An analysis and comparison of the park-related facilities and per-capita expenditure on park and recreation activities between Johnson City, Tennessee and the three Tennessee cities of Jackson, Kingsport, and Murfreesboro

George Thomas Morton

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To the Graduate Council:

I am submitting herewith a thesis written by George Thomas Morton entitled "An analysis and comparison of the park-related facilities and per-capita expenditure on park and recreation activities between Johnson City, Tennessee and the three Tennessee cities of Jackson, Kingsport, and Murfreesboro." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Planning.

George Bowen, Major Professor

We have read this thesis and recommend its acceptance:

James A. Spencer, David A. Patterson

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)
To the Graduate Council:

I am submitting herewith a thesis written by George T. Morton III entitled "An analysis and comparison of the park-related facilities and per-capita expenditure on park and recreation activities between Johnson City, Tennessee and the three Tennessee cities of Jackson, Kingsport, and Murfreesboro." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science in Planning.

George Bowen, Major Professor

We have read this thesis and recommend its acceptance:

James A. Soren
David A. Holloway

Accepted for the Council:

Lawrence A. Wilko
Associate Vice Chancellor and
Dean of The Graduate School
An analysis and comparison of the park-related facilities and per-capita expenditure on park and recreation activities between Johnson City, Tennessee and the three Tennessee cities of Jackson, Kingsport, and Murfreesboro

A Thesis Presented for the Master of Science in Planning Degree
The University of Tennessee, Knoxville

George Thomas Morton III
August, 1997
ABSTRACT

The area of investigation for this thesis included the parks and recreation departments of the four Tennessee cities of Jackson, Johnson City, Kingsport, and Murfreesboro. Both the inventory of available park space and budget appropriations for the four departments were observed.

The procedure used for data gathering included numerous questionnaires, citizen surveys, personal interviews, telephone interviews, and physical data gathering techniques.

A condensed summary of the findings includes the fact that my original position was disproven. The parks and recreation departmental budget appropriations and facilities inventory among the four cities are not akin and do not yield data that would make the four cities comparable in the regard outlined in Chapter One of this paper.

Conclusions that were reached included the fact that the parks departments of all four cities needed to procure additional park land in order to meet current national recommended (i.e., NRPA) standards. The actual land amounts needed (and other conclusions reached) are identified in the body of the paper.
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Chapter One

Introduction

The Importance of Parks

In contemporary American society, parks are used for personal enjoyment, physical exercise, and for preserving precious and unspoiled land. People use parks as a place to play organized sports, to enjoy the beauty of nature, and to experience man-made architecture. Parks are designed to give the community a social outlet, where nature and man can co-exist in a seemingly unspoiled environment. Parks, in sum, are places where enjoyment is expected to occur.

The origin of modern park systems in America is rooted in the efforts of Fredrick Law Olmstead. In the late nineteenth century, Olmstead designed New York City’s Central Park and -in turn- initiated “... the first concentrated park and recreation movement in the United States (Rutledge 1971). The modern idea that municipalities should link a series of parks into a complex of open space and facilities culminated from the work of Olmstead. Contemporary municipal park
planners strive to keep the dreams of “the father of landscape architecture” alive by allocating land for the purpose of human use and enjoyment.

Parks should be filled with the beauty of nature and, under the auspices of public agencies, should provide a permanency to recreation opportunities for the population. In contrast, private organizations provide recreation-related activities for the community, yet these activities are usually constructed with function in mind (e.g., tennis courts and golf courses) and do not necessarily take into consideration nature preservation and environmental conservation.

Parks should be designed for people. That is, people should be the main benefactors of any park development. For people to co-exist with nature in a structured and developed environment, land must be set-aside in a fashion that promotes human enjoyment while producing few negative externalities to the surrounding environment.

These parks should be designed to meet the needs and desires of the local population, and should include land that has historical significance (e.g., battlefields and historic structures); land that contains unique qualities (e.g., mountains and lakes); land that is in close proximity to residents; and land that can feasibly contain (i.e., the size and slope of the property is compatible for) the intended purpose.
The presence of recreational opportunities enhances the quality of life of residents and helps to strengthen the community structure. That is, "... communities need recreation lands and opportunities to help preserve and promote their health" (Zimmerman et al. 1995). Recreation and park-related activities are also important because they help promote the economy; "in 1992, almost seven billion dollars were generated in Tennessee through tourism" (Zimmerman et al. 1995).

The importance of parks cannot be overstated and can only be measured by the people who use them. That is, to maintain a successful park, people must be willing and able to take advantage of the services that are offered. A city that designates open space, park-land, and park facilities in an arbitrary fashion can expect unsuccessful results (i.e., the wants and desires of local citizens must be ascertained and understood before success can be achieved). In sum, park-related facilities (and land) must be chosen with the client in mind.

Maintenance of a successful park system requires the expenditure of public funds. That is, money must be set-aside and "earmarked" for specific park purposes and for park-related activities. Cities of comparable size, population, demographic make-up, climate, and geographic location can be compared in order to measure the relative status of a city park system. This information can
be useful, because it provides a basis for ascertaining the strengths and weaknesses of a park system.

The combination of park-oriented and recreation-oriented activities under the direction of one single administrative department (e.g., a parks and recreation department) may, however, lead to de-emphasizing aesthetic charm and character for the sake of providing as many sports-related facilities and activities that a tract of land can accomodate. A park can be defined as a piece of land or water set aside for the recreation of area residents (Rutledge 1971). This definition conveys that land does not necessarily have to be improved (i.e., contain ball-fields, etc.) in order to be considered a park.

Recreation, on the other hand, is "...refreshment of the mind or the body or both through some means which is in itself pleasureful" (Rutledge 1971). Today, refreshment of this sort comes in the form of softball, soccer, swimming, playgrounds, golf, picnicking, and other forms recreation. Parks do not necessarily need to provide a sports-related service, they can simply be open spaces, wooded areas, or places where man can co-exist with nature.

Parks do not have to mean a place for structured recreation activities to occur, rather it can mean a place where commercial, residential, and industrial development is not allowed to occur.
One measure of the quality of life in a city is the amount of open space and park area that is reserved for public use, the amount and types of facilities that are provided, and the per-capita expenditure devoted to park and recreational facilities. Comparisons can thus be made with cities of like size, character, and diversification.

The proposition is that cities with relatively equal size, population, location, and demographics should show similar spending patterns, park space inventory, and per-capita spending for park and recreation purposes.

Comparing Related Cities

Before comparisons can be made concerning the park systems of four separate cities, they should be compared (i.e., size, demographics, and household composition must be akin). The four cities are located in the southeast in the state of Tennessee, where climactic conditions among the cities are relatively similar. This is an important fact due to the diversification of recreational trends among cities in different geographical locations.

It is important to compare cities located in the same state. This is due-in part- to the nature of the budget appropriation processes. “Funding is a constant issue for recreation development and management -- there is always a need for more money” (Zimmerman et al. 1995). State grants and enabling legislation, in
sum, help form the basis for park funding today. Similarities regarding income, population, age group breakdown, racial breakdown, household size, household density, and household composition should be studied.

"Recreation demand studies have generally shown a very significant relationship between family income and outdoor recreation activities" (Matthews 1976). The per-capita income of the four comparison cities are strikingly similar and include the following: $11,268 for Jackson, $13,071 for Johnson City, $13,825 for Kingsport, and $12,983 for Murfreesboro. These similarities signify a relatively equal amount of discretionary family income for recreational purposes among the four cities. Figures 1.1 and 1.2 display information regarding population and density for the cities of Jackson (1), Johnson City (2), Kingsport (3), and Murfreesboro (4).

![1990 Population Totals](image)

**Figure 1.1 Population totals (Census 1990).**
A parallel cannot be drawn between the housing density of Johnson City and that of Jackson. However, similarities begin to develop when data concerning population, household breakdown and size are examined.

Density patterns can give invaluable information concerning the placement of parks in relation to residents. Using census track and zoning data, generalizations can be made concerning where a city needs to focus its efforts in the following respects: where to acquisition land for future (or expanded) park space, where to concentrate park facilities due to population density (e.g., inner city), and where to place neighborhood, community, and urban parks to gain maximum population exposure. In summation, "... as density of development
increases, the need for public open space and recreational facilities becomes much greater” (Parks 1976).

Along with data concerning population and density, the percentage of the population under eighteen years of age is an important fact that the planner must take into account when assessing park and recreation need for a particular city. One of the major goals outlined in the 1995-1999 Tennessee State Recreation Plan (Zimmerman et al. 1995) states that park and recreation planners should strive to promote better community representation through the provision of programmed activities that are youth oriented.

With the provision of any recreational activity comes the need to discern the percentage of the population that are adults and what percentage are considered children. This is done in order to gain a sense of how much of the population is not being served by the recreational services offered by the school system and other organizations for young people (e.g., Boy and Girl Scouts).

School-parks (if maintained by the parks department) have the latitude to expand their current services to accomplish the goal of expanding programmed recreational services to the public. If these parks are not maintained by the parks and recreation department, park planners should analyze recreational and sports programs provided by the schools and consider offering services not adequately offered by the respective school system.
Age is also a significant recreation demand factor. This is due -in part- to its effect on physical capacity, opportunity, and genuine interest in participation. The percentage of persons (in all four cities) under eighteen years of age (i.e., children) range only slightly from between twenty and twenty-five percent (Figure 1.3).

