtree Creek to High House Road)
- Rail-with-Trail (Crabtree Creek to Raleigh)
- Crabtree Creek (Bond Park to Black Creek)
- Bachelor Branch (Tom Brooks Metro Park to Highway 55)
- Panther Creek (American Tobacco Trail to Highway 55)
- Preston Village Area (greenway along unnamed stream connecting the Bachelor and Panther Creek Trails)
- Brooks Park Connector (Brooks Park to White Oak Creek Greenway)

Low Priority

- Camp Branch (Kildaire Farm Road to Rocky Branch Greenway)
- Rocky Branch (Kildaire Farm Road to Middle Creek)
- Dutchman's Branch (Kildaire Farm Road to Holly Springs Road)
- Speight Branch (Swift Creek to Walnut Street)
- RTP connector (Crabtree Creek to Davis Drive)
- Kit Creek (American Tobacco Trail to Davis Dr)
- West Cary Trail (American Tobacco Trail to future park near Jordan Lake)
- Oxford Hunt (existing portion of greenway to Annie Jones Park greenways)

Bikeways

Bikeways, by definition, are on-road bicycle facilities. Bikeways in Cary would serve as on-road bicycle facilities to connect existing and proposed off-road greenways and major origins and destinations. These linkages would encourage bikeway use for transportation purposes. Bikeways could also be used as recreational facilities, especially for cyclists interested in riding during weekends and off-peak hours. Proposed bikeways would also link to existing bikeways along Cary Parkway and sections of High House Road, Kildaire Farm Road, Maynard Road and Walnut Street.

Major roadways in Cary are recommended for bikeway facility development, including Highway 55, Davis Drive and Harrison Avenue. Bikeways are also recommended along sections of High House Road, Old Apex Road, Kildaire Farm Road, Walnut Street and Maynard Road, to provide a continuous facility along these roadways with existing bikeways. Minor roadways inside the Maynard bikeway loop would serve as "spokes in the wheel" for cyclists traveling into the downtown area. Neighborhood streets are not



identified as proposed bikeway routes since they are already considered bicycle-friendly, due to low traffic speeds and volumes, and would connect to the primary greenway and bikeway system.

The bikeway system would connect with existing and planned bikeways in Raleigh and Cary. Bikeways along portions of Holly Springs Road, Penny Road, and Jones Franklin Road are recommended, to connect with corridors identified in the Raleigh Bicycle Plan. State Bike Route 5, along Ten Ten Road, and Bike Route 2, along Carpenter Upchurch Road, are also included in the bikeway system. Many proposed bikeway segments are also proposed by in the Transportation Improvements Program (TIP), including sections of Harrison Avenue, Walnut Street, and Kildaire Farm Road.

Bikeways include three categories of on-road bicycle facilities: striped bike lanes, paved shoulders, and wide outside lanes. Bicycle lanes are 4-6 foot wide lanes designated for bicycle use with signage and pavement markings. Paved roadway shoulders are 3-4 feet wide and separated from traffic lanes by pavement striping. Wide outside lanes are traffic lanes that are 14-16 feet wide, which provide adequate room for an automobile to pass a bicyclist without needing to change lanes. Currently, Cary's bikeways primarily consist of wide outside lanes.