Studies show that “persons between 20 and 40 tend to be able to commit more time to leisure activities” (Matthews 1976). With more leisure time

<table>
<thead>
<tr>
<th>Population age breakdown (Jackson)</th>
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</thead>
<tbody>
<tr>
<td>18-Years and Older 36,728 (75%)</td>
</tr>
<tr>
<td>0-17 Years of Age 12,221 (25%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Population age breakdown (Johnson City)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-Years and Older 39,565 (80%)</td>
</tr>
<tr>
<td>0-17 Years of Age 9,816 (20%)</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Population age breakdown (Kingsport)</th>
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<tr>
<td>18-Years and Older 28,715 (79%)</td>
</tr>
<tr>
<td>0-17 Years of Age 7,650</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Population age breakdown (Murfreesboro)</th>
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</thead>
<tbody>
<tr>
<td>18-Years and Older 34,982</td>
</tr>
<tr>
<td>0-17 Years of Age 9,940 (22%)</td>
</tr>
</tbody>
</table>

Figure 1.3 Population age breakdowns (Census 1990).
comes a greater demand on the park facilities from persons who comprise this age category. In short, the park planner needs to emphasize the recreational interests of those persons who are the most avid users of recreational facilities while not ignoring the less popular (yet equally important) interests of the rest of the population.

Comparable age percentages can be shown more clearly when the population is divided even further into classifications that group ages into workable brackets. These arrangements include the breakdown of ages by increments that can be compared and contrasted among the four cities.

Sub-populations that place the greatest demand on a community’s recreation services and facilities can be established and measured. For instance, “... the 15 - 19 year olds require continued participation in team sports” (Matthews 1976). Also, “... people 25 - 34 years old utilize adult-sized sports fields but with some emphasis on providing opportunities for individual escape when desired ...” (Matthews 1976). As an example, among the four cities, percentages of the population that fall within the 25 - 34 age bracket ranges from 13 to 18 percent (Figure 1.4); this shows a strong correlation among the cities in this regard. By establishing how many persons of similar age ranges live in a particular city, the planner is able to emphasize the delivery of recreational services to those groups that use the services.
Figure 1.4 Population age breakdowns by age group (Census 1990).
The four cities chosen for comparison have similarities in every age bracket from children under five years of age to adults over seventy-five. These can prove to be valuable when comparing the number of adult-oriented parks (e.g., sports complexes) with parks designed for children (e.g., playgrounds). For example, the number of persons under the age of 20 range from 24 to 29 percent. Household size and composition are important factors that help park and recreation planners locate parks and facilities in places where potential user groups are likely to reside (e.g., in residential zones). Among the four cities, the number of persons per household is remarkably similar (Appendix 1).

This data shows a definite pattern among the various cities: about one-third of the population lives alone, about one-third of the households contain only two people, and about twenty percent of the households contain three people. In short, the planner must first identify who the “customers” (i.e., the target markets) are, and then must direct the delivery of services toward those identified user groups.

The data concerning the number of families per city (i.e., the number of married couples with or without children) also shows a quantity of similarities (Appendix 2). For instance, the percentage of families who have children under eighteen years of age -among the four cities- ranges from thirty-nine to fifty percent. Jackson and Johnson City were almost equal with forty-four and forty-
two percent respectively. This information is very important to the planner because "...it has been determined that families with children are the most active users of recreational facilities" (Matthews 1976).

The size of a city is a useful tool to use when determining comparability of one city to other cities with like characteristics and geographic locations. That is, cities of comparable size and location contain populations that need and desire similar types and amounts of recreational facilities and overall park space. Density patterns combined with actual city size (i.e., land area in square miles) can form a basis of comparison that can be used to ascertain strengths and weaknesses of a city park system (Figure 1.5). The cities of Jackson (1), Johnson City (2), Kingsport (3), and Murfreesboro (4) are of comparable size.

![Figure 1.5 Land area in square miles (Census 1990).](image)

Figure 1.5 Land area in square miles (Census 1990).
In summation, demographic profiles and geographic qualities are valuable planning tools in that they provide a good analysis of a community’s population. Notwithstanding the before-mentioned variables, an item like race (Appendix 3) is another important determinant of comparison and, ultimately, of park and recreational need. While race should not dramatically alter the comparative nature or the recreational needs of a community in terms of quantity, considerations such as location and diversity (i.e., emphasizing certain recreational activities over others) must be done on a city-by-city basis.

This comparative study of the parks and recreation systems of Jackson, Johnson City, Kingsport, and Murfreesboro will involve data on the comparability of the four cities (e.g., demographic profiles); the number and type of parks within each park system; the departmental budgets (i.e., sources and amount of revenue); the “high priority” park and recreation issues and activities; and the per-capita park and recreation expenditure.

The park standards and definitions used will apply equally to all four cities, and will be derived from those standards prescribed by the National Recreation and Park Association. The cities of Jackson, Murfreesboro, and Kingsport will be asked to reply to a questionnaire (Appendix 4) that gathers data on city parks, open space, future goals, and budget appropriations. Data for
Johnson City will be gathered through physical inventory, citizen surveys, and personal interviews.

The data gathered should result in a finding of equality among the four park systems as far as recreational park space, public priorities regarding recreational activities, and per-capita expenditure are concerned.
Local Park and Recreation Planning

Planning officials at the local level are tasked with delivering a diverse array and amount of recreational opportunities to the citizenry within their respective planning community. Associated with this task is the commensurate responsibility of preparing a set of local recreation planning guidelines that will aid in the establishment of achievable goals, objectives, and policies in the provision of parks and recreation facilities.

Community park and recreation standards are the means by which a city may express certain goals and objectives regarding the community park system. Through the parks and recreation budget (and cooperative efforts of the public and private sectors) "...these standards and policies are translated into a system for the acquisition, development, and management of park and recreation resources" (Lancaster 1983).

Foremost, a city should retain a current inventory of park and open space facilities that are part of the community park system. Current (as well as future)
needs must then be analyzed to gain a sense of how well the park system is
achieving defined goals and objectives. These needs may be ascertained through
the citizen involvement process (e.g., random citizen survey).

The national park and open space guidelines have been published by the
National Recreation and Park Association to provide procedures to help planners
ascertain how park land in their community can be used to "...form a diverse
community landscape" (Mertes 1995). These guidelines include the classification
of each park-type into a definable category, the recommended standards to be
applied, and a level of service suggestion.

Park, open space, pathway, and greenway facilities classifications that are
used at the local level should take into consideration the needs and desires of the
local community. That is, the location and size criteria, level of service, and the
programmed activities selected should be analyzed in such a fashion that local
citizens are encouraged to take advantage of the services that these community
facilities offer.

Location criteria may be defined as the geographic placement and
designation of a particular type of park, open space, greenway, or pathway
according to its relation to residential neighborhoods or service areas, collector
and arterial streets, and natural resources located within or outside the
community. Size criteria, on the other hand, refers to the overall proportion of
land that is designated for a particular park, open space, or pathway classification.

This criteria is usually left to the discretion of the local planner, due to constraints on factors such as land availability and population density. In summary, location and size criteria are considered to be variable recommendations where only minimal or optimal situations are presented as planning guidelines.

Level of service is a term that describes the minimum amount of land that a community needs to allocate toward a particular park-use per 1,000 population. Level of service is "... merely a quantification of the park and recreation delivery philosophy and policy of a community" (Mertes 1995). Minimum population service requirements (MPSR) are calculated for each park and facility supply unit (Mertes 1995). This is done by dividing the recreation facility demand by the recreation facility supply (Figure 2.1). MPSR defines the minimum number of people who are considered to be served by a particular park or recreation facility each year.

The level of service by park classification is then calculated (Figure 2.2). The level of service figures can be compared to the minimum requirements to determine park surplus or deficiency. In essence, by adding the number of
**RFD (recreation facility demand):** The number of times a person actually participates in a recreation activity.

\[
RFD = (RP \times PF) \div SS
\]

*RP = recreation participation*: (# participants/year/facility).

*PF = participation frequency*: (# visits/year/facility).

*SS = sample size*: (total people in sampled households).

**RFS (recreation facility supply):** The inventory of all park land and recreation facilities that provide recreation activity choices.

\[
RFS = EU \times A
\]

*EU = expected use*: (# visits/day/facility). Ascertained through attendance records or direct visitor observation.

*A = availability*: (# days/year/facility). Ascertained through availability records of the various facilities (e.g., 365).

\[
MPSR = RFS \div RFD
\]

**MPSR (minimum population service requirements)** = recreation facility supply divided by recreation facility demand.

---

**Figure 2.1. Minimum population service requirements (Mertes 1995).**

**Level of service:**

<table>
<thead>
<tr>
<th>Minimum number of park acres recommended by the local park classification system</th>
<th>Total population served</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,000</td>
</tr>
</tbody>
</table>

**Figure 2.2 Level of service (Mertes 1995).**
people served by each facility within a particular park, the total population served by that park classification can be measured. This data can become especially useful in the annual city budget process when the acquisition of new park land is sought on behalf of the parks and recreation department.

Park planners of the past and the present have appreciated standardization for a number of different reasons. Foremost, standards have been important and "... helpful in determining how many facilities were necessary, what they should consist of, and where they should be located" (Garvin 1996). However, as park and recreation budgets continue to rise in cities all across America, the standards "... become a tool in balancing the public's desire for recreation facilities with politically achievable levels of funding" (Garvin 1996).

The determination of minimum population service requirements is a painstaking process that requires a physical inventory of park visitor profiles over a period of time that generally exceeds one year. Park attendance observation cannot be adequately accomplished unless sampled on a continuing basis throughout the year; this requires an expert knowledge of park visitors and park activities in a particular community.

For the purpose of this study, the level of service (for each park-type) will be calculated for the four cities and a park supply comparison will be made according to national level of service standards. The park-types that are included
in the level of service classification include the following: Mini-Parks, Neighborhood Parks, Community Parks, Large Urban Parks, and Sports Complexes (Table 2.1). Level of service does not apply to School-Parks, Special-Use Parks, Private Parks, Natural Resource Areas, Greenways, and Trails. These facilities require resource availability and opportunity, and public demand (i.e., they require situations that are unique to each community).

Needs-based parks (e.g., neighborhood parks), by contrast, require strategically located tracts of land (i.e., to create a sense of place) throughout the community to fulfill recreational purposes. In summation, these park-types are considered those in which the needs-based park supply is emphasized in order to satisfy the recreational demand of the general public.

Table 2.1 Minimum park size by park-type (Mertes 1995).

<table>
<thead>
<tr>
<th>Park-Type</th>
<th>Minimum Park Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini-Park</td>
<td>2,500 square feet</td>
</tr>
<tr>
<td>Neighborhood Park</td>
<td>five acres</td>
</tr>
<tr>
<td>Community Park</td>
<td>twenty acres</td>
</tr>
<tr>
<td>Large Urban Park</td>
<td>fifty acres</td>
</tr>
<tr>
<td>Sports Complex</td>
<td>twenty-five acres</td>
</tr>
</tbody>
</table>

Hierarchy of Parks

The park classification system needs to be understood and utilized by local planners in order to meet park demand as prescribed by citizen input,
population and demographic characteristics and projections, and planning objectives. The size of each park, open space, and facility, the intended use, and the relationship of the park to the rest of the community should be at the forefront of any park and recreation plan.

National park and recreation guidelines are developed as recommendations for planners to use to assess relative results of their park facilities and overall park space (i.e., how well the population is served). That is, local park planning criteria should be formulated by applying national recommendations to the situations present in each, individual community.

There are twelve general classifications of parks and open space according to recommendations of the National Recreation and Parks Association. Some of these classifications have sub-classifications that further define (and allow variation for) a particular type of park or recreation facility.

Parks and recreation areas serve many differing purposes and have a diverse range of recommended uses. A distinct hierarchy of parks can be formed by consolidating those parks that serve a similar type of need, function, or purpose. This will give evidence to the importance of a park type (and form a hierarchy) based upon items such as ease of access, ease of use, and relative size.

The twelve park classifications can again be consolidated into four park, open space, greenway, and pathway classifications (Table 2.2). These alternate
descriptions were formulated to group the park-types into smaller, more manageable groupings. The four groups are defined as having general similarities in regards to their location criteria, size, and recommended facilities.

<table>
<thead>
<tr>
<th>Park Classification</th>
<th>Alternate Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mini-Park</td>
<td>Neighborhood Needs</td>
</tr>
<tr>
<td>Neighborhood Park</td>
<td></td>
</tr>
<tr>
<td>School-Park</td>
<td></td>
</tr>
<tr>
<td>2. Community Park</td>
<td>Community Needs</td>
</tr>
<tr>
<td>Large Urban Park</td>
<td></td>
</tr>
<tr>
<td>Sports Complex</td>
<td></td>
</tr>
<tr>
<td>3. Natural Resource Areas</td>
<td>Special Situations</td>
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<tr>
<td>Private-Park</td>
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<tr>
<td>Special-Use Park</td>
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<tr>
<td>4. Greenway</td>
<td>Travel Oriented</td>
</tr>
<tr>
<td>Park Trail</td>
<td></td>
</tr>
<tr>
<td>Bikeway</td>
<td></td>
</tr>
</tbody>
</table>

**Neighborhood Needs**

Mini-Parks (i.e., vest-pocket parks or tot-lots) that are typically found in residential settings have a service area of about a 1/4 mile radius. These parks may be located adjacent to commercial developments or situated among dwelling units in a fashion that does not produce a mixture of incompatible land uses. A mini-park may be as large as five acres or as small as 2,500 square feet; the size criteria is dependent upon factors such as population...
density, demographics, intended use, and topography (i.e., a site with positive
drainage and suitable soils).

Mini-parks should be ideally centered within the residential area they are
intended to serve. The optimum situation would include the inclusion of these
parks within the context of a greenway, pathway, or sidewalk system.

Common uses included in a mini-park include playgrounds, picnic areas,
and landscaped public-use areas. Recommended facilities include chair
swings, sandboxes, and benches. Parking areas and lighting sources are not
required, however, public demand might indicate such items are necessary.
Informal, unstructured activities should be the main concern for these parks
(Rutledge 1971).

Neighborhood parks should be located from a 1/4 to 1/2 mile radius of
residential settings. These parks “...remain the basic unit of the park system
and serve as the recreational and social focus of the neighborhood” (Mertes
1995).

A neighborhood park should be from five to ten acres in size, contain
well-drained soils, and a topography that can accommodate the intended
purposes. Facilities in a neighborhood park should be assigned only to
portions of the site that are compatible with that use (Rutledge 1971).
Approximately one-half of the property should be properly landscaped and reserved for passive recreational activities (e.g., picnic areas, etc.).

The neighborhood park should accommodate a wide variety of user groups including the elderly and the physically handicapped; parking and adequate lighting should be included as prescribed by the intended use. Programmed activities should be limited; typically, only those activities that are youth-oriented should be encouraged. In summation, organized sport activities (e.g., softball) should be discouraged or prohibited in these parks.

School-parks differ from the former parks in that school parks are generally entirely youth-oriented and heavily used by students of the respective school. Facilities included in the park inventory should only include those that are not “school-only” facilities and should not be used as outright substitutes for neighborhood parks; school-parks should be used in combination with other parks to satisfy neighborhood needs. In order to take full advantage of the school-park concept, “...accommodate a dual-use flow for those times when school is not in session” (Rutledge 1971).

Site requirements for these parks are dictated by the school district in which they are located and should be integrated into the city-wide parks plan based upon their ability to serve needs that have been deemed unnecessary to duplicate in a given neighborhood. School-parks should complement other
city-owned park land through the expansion of recreational services. That is, city park land located adjacent to a school should be used as an extension of services already provided by the school recreational program.

**Community Needs**

Community parks serve needs of the community that cannot be adequately addressed by neighborhood parks. These parks preserve unique landscapes and natural resources, allow for large group activities, and provide for both passive and structured sports-related activities (Mertes 1995).

Optimum location is within a 1/2 to three-mile radius of residential area; residents should be the main focus of community park planning. These parks should be between 20 and 50 acres in size, be above the 100-year flood elevation, and contain a wide variety of recreation activities; these may include ball-fields and playground equipment of varying types. The key to a successful community park is its geographical location in relation to residential areas, greenways, pathways, and other park areas. Positive drainage, varying topography, and ease of access (i.e., located on the city bus route, near arterial roads, etc.) are also important factors to consider when selecting a community park site.
Large urban parks should be constructed in city environments too large to meet the recreational needs of the population through community and neighborhood parks. The criteria used for the community park should be used when planning an urban park, with a greater emphasis placed on planning according to demographic diversity and socio-economic conditions. With adequate planning, a single park of this type may accommodate the recreational needs not addressed by the community parks. Examples of the various uses of a large urban park include fairgrounds, an amusement park, and a city zoo.

A sports complex is designed to consolidate programmed athletic activities at large and selected sites throughout the community. They should be geographically centered and strategically placed based upon driving times of residents throughout the city.

Emphasis is placed on activities such as organized softball, baseball, and soccer, with adequate facilities to accommodate the existing and projected populations. Generally, 25 to 150 acres should be sought in order to meet existing needs, future growth, and trends in sports activity (Mertes 1995).

Parking requirements should be established based upon the amount and diversity of sports activities offered by the complex. Soil suitability and
positive drainage should be closely monitored and maintained to promote an enjoyable and successful park site of this type.

Sports complexes, furthermore, should not be placed near residential areas, rather they should be constructed in close proximity to the bulk of the population near major intersections of highways, arterial, or collector streets.

**Special Situations**

The criteria for the size and location of natural resource areas is highly variable. That is, size criteria is based upon acquisition cost and maintenance, and location is based on man-made and natural factors that make development unfeasible or impossible. Examples of these areas include: forests, lakes, wildlife habitats, parcels with steep slopes, ponds, river shorelines, and wetlands. Also, park-land (e.g., community parks) that is located below the 100-year flood elevation should be considered natural resource areas.

Private parks are considered in the park inventory process for the purpose of ascertaining certain recreational activities that may already be supplied by the private sector (i.e., to reduce overlap). These activities may include pools, playgrounds, and ball-fields supplied and maintained by a neighborhood organization, developer, or other. The facilities in a private park are usually reserved for the exclusive use of certain residents, and should
be regarded only as supplemental providers of recreational services not
available to the general population.