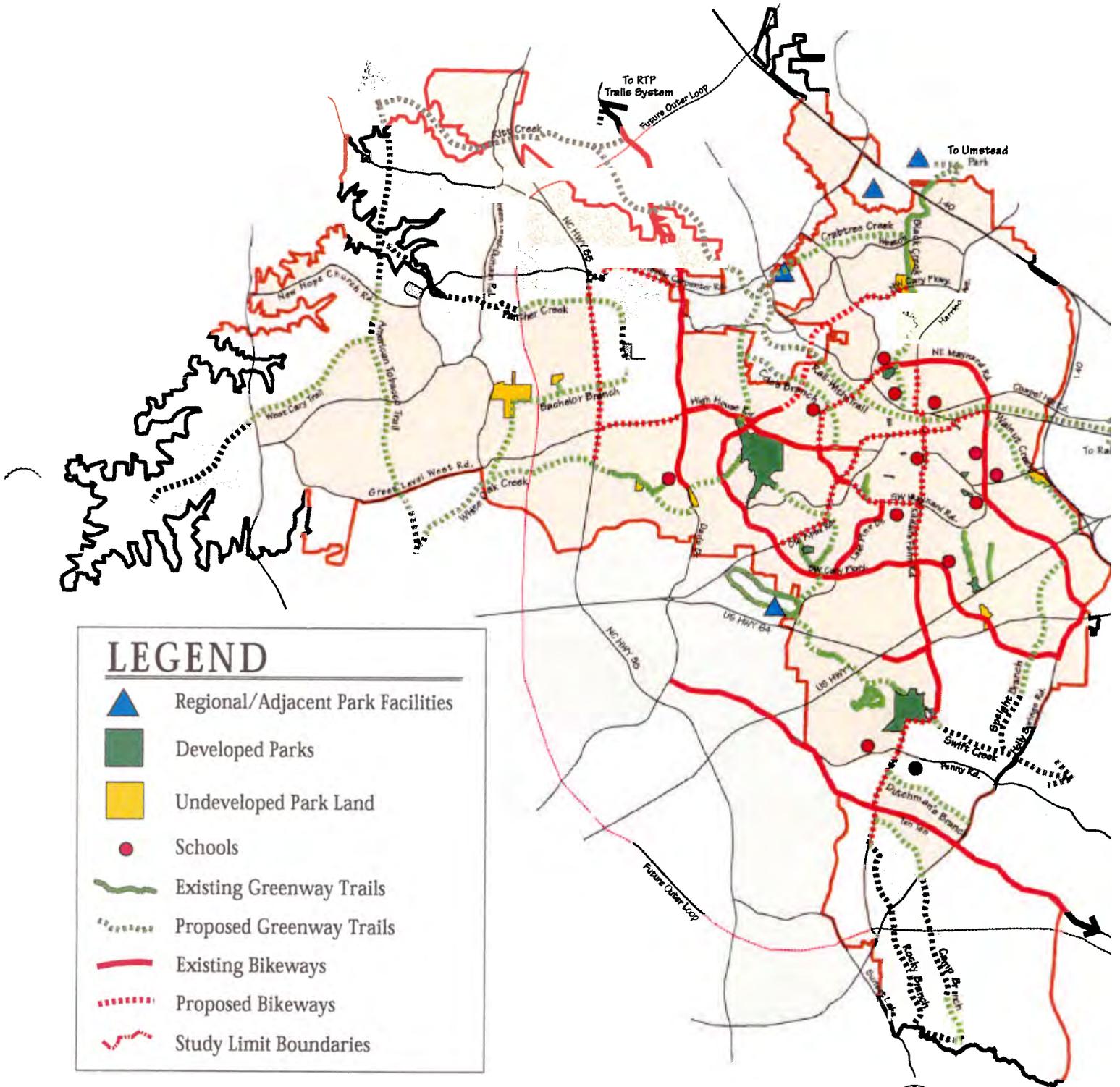
Striped bike lanes are the recommended bikeway facility for all proposed bikeways within the Cary system, due to the fact that inexperienced cyclists are most likely to use this type of bikeway. Bike lanes are also the facility of choice due to the current public perception of how dangerous some existing Cary bikeways are, as reflected in citizen comments. However, where bike lane development is not possible, wide

outside lanes or paved shoulders should be developed to, at a minimum, encourage use by intermediate and advanced cyclists.

Since many roadways proposed for bikeway development are not owned by the Town of Cary, Town staff will need to coordinate with NCDOT and their policies and guidelines as they apply to bikeway development. In order to reduce the costs of implementation, proposed bikeways should be developed as part of any future NCDOT roadway improvements, including roadway widening, repaving or construction projects. Additionally, as any major roadway is improved in Cary, the Town should take advantage of this opportunity for bikeway development, regardless of whether the roadway is identified for a proposed bikeway facility in this master plan.

Town of Cary

Parks, Greenways & Bikeways Master Plan



Greenways & Bikeways Recommended Routes

NORTH SCALE: None

Chapter 9: Implementation

Park System Cost Estimates

Park and Facility Development

Provided below are estimates of typical costs associated with development for the various park types recommended in this Master Plan. These costs are divided into four phases and do not include land acquisition costs, since such costs are very difficult to provide in terms of averages. Estimates are based on current, regional, average construction cost figures provided by North Carolina State University's Parks, Recreation and Tourism Management Department and past average construction cost figures from Raleigh

and Cary. Estimates assume the use of contract labor and high quality construction materials and labor. Cost estimates for each park type are based on the listing of typical facilities provided in Chapter Seven. Estimates are based on today's costs and do not factor in inflation.

The following estimates should only be used as a very preliminary guide to future decision making. The accuracy of these estimates is not guaranteed. More accurate estimates will need to be compiled during the preparation of construction documents for each park site.

<u>Phase I: 1998</u>	<u>Cost</u>	<u>Phase III: 2007</u>	<u>Cost</u>
8 Neighborhood Parks	\$6,480,000	4 Neighborhood Parks	\$3,240,000
2 Community Parks	\$5,750,000	1 Community Park	\$2,875,000
2 Community Centers	\$5,500,000	1 Metro Park	\$4,990,000
		2 Community Centers	\$5,500,000
Total for Phase I	\$17,730,000	Total for Phase III	\$16,605,000
<u>Phase II: 2002</u>	<u>Cost</u>	<u>Phase IV: 2010</u>	<u>Cost</u>
3 Neighborhood Parks	\$2,430,000	2 Neighborhood Parks	\$1,620,000
1 Community Park	\$2,875,000	1 Community Park	\$2,875,000
1 Community Center	\$2,750,000	1 Community Center	\$2,750,000
1 Aquatics Center	\$7,500,000		
1 Tennis Center	\$2,500,000		
Total for Phase II	\$18,055,000	Total for Phase IV	\$7,245,000



Operations and Administration

Estimates for operations and administration costs can be calculated by projecting the current cost per acre out to the year 2010. In 1997, a total of \$2,046,672 was spent on operations and administration for 593.54 developed park acres, which amounts to \$3,448 spent per acre. When this dollars per acre figure is projected to 2010, the following operations and administration costs can be estimated:

<u>Phase</u>	<u>total acres</u>	<u>cost</u>	<u>% increase</u>
1998	865.20	\$2,983,210	46%
2002	971.87	\$3,351,008	12%
2007	1,208.88	\$4,168,218	24%
2010	1,271.76	\$4,385,028	5%

(Note: the large percentage increase in land and costs in 1998 is attributed to the Town "catching up" to the current needs of the population. The larger increase in 2007 is attributed to the metro park proposed to be developed during this phase.)

Greenways and Bikeways: Priorities and Costs

Greenways

It is recommended that greenways be developed at a rate of 2 miles per year in order to meet the needs of Cary residents. This would translate to developing 2 additional miles of greenway in 1998, 8 more miles by 2002, 10 more miles by 2007 and 6 more miles by 2010. Greenway development should continue at this rate beyond 2010 to ensure complete development of the proposed system.

Costs of greenway development can vary greatly, based on several site-specific factors, including: the amount of wetlands present; soil and drainage conditions; the need for retaining walls or stream crossings; and the desired amount

of landscaping, signage, restrooms, parking and other amenities. A typical cost for development of an asphalt trail is \$250,000 per mile, which does not include land acquisition. This figure should only serve as a general guideline, as greenway development can vary from as little as \$160,000 per mile to as much as \$1 million per mile or more.

Bikeways

Bikeway priorities should be based on opportunities. It is far more cost effective to develop bikeways as roadways undergo major improvements, such as widening or repaving. The Town should coordinate such projects with NCDOT. If the Town also desires to undertake retrofitting roadways to develop bikeways, major roadways which already contain sections of bikeway should be targeted first, such as Maynard Road and Walnut Street.