These parks are designed to be a single-purpose use facility for the
community. These uses generally fall into one of three categories; these
include historic, cultural, and social sites. Also, special-use parks can include
municipal golf courses, community centers, amphitheaters, and marinas.

Community planning and involvement is paramount in importance when
selecting the size and location of these facilities. Parking, lighting, and access
ease should be carefully considered, and should be based upon factors that
include level of access, population, and demographics.

**Travel Oriented**

Greenways play an important role in the city park system in that they are
designed to link residential developments and the various park facilities
together to “…form a cohesive park environment” (Mertes 1995).

Greenways can follow both natural and man-made corridors that include:
abandoned railroad beds, rivers, rights-of-way, and easements. Optimum
situations dictate that a greenway is at least 200-feet wide; the minimum
recommended greenway width is 25-feet.
Although land availability will determine the size and placement of greenways, the most desirable greenways follow natural corridors such as rivers and streams. The main difference between a natural resource area and a greenway that encompasses natural resources is the intended use; greenways are designed for travel (e.g., pedestrian and bicycle) and protection of the environment.

Park trails are located within the greenways, parks, and natural resource areas (Mertes 1995). They are designed to ease travel within these environments and to enhance their overall appearance. A key aspect of a successful park trail is the comprehensiveness of its design. That is, trails should serve a purpose and should link parks together to form a cohesive park system.

There are five distinct types of park trails (Table 2.3). Each type has a recommended size and intended use, and each can be altered to fit the unique needs of a community. These trails may be constructed using asphalt, concrete, gravel, or other materials; the length, width, and materials used should be decided upon through research into the user groups for these trails.

Park Trails and Greenways have been joined by an array of newly recognized and diverse trails and pathways. These trails include Off-Highway Vehicle Trails, Equestrian Trails, Mountain Bicycle Trails, and Cross-Country
Skiing Trails (Zimmerman et al. 1995). These trails are designed to perform specific functions, and should thus be limited to those areas most suitable for the specified use. These trails are designed to attract certain user groups (i.e., clients) who expect a more structured setting.

Table 2.3 Park Trails Classification

<table>
<thead>
<tr>
<th>Park Trails: Trails within Parks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type I: Separate paths for pedestrians, in-line skaters, and bicyclists</td>
</tr>
<tr>
<td>Type II: Single paths for lighter use (e.g., pedestrian use only)</td>
</tr>
<tr>
<td>Type III: Minimum impact paths (e.g., paths in a nature preserve)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Connector Trails: Trails that link parks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type I: Separate paths for pedestrians, in-line skaters, and bicyclists</td>
</tr>
<tr>
<td>Type II: Single paths for consolidated pedestrian, bicycle, and skater use</td>
</tr>
</tbody>
</table>

Bikeways are paved segments of roadway that serve to separate bicyclists from motorized traffic (Mertes 1995). They include bike routes and bike lanes. Bike routes are portions of the roadway (e.g., the shoulder) that are used by bicyclists and automobiles alike; these routes are typically designated through the use of signage and striping. Bike lanes, by contrast,
are portions of the roadway that have been designated for the exclusive use of bicyclists. These lanes are typically five-feet in width and are located adjacent to the standard drive lane.

Tennessee State Enabling Legislation and Parks

Sections 11-9-102 through 11-9-108 (Tennessee Code Annotated) concern the cooperative planning, developing, acquiring, and funding of outdoor recreational resources in Tennessee. Local agencies are authorized to prepare, maintain, fund, and update a comprehensive plan for the development of recreation resources.

In summation, the state of Tennessee and its subdivisions have been given the authority to participate in the benefits of a recreational program that includes the acquisition of land, waters, and interest in lands and waters for such areas (e.g., parks) and facilities (Tennessee Code Annotated).

Tennessee State Parks include 50 parks and 33 satellite areas that provide recreational opportunities to residents of the state. State agencies responsible for park land acquisition, retention, and maintenance include: Tennessee Department of Environment and Conservation, Tennessee Wildlife Resources Agency, and Tennessee Department of Agriculture Division of Forestry (Zimmerman et al., 1995). The primary goal of these agencies is to
protect the natural and cultural resources and wildlife habitats of Tennessee. These agencies provide technical assistance and training to local recreation providers, and furnish additional park land and facilities to aid municipalities satisfy park needs.

State (and national) parks encompass historically significant land and facilities, land that contains threatened or endangered wildlife and resources, and recreational land that requires extensive funding and personnel to maintain a safe park environment. The criteria for designating these parks does not include national or state recommendations that indicate a minimum level of service application. These parks are generally located in forested areas, and areas with large amounts of vegetation, wildlife, and water (e.g., mountains, wetlands, and lakes).
Chapter Three

Case Study - Johnson City, Tennessee

Overview

In 1856, after his general store in Jonesborough failed, Henry Johnson borrowed money from Landon Haynes to repay his creditors; Haynes was a former Speaker of the Tennessee House of Representatives who—through legislation—maneuvered the construction of the East Tennessee and Virginia Railroad (i.e., CSX). Haynes also loaned Johnson the money to build a general store at the intersection of the stage roads (present-day Johnson City). The store was quickly taken by the railroad right-of-way (Stahl 1992).

By 1858, the town that had blossomed around the railroad was named Haynesville in honor of its founder and most influential citizen. During the Civil War, however, Haynes served as a Senator in the Confederate States of America; Henry Johnson, by contrast, was an adamant and vocal unionist. Following the War, President Johnson decreed that no city shall be named after a confederate
government participant. Haynesville was quickly renamed Johnson’s Depot and Henry Johnson became the city manager (Stahl 1992).

The first city charter for the town lasted merely 10-years (1869-1879); a lack of growth and an intolerance of liquor helped destroy all chances of Johnson’s Depot becoming a thriving city. By 1882, however, the East Tennessee and Western North Carolina Railroad was completed and the town began to experience a new wave of growth and economic prosperity. The town applied for another charter in 1885 and became a city; Johnson’s Depot became Johnson City (Stahl 1992).

The end of the nineteenth century brought continuing growth to the City. By 1897, the Charleston, Cincinnati, and Chicago (Three C’s) Railroad helped make Johnson City a regional center for food, dry goods, and others. The Mountain Home Veterans Hospital was founded in the city in 1901, and the Tennessee Legislature (in 1909) approved construction of a teacher’s school in Johnson City which is now termed East Tennessee State University. The population of the city grew from 685 (in 1880) to about 50,000 in 1990 (Stahl 1992).

Present-day Johnson City has evolved into a place that offers its residents an array of cultural and educational opportunities. The surrounding area is the home of famous historical sites such as the birthplace of Davy Crockett, Rocky
Mount Museum, Sycamore Shoals State Historic Park, Winged Deer Park, Guaranda Friendship Garden, and Tipton-Haynes Historical Farm. The area also offers unique recreational experiences (such as fishing, boating, and water skiing) at Boone Lake and nearby Watauga Lake (Stahl 1992).

The Johnson City Parks and Recreation Department has been in existence for the past 53 years (i.e., 1944 to 1997). The city-wide park system offers numerous amenities that include organized sports, bicycle trails, loading ramps (fishing), greenways, open space, two municipal golf courses, and playground equipment. The land and facilities that comprise the Johnson City Park System have many different origins. For instance, urban renewal projects of the 1960’s resulted in the construction of the Pine Oaks Municipal Golf Course.

The Johnson City Kiwanis Club donated the thirteen-acre Kiwanis Park to Johnson City in 1944 and has since spent over $150,000 improving the facilities. The fourteen-acre Rotary Park was donated by the Johnson City Rotary Club in 1948 and the organization provides funding for major improvements and maintenance (Stahl 1992).

In summation, the efforts of private organizations, private citizens, and the Johnson City Parks and Recreation Department have combined to form a well-rounded, historically significant, and appealing park system in Johnson City that seeks to provide the citizenry with ample park land and facilities.
Developing a Study Framework

The park system planning framework is described as the parameters and guidelines used for creating a park, pathway, and open space system within a city (Mertes 1995); these principles can be applied to study the current park system of a city as well. There are no shortcuts or easily applied (national or state) standards that can be used for effective park system planning. Rather, local needs should be met through an evaluation of park facilities on a city-by-city basis followed by an application of national standards.

The first step in the park planning process is the identification of customers and user groups. This population is comprised of simply the "... groups or individuals that already use -or would like to use- park and recreation facilities in some capacity" (Mertes 1995).

Customer identification is accomplished through demographic profile analysis and customer involvement (e.g., census data examination, citizen surveys, and workshops). Also, actual visitor profile counts can be gained through a random physical inventory of park visitors. The visitor profile analysis is important not only for identification of the types of persons that visit city parks, but also the time of day, length of visit, and activities in which they were participants.
The development of a planning framework involves the establishment of the study area (e.g., the city boundary) that will be analyzed. This will be used in conjunction with data concerning the current inventory of parks and recreation facilities in Johnson City to assess strengths, weaknesses, and (ultimately) needs.

For Johnson City, the boundary chosen was similar to the existing subdivision regulation boundary with a few minor adjustments (Figure 5, Appendix). These adjustments took into consideration the following items: proposed annexations, natural and man-made boundaries, major roads, and residential property lines. In summation, area just outside the city limits was included so that park planning could take into consideration future City growth.