Typical costs for bikeways cannot be provided because these costs can vary substantially, based on: the location of the bikeway, which affects land acquisition costs; existing right-of-way constraints; whether it is being developed as a retrofit project or as part of a larger roadway improvement project; the existing and desired pavement width (adding two feet to a lane versus adding four to six feet for a bike lane); and other factors. Accurate cost estimates will need to be developed as sites are selected.

Land Acquisition Strategies

Recreation lands can be acquired through a variety of mechanisms. These can range from donations of land to required dedication to land condemnation, as described below. Some of these methods may require enabling legislation.

Donation: Individuals and organizations can donate land to the Town for recreational purposes. In return, the donor is eligible to receive federal and state deductions on personal income and may be able to avoid inheritance taxes, capital gains taxes and recurring property taxes.

Fee-simple Purchase: This is a relatively simple and direct method of acquisition where the Town would purchase property outright, conveying full title to the land. Opportunities to purchase tax delinquent property should be investigated.

Easements: The purchase of an easement entitles the Town to only those rights granted in the easement agreement, making the purchase price less than full title value. Easements are typically acquired at the time of final subdivision plat approval and recordation, but can also be solicited from landowners who may receive a tax deduction.

Bargain Sale: A property owner can sell property at a price that is less than the appraised fair market value of the land. Sometimes the seller can derive the same benefits as if the property were donated. Bargain sale is an attractive option to sellers when the seller wants cash for the property, paid a low cash price and thus is not liable for high capital gains taxes.

Option of First Refusal: The Town can establish an agreement with a property owner to provide the right of first refusal on a parcel of land that is scheduled to be sold. This form of agreement can be used in conjunction with other techniques, such as an easement, to protect the land in the short term. An option would provide the agency with sufficient time to obtain capital to purchase the property or successfully negotiate

some other means of conserving the land.

Condemnation: Eminent domain for acquisition of park land can be exercised when property cannot be obtained through other means. Land condemnation is usually a last resort since it is often a lengthy process which involves court proceedings, and just compensation shall be paid to the landowner.

Required Dedication: Cary's Unified Development Ordinance requires that developers of residential subdivisions and planned unit developments dedicate either a percentage of land to the Town, based on the number of dwelling units, or pay a fee in lieu of dedicated land. Although the Town typically requires land dedication when a parks master plan indicates a need for park or greenway land in the vicinity of the proposed development, the option of requiring payment in lieu of land can help pay for purchase and development of parks and greenways in other areas.

Utility Sharing: Multiple use of existing public property can be pursued as a method of acquiring recreational land. Water, sewer, and electric utility property and easements have been used by communities to provide space for public recreation without negatively impacting the function of the utility line or the safety of the general public.

Clustering: Louisville, Kentucky is one community that has utilized this regulatory method of acquiring land for parks and greenways. Clustering is an approach where units within a subdivision are grouped on the most developable portions of a tract, allowing other areas to remain undeveloped. This dedicated space could be held in private ownership or transferred to the Town. This method could be



particularly useful for greenway land acquisition along waterways, in that development would occur in areas set back from the stream bank, with floodplain lands dedicated to the Town for greenway use.

Transfer of Development Rights: A transfer of development rights (TDR) program would allow the Town of Cary to redistribute development away from areas which have been selected as future recreation sites to "receiver" sites, which are chosen based on where the Town is willing to permit higher densities than would otherwise be allowed. Through this program, a landowner is allowed to sell development "credits" assigned to his or her land by local government to interested developers.

Recreation Zoning: It will be important for the recommendations of the Cary Parks, Greenways and Bikeways Master Plan to conform with the Town's zoning codes and maps. Zoning future recreation sites as such will serve to protect against conversion of these areas to other land uses.

Potential Funding Sources

The Town of Cary should pursue a variety of funding sources for future recreation land acquisition and development. The funding sources listed below represent several greenway funding opportunities that have been utilized by other communities.

Bonds: Many communities issue bonds to finance park land acquisition and site development costs which typically must be approved by voters. Greenways can also be funded through bonds, as was the case in Charlotte, NC, where four consecutive referendums were passed to generate more than \$3 million for greenways.

Since bonds rely on the support of the voting population, an aggressive education and awareness program will need to be implemented prior to any referendum vote.

Taxation: Communities have also voted to raise tax money in support of greenway and park implementation. One example is Oklahoma City, where voters approved a temporary \$0.01 sales tax, which generated millions of dollars for greenway acquisition and development. This "penny" sales tax may be a very effective way of generating funds for special use facilities in Cary, such as the proposed aquatic center.

Grants: County, state and federal grant programs should be pursued by the Town as another method of financing recreation facility acquisition and development. Several grant programs that should be investigated are listed below.

Land and Water Conservation Fund (LWCF):

This federal funding source was established in 1965 to provide park and recreation opportunities to residents throughout the United States. Money for the fund comes from the sale or lease of nonrenewable resources, primarily federal offshore oil and gas leases and surplus federal land sales. LWCF funds are used by federal agencies to acquire additions to federal lands, but, in the past, Congress has also appropriated LWCF monies for so-called "state-side" projects. These "state-side" LWCF grants can be used by communities to acquire and build a variety of park and recreation facilities. "State-side" LWCF funds are annually distributed by the National Park Service through the North Carolina Department of Environmental Health and Natural Resources. Communities must match LWCF

grants with 50% of the local project costs through in-kind services or cash. All projects funded by LWCF grants must be used exclusively for recreation purposes, in perpetuity.

Watershed Protection and Flood Prevention

Grants: The U. S. D. A. Natural Resource Conservation Service (NRCS) provides funding to state and local agencies authorized to carry out, maintain and operate watershed improvements involving less than 250,000 acres. The NRCS provides financial and technical assistance to eligible projects to improve watershed protection, flood prevention, sedimentation control, public water-based fish and wildlife enhancements, and recreation planning (which would include parks and greenways). The NRCS requires a 50% local match for public recreation, and fish and wildlife projects.

North Carolina Parks and Recreation Trust Fund:

This relatively new funding source provides more than \$5 million in matching funds annually for local park land acquisition, development and renovation to communities across the state. The funding source, which comes from a real estate transfer tax, requires a 50-50 match from local government and no more than \$250,000 can be requested. The Recreation Resources Service should be contacted for additional information (919-515-7118).

Wake County Grant-in-Aid Funds: Wake County municipalities are eligible to receive matching funds through this program, although it may not provide a significant level of funding. It is anticipated that the Wake County Parks and Recreation Board will approve \$200,000 for the matching (50-50) grant program this year. Funding is available for greenway and park projects which correspond to the goals of the Wake County Parks Master Plan.

Water Resources Development Project:

This funding source provides up to \$1 million per year for acquisition and development of water-based recreation sites, including greenways and recreation facilities. A 50-50 match is required. The Division of Water Resources should be contacted for additional information.

User Fees: Communities throughout the country use a variety of user fees for recreational services and facilities within park systems. Such fees are typically charged only for special use facilities, such as golf courses, but can also be charged for other facilities such as courts, ballfields and trails. The Town of Cary should continue to generate revenue through charging user fees for programs and rental of certain facilities, such as picnic shelters and boats at Bond Lake, in order to cover operations and administration costs. The Town should also consider charging user fees for proposed special use facilities, including the tennis center and aquatic center.

Donations: The Town of Cary could solicit donations of land, cash, labor and materials to assist with recreation system implementation. Typically, donations are for the development of a specific park, facility, center or greenway project and can come from corporations, civic organizations and other groups or individuals.

The Intermodal Surface Transportation Efficiency Act (ISTEA):

The primary source of federal funding for greenways is through the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), which is scheduled to be reauthorized this year. ISTEA has provided millions of dollars in funding for greenway projects across the country.