The selected area is subject to the current subdivision design regulations and is considered for future annexation. In essence, about twenty percent of the studied households are located on land that is not within the current City limits boundary.

The study boundary was first drawn on a current City map that outlined City limit lines, the road network, and all streams and lakes. The second step in this planning process was the establishment of smaller, definable, study areas (e.g., neighborhoods) with which to work. Johnson City, unfortunately, was not divided into neighborhoods as part of a current land use plan.
Census tracks, natural and man-made boundaries, and the current subdivision regulation boundary were thus used to divide the city into twenty-two study areas. These areas were established so that interstates, highways, and major arterial streets did not traverse their boundaries. The census tracts that defined areas with a predominance of low and moderate income housing were used for the established neighborhoods within the City.

For the outlying portions of the City a larger study area was identified; this was due to residential development in these areas. These study areas (or neighborhoods) then became input into the Johnson City Geographical Information System (GIS) and a workable, study map was produced. All parks, recreational facilities, and public schools were then placed on the final study map.

A stratified random sample of households was then taken from the various study areas. This random household sample was taken so that a citizen survey could be performed. Twenty percent of the households (i.e., 4,427 households) within the City boundary was established as a sufficient population survey size.

The stratified random approach was performed so that we did not "... taint or invalidate the outcome by contacting an unrepresentative sample of the population" (Citizen 1981). The random sampling process was accomplished by
GIS software and from information gathered through the 1995 Special Census for Johnson City.

For the defined study area, the following information was obtained: total square miles, acres, and households per study area; households per square mile in each area; and the total household percentage (in each area) that comprised the survey. Also, the number of households per area that were extracted for the twenty percent sample; population in each area; population per square mile in each area; and the percentage of study population total that was used in each area were obtained (Table 3.1).

The information indicated that household density was relatively high in study areas fourteen and eighteen, indicating high-density residential development in these areas. Further investigation led to the realization that these areas contained the East Tennessee State University campus and a corresponding amount of R-3 (medium-density residential) zoning.

The next step in the park planning process is the identification of the parks, recreational facilities, and open space within the defined study area. This is accomplished by using a current working map of the City and physically counting the number of facilities within each study area.

There are currently thirty-three parks, recreational centers, special-use facilities, greenways, park trails, and natural resource areas in Johnson City under
Table 3.1 Johnson City households and population by study zone

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</table>

(Source: Johnson City Geographic Information System 1997)

the direction and maintenance of the Johnson City Parks and Recreation Department.

For the portions of the study area (as prescribed by the study area boundary) that were not within the current City boundary, a twenty percent stratified random sample was taken as well; the result was a sample of 1,192 residents (Table 3.2). This data indicates that the number of households (and population) located near -but outside- the city limit line is quite large. Due to
Table 3.2 Households (outside Johnson City limits) within study area.

<table>
<thead>
<tr>
<th>Study Zone</th>
<th>Number of Households</th>
<th>Sample Taken</th>
<th>Percent of Total</th>
</tr>
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<tbody>
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<td>12</td>
<td>8</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>13</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>14</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>424</td>
<td>84</td>
<td>1.5</td>
</tr>
<tr>
<td>16</td>
<td>272</td>
<td>54</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>18</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>19</td>
<td>750</td>
<td>150</td>
<td>2.7</td>
</tr>
<tr>
<td>20</td>
<td>348</td>
<td>69</td>
<td>1.2</td>
</tr>
<tr>
<td>21</td>
<td>97</td>
<td>19</td>
<td>0.3</td>
</tr>
<tr>
<td>22</td>
<td>469</td>
<td>93</td>
<td>1.7</td>
</tr>
</tbody>
</table>

(Source: Johnson City Geographic Information System 1997)

their close proximity to the City, residents of these households are able to use the park and recreation facilities and should thus be included.

There are nine school-parks maintained (i.e., all grounds maintenance performed) by the Johnson City Parks and Recreation Department (Table 3.3). These parks are the recreational grounds and facilities that are used mainly by the children who are enrolled in elementary, middle, or high-school. While they are not intended to be used by adults, organized sports teams, and passive recreational users, they do help in supplementing the overall park and recreation
Table 3.3 Johnson City parks, open space, and facilities.

<table>
<thead>
<tr>
<th>Park Type</th>
<th>Park Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini-Park</td>
<td>Veteran’s Park, Spring Street Park, Earth Day Park, Paul Christman Park</td>
</tr>
<tr>
<td>Neighborhood Park</td>
<td>Keystone Recreation Center, Neighborhood Park, Carver Park, Powell Square, Metro-Kiwanis Park, Lions Park, Jaycee Park, Kiwanis Memorial Park</td>
</tr>
<tr>
<td>Community Park</td>
<td>Legion Recreation Center and Pool, Rotary Park, Civitan Park, Willow Springs Park</td>
</tr>
<tr>
<td>Large Urban Park</td>
<td>Winged Deer Park</td>
</tr>
<tr>
<td>Sports Complex</td>
<td>Liberty Bell Sports Complex, Memorial Stadium and Little League Park</td>
</tr>
<tr>
<td>School-Park</td>
<td>Elementary: North Side, South Side, Towne Acres, Fairmont, Woodland, Mt. View, Stratton, and Cherokee. Indian Trail Middle School and Science Hill High School</td>
</tr>
<tr>
<td>Special-Use Park</td>
<td>Howard Johnson Field, Freedom Hall Pool, Beeson Hall, Princeton Arts Center, Optimist Park, Pine Oaks Golf Course, Buffalo Valley Golf Course</td>
</tr>
<tr>
<td>Natural Resource Area</td>
<td>Buffalo Mountain Park</td>
</tr>
<tr>
<td>Greenway/Bikeway/Trail</td>
<td>State of Franklin Greenway and Bike Lane</td>
</tr>
</tbody>
</table>

(Source: Johnson City Parks and Recreation Department 1997)

supply. When added to the the City inventory, these facilities and open space areas constitute the Johnson City Park System.

This system does not include those recreational opportunities provided by private organizations (i.e., neighborhood organizations, private membership clubs, and citizens) where user fees, organizational membership and residential location constitute the qualifications for use. Private parks help to fulfill (and supplement) the recreational needs of the community, but should not be regarded as substitutes for public recreation space.
For the purpose of this study, the parks and recreation departments of the four cities categorized each of their parks, recreational facilities, open spaces, and greenways according to national park and recreation standards; these standards are generally outlined in Chapter One. National park standards, however, are recommendations. That is, they are intended to be interpreted by each city, and altered to fulfill their particular and unique recreational needs. These needs are ascertained through individual city comprehensive park planning, citizen surveys, and census data (e.g., demographic information).

The park area (and included facilities) have been interpreted by the four park departments as being either presently sufficient (i.e., meeting national recommendations) or scheduled for upgrade, improvement, or expansion. The categorization of parks, recreational facilities, open spaces, and greenways are shown according to information from each of the four individual park and recreation departments.

The level of service estimates for Johnson City (Table 3.4) reflect the amount of park space (i.e., land) that has been devoted toward the fulfillment of needs-based park and recreation demand. That is, 358 acres has been established as the amount of space needed to “… accommodate not only the specific facilities, but also the space needed for [programmed and] un-programmed recreation activities” (Mertes 1995).
The Mini-Park, Neighborhood Park, Community Park, Large Urban Park, and Sports Complex are park-types considered “level of service applicable” by the National Recreation and Parks Association. These parks serve the basic recreational needs of the community and are compared to national recommendations as to both their size and their location in relation to residential concentrations.

Table 3.4 Johnson City current level of service (Mertes 1995).

<table>
<thead>
<tr>
<th>Park-Type</th>
<th>Acreage</th>
<th>Level of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini-Park</td>
<td>two acres</td>
<td>.04 acres per 1,000 persons</td>
</tr>
<tr>
<td>Neighborhood Park</td>
<td>52 acres</td>
<td>1.1 acres per 1,000 persons</td>
</tr>
<tr>
<td>Community Park</td>
<td>88 acres</td>
<td>1.8 acres per 1,000 persons</td>
</tr>
<tr>
<td>Sports Complex</td>
<td>16 acres</td>
<td>.33 acres per 1,000 persons</td>
</tr>
<tr>
<td>Large Urban Park</td>
<td>200 acres</td>
<td>4.1 acres per 1,000 persons</td>
</tr>
</tbody>
</table>

These parks do not require special circumstances (e.g., natural resource area) or large amounts of continuous and developable land (e.g., a golf course) in order to exist, be maintained, and serve a purpose within the park system. In short, they are the basic components of a well-structured park system. National standards outlined by the National Recreation and Parks Association are intended to “... serve as a guide to planning- not as an absolute blueprint” (Lancaster 1983). These standards (or recommendations) help in the planning process in that they establish the minimum park space (i.e., acres per 1,000 population)
needed for a community to adequately serve park and recreation needs. In short, each park-type (to which level of service applies) within a city park system should—at a minimum—either meet or exceed these recommendations.

National recommendations can be compared to the existing park situation in Johnson City to indicate park space deficiency as it pertains to each park-type to which level of service applies (Table 3.5). “NRPA suggests that a park system, at a minimum, be composed of a “core” system of parklands, with a total of 6.26 to 10.5 acres of developed open space per 1,000 population” (Lancaster 1983).