There are many sections of ISTEA that support the development of bicycle and pedestrian transportation corridors. Those sections that apply to the creation of trail systems include:

- **Surface Transportation Program (STP) funds:** These funds can be used for bicycle and pedestrian facility construction or non-construction projects such as brochures, public service announcements, and route maps. The projects must be related to bicycle and pedestrian transportation and must be part of the Long Range Transportation Plan. These funds are programmed by the Metropolitan Planning Organization (MPO) in the Transportation Improvement Program.
- **STP Transportation Enhancements Program:** Ten percent of North Carolina's annual STP funds are available for Transportation Enhancements, which include projects such as trails, greenways, sidewalks, signage, parking and downtown revitalization efforts. There is usually a 20 percent match of local funds required and there are several key requirements that projects must meet in order to receive these funds.
- **Section 1302: Symms National Recreational Trails Fund Act (NRTFA)**

A component of ISTEA, the NRTFA is a funding source to assist with the development of non-motorized and motorized trails. The Act uses funds paid into the Highway Trust Fund from fees on non-highway recreation fuel used by off-road vehicles and camping equipment. This money can be spent on the acquisition of easements and fee simple title to property, trail development, construction and maintenance.

Through state agencies, "Symms Act" grants are available to private and public sector organizations. NRTFA projects are 80 percent federally funded, grant recipients must provide a 20 percent match. Projects funded must be consistent with the Statewide Comprehensive Outdoor Recreation Plan.

Partnerships

In order to meet the goals and objectives of this Master Plan, the Town of Cary will most certainly have to expand upon and enter into partnership agreements with other public agencies and private sector organizations. It is not anticipated that the goals of this Plan would be accomplished solely by the Town. In fact, many communities throughout the nation are realizing that the best way to accomplish community goals is through coordinated capital improvement programs with like-minded public and private sector interests.

There are various types of partnerships that the Town can become involved in, including:

- development partnerships to build facilities
- management partnerships to care for and maintain high quality facilities
- operational partnerships to share the responsibility for providing public access and use of a facility
- programming partnerships to co-sponsor events and activities, or to allow a qualified outside agency to conduct activities on lands owned by the Town.

The Town already is involved in most of these partnership types, and has traditionally encouraged partnerships as an implementation tool for its parks and recreation programs.



Public-Public Partnerships

The Town will need to strengthen and broaden its partnership arrangements with the communities of Raleigh, Apex and Morrisville, and with Wake County. These agencies have progressive parks, greenways and bikeway programs that should be linked to Cary's systems. There may be opportunities for co-development of certain facilities, such as bikeways and greenways, that serve to link community resources together. The Town should also continue to work with Wake County Parks and Recreation Department to explore joint facility development opportunities. And as the Town expands westward, a potential partnership with Chatham County could result in joint development of facilities near Jordan Lake.

One of the most beneficial public sector partnerships would be with the Wake County School System. The Town should set up a formal meeting with the Wake County School Board to discuss in greater detail future facility development strategies that could be jointly funded. These facilities would include those typically found in a neighborhood park, or greenways and bikeways that would provide access from neighborhoods to school athletic fields and gymnasiums.

In implementing the Town's greenways and bikeways programs, State and Federal programs can offer financial assistance in project development. The North Carolina Department of Transportation Office of Bicycle and Pedestrian Transportation offers partnership and cost sharing opportunities for building greenways and bikeways. The Clean Water Management Trust Fund has recently been established to assist in the purchase of lands within water quality sensitive watersheds. The Land and Water Conservation Fund is administered by the North Carolina

Division of State Parks and offers both technical assistance and funding for project development.

Public-Private Partnerships

Cary is already engaged in partnerships with several private sector organizations to develop, operate and program certain park and recreation programs. The most prominent private sector partner is the Capital Area Soccer League (CASL) which operates several soccer field complexes on Town and school property. The Town may want to consider such a model for other facilities including the proposed Aquatics Center and Tennis Center.

The Town should take advantage of the rapid pace of growth by continuing to require the private land development community to contribute land to the Town's parks system. The Town may also want to consider entering into partnership agreements whereby a private land development interest builds a neighborhood or community park and upon completion turns the facility over to the Town for operation and programming. One example of such a partnership is Jenks Carpenter Road Park and the proposed Amber's Park. This type of agreement would need to be carefully monitored and managed in order to be successful.

The private sector can be a great source of assistance in operation, maintenance and programming. The Town should institute an Adopt-a-Greenway Program (AGP) for every mile of greenway within the community. These AGP agreements can be entered into with neighborhood associations, civic groups and area businesses. An AGP agreement outlines the shared responsibilities for maintenance and management of greenway facilities.

Appendix A: Survey Needs Data

Table 1: Current and Needed Facilities

The following table shows the current number of facilities (left column) as identified in Chapter Three and the needed number of facilities based on the interest level identified in the citizen survey (right column).

Facility Needs: Public and Private Facilities
Needs Based on Survey Results

Facility	Current	Needed
One mile of trail	33	30
A swimming pool	50	151
A picnic area	27	29
A playground area	47	39
A tennis court	113	237
A golf course	5	11
A soccer field	26	33
A basketball court	46	84
A volleyball court	19	59
A softball field	24	51
A baseball field	24	48
A football field	2	5

Table 2: Population Service Requirement

The following table presents the population service requirement for all the facilities based on the current level of service (left column) and based on the interest level which residents indicated in the citizen survey (right column).

Population Per Facility

Facility	Current	Needed
One mile of trail	2484	2732
A swimming pool	1639	543
A picnic area	3036	2786
A playground area	1744	2122
A tennis court	725	346
A golf course	16392	7729
A soccer field	3152	2455
A basketball court	1782	973
A volleyball court	4314	1380
A softball field	3415	1603
A baseball field	3415	1717
A football field	40980	17313



Table 3: Current and Needed LOS

The total number of facilities needed to provide recreation opportunities at the current level of use can be presented as a level of service (LOS) value. The table below lists the current level of service for all activities and needed level of service based on the interest of residents as expressed in the survey.

Total Level Of Service

Facilities per 1,000 persons

Facility	Current	Needed
One mile of trail	.40	.37
A swimming pool	.61	1.84
A picnic area	.33	.35
A playground area	.57	.48
A tennis court	1.38	2.89
A golf course	.06	.13
A soccer field	.32	.40
A basketball court	.56	1.02
A volleyball court	.23	.72
A softball field	.29	.62
A baseball field	.29	.59
A football field	.02	.06

Table 4: Public Facility Needs

The table below shows all the facilities that are currently provided by the Town (including schools) and those that would be needed based on the current public/private proportions and survey needs.

Public Facility Level of Service

Facilities per 1,000 persons

Facility	current	needed
One mile of trail	16.7	22
A swimming pool	0	0
A picnic area	12	13
A playground area	30	25
A tennis court	21	44
A golf course	0	0
A soccer field	22	28
A basketball court	34	62
A volleyball court	8	25
A softball field	24	51
A baseball field	24	48
A football field	2	5

The calculations of public need based on current facilities shows the absence of publicly-provided swimming and golfing opportunities. These facilities are currently all provided by the private sector. The current population served by these facilities was calculated according to pool membership figures from a sample of pools in Cary and information from golf clubs. These figures indicate that 15,811 Cary residents are currently being served by apartment complex facilities and 26,481 residents are being served by subdivision facilities. Therefore, 42,292 residents are currently being served by private swimming pools. Of the five golf courses in Cary, only Lochmere allows non-members (the paying public) to play, which comprise half of the people who come to play. Therefore, 90 percent of the golfing opportunities in Cary are membership only. Approximately 50,000 rounds of golf are played on each course annually, representing total golf play in Cary. The number of residents served cannot be accurately determined since many golfers come from outside of Cary, and Cary residents may go outside of the Town to play golf.

Table 5: Public LOS

Public Level of Service

Dividing the number of public courts needed by the current population results in a public LOS figure for tennis.

44 public courts needed , 81.960 persons =
.54 public courts per 1,000 persons

(1000 , .54 = 1 public court per 1,852 people)

Public Level of Service

One facility per population

Facility	current	needed
One mile of trail	.20	.27
A swimming pool	0	0
A picnic area	.15	.16
A playground area	.37	.31
A tennis court	.26	.54
A golf course	0	0
A soccer field	.27	.34
A basketball court	.41	.76
A volleyball court	.10	.31
A softball field	.29	.62
A baseball field	.29	.59
A football field	.02	.06

Appendix B: Park Type Definitions

The following definitions for various park types and typical facilities were used in calculating the Level of Service for park types (Chapter Six). The descriptions and listings represent **typical** park facilities envisioned by the Town and adapted from national guidelines. These definitions were developed in coordination with the Town of Cary Parks, Recreation and Cultural Resources Department.