Table 3.5 National recommendations and City park space deficiency (Lancaster 1983).

<table>
<thead>
<tr>
<th>Park-Type</th>
<th>acres per 1,000</th>
<th>Current Level of Service</th>
<th>NRPA Recommendation</th>
<th>Park Space Deficiency</th>
<th>Acres Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini-Park</td>
<td>0.04</td>
<td>.25 to 0.5</td>
<td>.21 to .46</td>
<td>11 to 23</td>
<td></td>
</tr>
<tr>
<td>Neighborhood Park</td>
<td>1.1</td>
<td>1.0 to 2.0</td>
<td>none</td>
<td>0 to 47</td>
<td></td>
</tr>
<tr>
<td>Community Park</td>
<td>1.8</td>
<td>5.0 to 8.0</td>
<td>3.2 to 6.2</td>
<td>162 to 312</td>
<td></td>
</tr>
<tr>
<td>Large Urban Park and Sports Complex</td>
<td>4.43</td>
<td>5.0 to 10.0</td>
<td>.57 to 5.57</td>
<td>34 to 284</td>
<td></td>
</tr>
</tbody>
</table>

A current inventory of the Johnson City Park System indicates that the City maintains 7.37 acres of park land per 1,000 population. This figure exceeds the national minimum recommendation of 6.25 acres per 1,000. The Park...
System is, however, deficient in all level of service park-types according to NRPA recommendations.

In order to meet the minimum park space recommendations of the National Recreation and Parks Association for each park-type, the Johnson City Parks and Recreation Department would need to procure an additional 207 to 666 acres of park land (i.e., 3.98 to 12.23 acres per 1,000 persons) that is destined to become a park-type to which level of service applies (e.g., a mini-park or neighborhood park). The acreage needed to achieve compliance with National Recreation and Park Association standards by park-type is given in Table 3.5.

Facilities Inventory

The City of Johnson City existing park and open space system consists of a total of 1,552 acres of park land, land on which facilities, buildings, greenways, and park trails are located; this amounts to a per-capita park land total of 0.03 acres. This land total per-capita calculation includes all parks within the existing system. The division of this acreage by park-type is summarized in Table 3.6. These park-types range from large urban parks to mini-parks. Included is a greenway system that is currently being planned for major expansion.
Table 3.6 Park acreage by park-type.

<table>
<thead>
<tr>
<th>Park-Type</th>
<th>Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini-Park</td>
<td>2 acres</td>
</tr>
<tr>
<td>Neighborhood Park</td>
<td>52 acres</td>
</tr>
<tr>
<td>Community Park</td>
<td>88 acres</td>
</tr>
<tr>
<td>Large Urban Park</td>
<td>200 acres</td>
</tr>
<tr>
<td>Sports Complex</td>
<td>16 acres</td>
</tr>
<tr>
<td>School-Park</td>
<td>242 acres</td>
</tr>
<tr>
<td>Special-Use Park</td>
<td>218 acres</td>
</tr>
<tr>
<td>Natural Resource Area</td>
<td>725 acres</td>
</tr>
<tr>
<td>Greenway/Bikeway/Trail</td>
<td>9 acres</td>
</tr>
</tbody>
</table>

(Source: Johnson City Parks and Recreation Department 1997)

Total park acreage can be compared to the projected total number of households, the size, and the estimated population for each study area (Table 3.7). The estimated population is based on a 2.4 persons per household average (Census 1990). The estimated population was calculated by dividing the total number of households by the total population figure of the City. This figure (i.e., 2.4) was then multiplied by the number of households in each study area.

This information is useful, because it takes into account the changing and fluctuating nature of household composition and the expansion of City limits due to factors such as future annexation and migration. The information outlined in Table 3.7 is based on areas both inside and outside the current City limit boundary. The current City limits are expected to expand (and eventually conform) to the boundary that encompasses all 22 study areas. The total number of households (i.e., 28,641) is an increase of 7,902, or 40 percent.
The figures in Table 3.7 are based on the current population based on the total number of households present in the study area. Population projections for Johnson City estimate the number of persons to increase to 54,800 by the year 2000; this is an increase of 11 percent. By 2010, however, the population of Johnson City is expected to reach 61,000 persons (General 1982). This represents a population increase of 23.5 percent from 1990 to 2010.
Population age-group breakdowns can also be estimated and adjusted to reflect projected population estimates (Table 3.8). These adjusted estimates are based on population age-group breakdowns for the past 40 years (i.e., 1960-1990). The average adjustment factor is multiplied by the average population age-group percent to form the adjusted figure.

Using projected population estimates for Johnson City, the process of determining park need consists of two basic steps: 1) using the previously established standards to determine the total acreage needs for each type of park, and 2) subtracting the existing park acreage in each type of park from the total need derived in step no. 1 and determining the net park acres that will have to be acquired (Matthews 1976).

Table 3.8 Population trends by age-group (General 1982).

<table>
<thead>
<tr>
<th>Age</th>
<th>1960</th>
<th>1970</th>
<th>1980</th>
<th>1990</th>
<th>Average</th>
<th>Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14</td>
<td>26%</td>
<td>23%</td>
<td>18%</td>
<td>16%</td>
<td>21%</td>
<td>17.90%</td>
</tr>
<tr>
<td>15-24</td>
<td>16%</td>
<td>21%</td>
<td>23%</td>
<td>19%</td>
<td>20%</td>
<td>20.30%</td>
</tr>
<tr>
<td>25-64</td>
<td>47%</td>
<td>44%</td>
<td>45%</td>
<td>49%</td>
<td>46%</td>
<td>46.70%</td>
</tr>
<tr>
<td>65+</td>
<td>11%</td>
<td>12%</td>
<td>14%</td>
<td>16%</td>
<td>13%</td>
<td>14.70%</td>
</tr>
</tbody>
</table>

The adjusted population percent (by age-group) figure was obtained by taking the percent of change from each decade by each age-group (beginning with 1960), taking the average percent of those calculations, and multiplying that figure by the average population percent over the four decades.
For example, the 1970 population of age-group 0-14 was 88.46 percent of what it was in 1960. The 1980 population of this group was 78.3 percent of what it was in 1970. Finally, the 1990 population was 88.9 percent of what it was in 1980; the average of these three figures is 85.2. By extracting 85.22 percent of the average 21 percent, we are left with the adjustment figure of 17.90 percent.

This procedure takes into account both trends in age-group percentage fluctuation and the aging of our population. The 61,000 population figure does not reflect the estimated population of 68,738 as dictated by the complete study area (Table 3.7).

This estimated population would require vast annexation of land surrounding the City (i.e., 3,402 acres) and is not a good basis from which to base population forecasts. Each household was multiplied by 2.4 to provide an average of the total population within each individual study area.

By applying these adjusted percentages to the (2010) projected population, age-group population projections can be tabulated for Johnson City for the purposes of gaining age-group percentages for the overall population projection of 61,000 persons (Table 3.9).
Table 3.9 Projected 2010 population by age-groups.

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14</td>
<td>11,000 persons</td>
</tr>
<tr>
<td>15-24</td>
<td>12,400 persons</td>
</tr>
<tr>
<td>25-64</td>
<td>28,500 persons</td>
</tr>
<tr>
<td>65+</td>
<td>9,000 persons</td>
</tr>
</tbody>
</table>

Park planners need information regarding the projected age-group breakdown for city residents in order to forecast park facility demand and become proactive in the supply of recreation activities. The projected number of elderly persons (i.e., 9,000 by 2016) in Johnson City is a conservative figure. This calculation does not take into account migration or annexation; the Tri-City region is becoming an increasingly popular area in which to retire. In short, projected population figures of this nature need to be approached with caution and should not be regarded as absolute.

Using the current level of service calculations for Johnson City (Table 3.4) in combination with the projected population estimates (i.e., 61,000 persons by 2010), a park needs estimate can be calculated based on a level of service that remains constant. That is, a park space estimate for the City based on current level of service and a larger population. Currently, the parks to which level of
service standards apply account for 358 acres of park land. To maintain this standard, an additional 91.5 acres would be needed (Table 3.10).

One of the single most important factors influencing open space and recreation in a city is the area’s past, present, and future growth. Increases in population and land area result in the replacement of open space areas with urban development and (ultimately) an increase in the demand for recreational facilities (Matthews 1976).

### Table 3.10 Projected park acreage estimates for 2010.

<table>
<thead>
<tr>
<th>Park-Type</th>
<th>Present Acres in Inventory</th>
<th>1997 Conditions</th>
<th>Future Acres Needed</th>
<th>2010 Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini-Park</td>
<td>two acres</td>
<td>.04 acres per 1,000</td>
<td>2.5 acres</td>
<td>.04 acres per 1,000</td>
</tr>
<tr>
<td>Neighborhood Park</td>
<td>52 acres</td>
<td>1.1 acres per 1,000</td>
<td>67 acres</td>
<td>1.1 acres per 1,000</td>
</tr>
<tr>
<td>Community Park</td>
<td>88 acres</td>
<td>1.8 acres per 1,000</td>
<td>110 acres</td>
<td>1.8 acres per 1,000</td>
</tr>
<tr>
<td>Sports Complex</td>
<td>16 acres</td>
<td>.33 acres per 1,000</td>
<td>20 acres</td>
<td>.33 acres per 1,000</td>
</tr>
<tr>
<td>Large Urban Park</td>
<td>200 acres</td>
<td>4.1 acres per 1,000</td>
<td>250 acres</td>
<td>4.1 acres per 1,000</td>
</tr>
</tbody>
</table>

With an active policy regarding annexation, Johnson City has a growth rate that produces an average of 50 percent City limit expansion and a decrease in area density every eight to ten years (Table 3.11).

Data from Table 3.11 indicates that the population of Johnson City increases at an average rate of 13.5 percent every eight to ten years. On the other hand, the density rate (i.e., persons per square mile) of the City is decreasing at an average rate of 22 percent in the same time span.
Table 3.11 Johnson City area and density levels.

<table>
<thead>
<tr>
<th>Date</th>
<th>Area in Square Miles</th>
<th>Percent Increase</th>
<th>Population Increase</th>
<th>Density Increase</th>
<th>Percent Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Jan-60</td>
<td>7.69</td>
<td>0*</td>
<td>29,892</td>
<td>7%</td>
<td>3,888</td>
</tr>
<tr>
<td>1-Jan-70</td>
<td>14.36</td>
<td>87%</td>
<td>33,770</td>
<td>13%</td>
<td>2,352</td>
</tr>
<tr>
<td>1-Jan-80</td>
<td>20.69</td>
<td>44%</td>
<td>39,753</td>
<td>18%</td>
<td>1,922</td>
</tr>
<tr>
<td>1-Jan-90</td>
<td>30.34</td>
<td>47%</td>
<td>49,381</td>
<td>24%</td>
<td>1,628</td>
</tr>
<tr>
<td>1-Jan-97</td>
<td>37.37</td>
<td>23%</td>
<td>52,000</td>
<td>5%</td>
<td>1,392</td>
</tr>
</tbody>
</table>

(Source: Johnson City, Tennessee Geographic Information Systems 1997)
(Note: * indicates data that is unavailable)

The correlation of population to density is an important factor in the park planning process. While both the population and the land area is increasing in the City, the density is decreasing and -unfortunately- places an element of strain on the Parks and Recreation Department in their goal of making the Park System accessible to all City residents. This situation would merit an alteration of current Park and Recreation objectives that would seek to de-concentrate (and thus provide a greater dispersal) of park land around the City.

Park land and open space quantities need to expand to meet the growing needs of the population. Johnson City has grown approximately 10 percent each decade since 1960; this trend is expected to continue into the next century. Due -in part- to an active annexation policy and an abundance of relatively inexpensive land in the area, Johnson City is growing into a large, thriving, and diverse city.
With this size and diversity comes a host of new and different recreational needs on behalf of the population. Various social, economic, and demographic variables within the community will need to be examined so that the needs of all citizens are represented by the facilities present in the Johnson City Parks System. These variables include the aged population, the suburban wealthy, the urban poor, rural farmers, college students, single mothers, blue-collar workers, and urban professionals.

The placement of future park facilities in Johnson City will include site selection and land acquisition precluded by a comprehensive understanding of the community and the basic recreational needs of City residents. That is, knowledge of the community in regards to social and demographic data will help park planners predict the most accessible, useful, and sensible areas in which parks should be placed.

Politics play an increasingly important role in site selection, facility placement, and -ultimately- park funding. Wetland conservation, natural habitat protection, and flood hazard mitigation are considered high priority issues among environmental activists. These issues are becoming increasingly important and are recognized by political figures who seek elected positions as well.

The 1993 Tennessee State Wetland Conservation Strategy is an example of an initiative that is designed to help preserve and restore wetland areas in
Tennessee through available state and federal funding. Once categorized as a wetland, protected areas “... can provide important benefits to both the environment and the public” (Tennessee 1995). In summation, these areas become part and parcel of a park system and provide unique places where recreational activities and natural habitat observation can take place.

Citizen Survey

The information (i.e., household addresses) gathered from the stratified random sample was used to administer a citizen survey regarding the Johnson City Parks and Recreation Department. A weighted sample of addresses were derived from households located within the study area boundary (Appendix 5).

The total surveyed household number was 5,619; this amounts to approximately ten percent of the total households in Johnson City and surrounding areas just outside the City limits. Seven of the (combined inside and outside the City limit) sample groupings contained no households and were thus deleted from the survey.

Johnson City -with a population of approximately 50,000 persons- is relatively large and would seem to require a large population sample in order to gather an accurate sense of how well the park system is meeting the needs of the population. However, “when accurate data even about a very small sample can
be obtained, and when that small sample is chosen wisely—in demographers’
terms, when the sample is “designed” properly—the data from that small sample
can be used to make incredibly accurate statements about the entire population
from which the sample was chosen” (Institute 1981).

The actual survey document (Appendix 6) was written with the intention
of gaining citizen input concerning the importance of recreational opportunities
provided by the City. Response rate of the sample survey was 12 percent (i.e.,
651 responses were returned).

Respondents were asked to indicate their most favored (i.e., the most
important) recreational activities in which they were participants. These
questions were asked so that “high priority” activities could be identified and the
Parks and Recreation Department could begin improving the most sought (i.e.,
popular) recreation services and activities.

The results of the survey outlined certain recreational activities that were
deemed the most important among a list of forty-one activities. The survey
found that the following (alphabetically listed) activities are very important to the
citizens of Johnson City (i.e., one-third or more of respondents identified these
activities): cultural events; baseball/softball; basketball; drama/music; exercise
programs; fishing; fitness walking; movies/videos; picnicking; playgrounds;
pleasure driving; roller blading; shopping/antiques; attending sporting events;
swimming; and visiting parks. Recreational activities that were identified as being very high priority (i.e., 50 percent or more of respondents identified these activities) include: fitness walking; movies/videos; picnicking; reading; and visiting parks.

Data of this sort can be used by the Johnson City Parks and Recreation Department in their efforts to fashion the facilities (present in the Johnson City Park System) according to the needs and desires of the people who use them (i.e., the park customers). For example, park facilities that are presently part of the Park System (e.g., baseball and softball fields) should be expanded, and those facilities and activities that are not (e.g., fitness and walking trails and reading programs) should become objectives of Park planners.

Respondents were asked to estimate the nearest City-sponsored park and recreation facility to their place of residence. This was done in an effort to gain insight into the percentage of respondents who lived within walking distance (i.e., one-half mile or less) of a park facility. The survey found that sixty percent of the respondents lived in excess of one-mile from a recreation facility; sixteen percent lived approximately one-mile from a facility. Only twenty-four percent of the respondents indicated that they lived within walking distance of a park facility.
By reviewing the respondents according to the study area in which their residence is located (Appendix 5), City planners are able to target areas of the City that lack sufficient park space and begin alleviating the problem through strategic placement of mini-parks and neighborhood parks in “needy” areas.

Certain demographic, economic, environmental, and social trends have dramatic influences on the planning process and the decisions that park planners make in their attempt to provide services to the community. For instance, the “baby boomer” generation is aging; by 2030, over one-third of the population will be considered senior citizens. Also, economic trends indicate a decline in the amount of leisure spending in the United States, environmental cleanup efforts are expected to escalate in forthcoming years, and personal and family safety concerns will continue to increase in importance (Mertes 1995).

For the park planner, societal trends need to be closely monitored so that park and recreational conditions present in the community can be altered to accommodate the changing nature of the population. For instance, according to current trends, the elderly are an ever-growing segment of the population. Results of the random citizen survey found that 45 percent of survey respondents were in the 40+ age category; 23 percent were in the 55+ age group. According to 1990 census data, the 55+ age group in Johnson City accounts for 26 percent of the population. This similarity (between census results and the results of the
survey) reflects the accuracy of the survey in terms of equal population representation and results.

Overall (general) satisfaction with the Johnson City Park System was another variable that helped determine how well Johnson City parks meet the demands and needs of the citizenry. Over 80 percent (i.e., 81 percent) of respondents viewed recreation as either “important” or “very important.” Three percent of the respondents viewed recreation as “not important,” and only 17 percent viewed it as “somewhat important.”

Satisfaction with the recreational facilities in the City was found to be quite positive as well. Only 18 percent of respondents were “dissatisfied” or “very dissatisfied” with the recreational opportunities in Johnson City; 82 percent were either “satisfied” or “very satisfied” with the opportunities.

**Per-Capita Expenditure**

Expenditure figures on a per-capita basis for park and recreational facilities can be regarded as a way to ascertain how Johnson City compares to other (relatively equal) cities in relation to public expenditure for recreation and park-related services. This procedure has been performed by the Tennessee Park and Recreation Advisory Service and the Tennessee Recreation and Park Association to compare parks departments across Tennessee. The information
used in this comparison (and the results gained) are considered to be "... critical to the overall operation of quality recreation programs for the citizens of Tennessee" (Cunningham 1993).

Tennessee residents rely on a joint (state and municipal entity) effort to provide recreational services that are not furnished through private parks and private organizations (e.g., health clubs). The types, quantity, and maintenance of these facilities and services are dictated by public expenditure. The annual municipal budget is the means by which this expenditure is categorized and appropriated according to use and function for the forthcoming year.