Regional Park

Regional Parks are large recreation facilities, over 100 acres, which serve an entire geographic region. These facilities usually focus on natural resource-based passive recreation. Those regional parks serving Cary residents include Umstead State Park and Lake Crabtree, which also serve the residents of Durham, Raleigh and Chapel Hill. The Town of Cary currently does not operate any regional parks. Typical recreation facilities within regional parks include:

- lake(s) for boating/fishing
- picnic shelters and tables
- unpaved trails for hiking, mountain bike use, and horseback riding
- camping facilities
- amphitheaters
- visitor center

Metro Park

Metro Parks are also over 100 acres in size, serving an entire community. Bond Park is currently the only metro park operated by the Town which serves the entire population of Cary. Access is primarily by vehicles and park sites are wherever possible located along major transportation routes. Metro parks provide more programmed service and may have lighted components for extended hours of use. Typical recreation facilities within metro parks include:

- lake for boating/fishing
- paved or unpaved trails
- picnic shelters and tables
- baseball/softball fields
- community center
- playgrounds
- amphitheater
- small outdoor basketball courts
- sand volleyball courts
- free play area
- multi-purpose court
- buffer or open space

Community Park

Community parks are typically 25 to 100 acres in size and serve those living within a 2 mile radius. These parks serve the needs of several neighborhoods although they may also serve as a neighborhood park for nearby residential areas. Like metro parks, community parks are accessed largely by automobile and focus on facilities for organized sports ranging from baseball to tennis. Larger community parks may include community centers or aquatic facilities. Typical community park recreation facilities include:

- ¥ picnic shelters and tables
- ¥ small outdoor basketball courts
- ¥ baseball/softball fields
- ¥ paved or unpaved trails
- ¥ playground
- ¥ tennis courts
- ¥ sand volleyball courts
- ¥ free play area
- ¥ multi-purpose court
- ¥ community center (indoor basketball/volleyball courts within)
- ¥ buffer or open space

Neighborhood Park

Intended to serve the daily recreational needs of



citizens, neighborhood parks provide for less formal, more spontaneous usage. They are typically 10 to 20 acres in size and serve citizens living within one mile of the park. The location of neighborhood parks should ensure convenient access by nearby residential areas. Non-programmed facilities are generally provided, such as playgrounds and multi-purpose fields for kite flying, frisbee throwing or ball throwing.

Neighborhood park facilities usually include:

- playground
- small outdoor basketball court
- paved or unpaved walking trail
- sand volleyball court
- free play area
- multi-purpose court
- ¥ soccer field
- ¥ buffer or open space

School parks can also be categorized as neighborhood park facilities, as they have the same service radius and provide similar facilities. In addition to the facilities listed above, school parks may provide a gymnasium with indoor basketball and volleyball courts, and additional athletic fields.

Mini Park

Mini parks are small facilities, less than two acres in size, which serve residents within one-half mile of the park. Mini parks generally function as open space or contain a limited number of small facilities such as picnic areas, play structures and basketball slabs. Although the Town will continue to maintain these parks currently in its system, it does not plan to continue to acquire new tracts of land in this category. Exceptions to this, however, might occur in highly developed areas where larger tracts of land cannot be obtained. The private sector could also provide new mini parks in the future. In place of new mini parks, the Town

intends to concentrate future land acquisition efforts on neighborhood parks. By consolidating facilities into these larger tracts of land, efficiency is increased for both maintenance and security operations and residents can still benefit from parks which are in close proximity to their homes.

Facilities include:

- ¥ basketball/multi-purpose court
- ¥ playground
- ¥ picnic area
- ¥ free play area
- ¥ buffer or open space

Special Use Facilities

Special use facilities are dedicated to one specific recreational use and should serve the entire community. Examples include Hemlock Bluffs Nature Preserve and the Town of Cary's arts and senior centers. No specific size is recommended for this park type, however, future special use facilities will typically include athletic complexes and an aquatic center.