The function of the annual operating budget is to "... provide for comprehensive involvement of departmental and sub-departmental units of government in planning the programs to be executed during the ensuing year; the quantification of requirements for personnel, materiel, contractual and other serviced, and the resolution of these into current dollar requirements" (Moak 1975). By contrast, the capital budget is described as "a plan of proposed outlays and the means of financing them for the current fiscal period" (Moak 1975).

For Johnson City, the capital expenditures include $65,000.00 for vehicle and equipment replacement and $35,000.00 for park rehabilitation and improvements. The operating budget, however, has six major components
(Table 3.12). To place this budget into perspective, Personal Services account for $1,734,419.00 (i.e., 73.6 percent) of the total annual budget; this includes all salaries and benefits of the Park and Recreation Department (full-time, part-time, and temporary) employees (City 1996).

Table 3.12 Operating budget by category (City 1996).

<table>
<thead>
<tr>
<th>Category</th>
<th>Total and Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Services</td>
<td>$1,734,419.00 (73.6 percent)</td>
</tr>
<tr>
<td>Contractual Services</td>
<td>$309,400.00 (13 percent)</td>
</tr>
<tr>
<td>Supplies</td>
<td>$157,500.00 (6.7 percent)</td>
</tr>
<tr>
<td>Building Materials</td>
<td>$17,800.00 (.76 percent)</td>
</tr>
<tr>
<td>Fixed Charges</td>
<td>$7,100.00 (.30 percent)</td>
</tr>
<tr>
<td>Grants and Other</td>
<td>$29,850.00 (1.3 percent)</td>
</tr>
</tbody>
</table>

The parks and recreation budget in Johnson City for fiscal year 1996-1997 is $2,356,069.00. Out of this total, $100,000.00 (i.e., 4.2 percent) is the capital budget and $2,256,069.00 (i.e., 95.8 percent) is the operating budget (City 1996). This results in a per 1,000 persons expenditure for capital outlay of $2,025. On the other hand, the per 1,000 persons expenditure on operating expenses for park-related facilities and activities amounts to $47,713.00.

Athletics, recreation programs, and aquatics illustrate the most identifiable services that the Johnson City Parks and Recreation Department provides for City residents. The operating budget expenditure for the operation
of these items in fiscal year 1996-1997 amounts to $776,544.00 (i.e., 33 percent of the operating budget). Considering the costs associated with a parks department in one fiscal year, this is a relatively low percentage of the overall expenditure and puts the costs of the Department into greater perspective. By comparison, general maintenance accounts for 34 percent of the operating budget.

The budget appropriation analysis for the Johnson City Parks and Recreation Department has yielded valuable information. This data can be compared with related information from other cities of like size and character in order to measure the similarities and differences among the parks and recreation departments in relation to their budgets and appropriated expenditures.
Chapter Four

Case Studies 2, 3, and 4

Jackson, Tennessee

The city of Jackson is the County Seat of Madison County and has a population of approximately 50,000 persons. The City was incorporated in 1845 and has had an extensive history as a railroading community. Jackson is the burial place of the famous railroad engineer John Luther "Casey" (Encyclopedia 1993).

The land on the South Fork of the Forked Deer River was settled in 1819 as the town of Alexandria. By 1823, however, the town was renamed Jackson (after President Andrew Jackson) by his nephew (O'Brien 1985). Home of several railroad presidents, Jackson evolved into a city rich in industry and educational centers.

The City is home to a number schools including Union University, Lamburth College, and Lane College. Industrial ventures in Jackson have included the manufacturing of textiles, wood, and paper products.
The Jackson Recreation and Parks Department became an official municipal entity in 1950 and has evolved into a well established, contemporary Parks Department that offers City residents an array of unique recreational opportunities. These include: a full-size golf course, a 5,000 seat sports arena, a fairgrounds park, a restored railroad depot, and a 2,400 seat civic center.

Several points of interest in and around the city of Jackson include Chickasaw State Rustic Park, Pinson Mounds State Archaeological Park, the Cypress Grove Nature Park, and The “Casey” Jones Home and Railroad Museum (Encyclopedia 1993).

**Present Conditions: Jackson**

The City of Jackson, Tennessee contains a total of twelve parks and recreational facilities (645 acres) that are maintained by the City Recreation and Parks Department (Figure 4.1). These parks and recreational facilities do not include school-parks. Jackson (city) schools are maintained by a consolidated city and county school system and (for the purposes of this study) are not considered in the park space inventory.

The Recreation and Parks Department has outlined the general goals and plans for the future of the parks and recreation program in Jackson. The Department contends that as Jackson continues to enjoy unprecedented growth,
their recreation and parks program will match that growth with facilities and services. A new community park is under construction in North Jackson, a community center will be built in Malesus Park (South Jackson), and an additional nine holes will be added to the Bent Tree Golf Course.

Table 4.1 Jackson parks and recreational facilities.

<table>
<thead>
<tr>
<th>Park Type</th>
<th>Park Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini-Park</td>
<td>Paradise Park (1.5 ac.)</td>
</tr>
<tr>
<td>Neighborhood Park</td>
<td>Wallace Rd. Park (9 ac.), Centennial Park (18 ac.),</td>
</tr>
<tr>
<td></td>
<td>Forest Hills Park (22 ac.), Highland Park (18 ac.)</td>
</tr>
<tr>
<td>Community Park</td>
<td>Muse Park (100 ac.), Kate C. Robertson Park (317 ac.),</td>
</tr>
<tr>
<td></td>
<td>Malesus Civic Park (32 ac.)</td>
</tr>
<tr>
<td>Large Urban Park</td>
<td>None</td>
</tr>
<tr>
<td>Sports Complex</td>
<td>T.R. White Sportsplex (8 ac.), Westwood Recreation Center and Tennis Center (1.5 ac.)</td>
</tr>
<tr>
<td>School-Park</td>
<td>Non Applicable</td>
</tr>
<tr>
<td>Special-Use Park</td>
<td>Bent Tree Golf Course</td>
</tr>
<tr>
<td>Natural Resource Area</td>
<td>Cypress Grove Nature Park (165 ac.)</td>
</tr>
<tr>
<td>Greenway/Bikeway/Trail</td>
<td>Cypress Grove, Muse Park, Kate C. Robertson Park, Malesus Civic Park</td>
</tr>
</tbody>
</table>

(Source: Jackson, Tennessee Recreation and Parks Department 1997)

The current level of service (by park-type) estimates for Jackson, Tennessee indicate that 527 acres of park land in the City is intended to serve the basic recreational needs of the community (Table 4.2). This is an impressive
figure when compared to the National Recreation and Parks Association recommendation of 6.26 to 10.5 acres of park space per 1,000 population (Lancaster 1983). The city of Jackson contains 10.83 acres of park space per 1,000 persons; this exceeds the recommendation by .63 to 4.57 acres per 1,000 population.

<table>
<thead>
<tr>
<th>Jackson, Tennessee</th>
<th>Park-Type</th>
<th>Acreage</th>
<th>Level of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mini</td>
<td>1.5 acres</td>
<td>.03 acres per 1,000 persons</td>
</tr>
<tr>
<td></td>
<td>Neighborhood</td>
<td>67 acres</td>
<td>1.4 acres per 1,000 persons</td>
</tr>
<tr>
<td></td>
<td>Community</td>
<td>449 acres</td>
<td>9.2 acres per 1,000 persons</td>
</tr>
<tr>
<td></td>
<td>Sports Complex</td>
<td>9.5 acres</td>
<td>0.2 acres per 1,000 persons</td>
</tr>
<tr>
<td></td>
<td>Large Urban Park</td>
<td>none</td>
<td>non applicable</td>
</tr>
</tbody>
</table>

(Source: Jackson, Tennessee Recreation and Parks Department 1997)

The Recreation and Parks Department has identified all of the historical monuments, battlefields, graveyards, and other structures and sites of this sort (that are maintained by the Jackson Parks and Recreation Department). These facilities include Riverside Cemetery. Jackson maintains a one-mile greenway with a six-foot wide boardwalk located in the Forked Deer River Bottoms area of the City (Tennessee 1995).

A series of public input workshops using nominal group process techniques and citizen surveys (regarding recreational demand) were conducted.
by various recreation planners around Tennessee; these workshops and surveys were conducted on a region-to-region basis. The results were compiled to form the Tennessee Comprehensive Outdoor Recreation Plan. According to this plan, the City of Jackson is located in the Southwest District of the West Tennessee Planning Region; a region encompassing eight (surrounding) counties.

This district (through the before-mentioned citizen input process) reported the following to be "high priorities" for the Jackson Recreation and Parks Department: baseball/softball fields, off-road vehicle trails, better trail management, and an expansion of current recreation services. These findings represent an apparent desire for more outdoor oriented services and facilities to exist in the area encompassing Jackson.

The Jackson Parks and Recreation Department has a combined operating and capital budget (for fiscal year 1997) of $6,744,766.00. Out of this total budget, the operating budget is $5,174,618.00 (76.7 percent) and the capital budget is $1,570,148.00 (23.3 percent).

Using 1990 census data concerning the population of Jackson (i.e., 48,949), this amounts to an operating budget per 1,000 persons expenditure of $105,712.00. The capital budget per 1,000 persons expenditure on park and recreation facilities and activities in Jackson amounts to $32,077.00.
Kingsport, Tennessee

The City of Kingsport is a northeast Tennessee community of approximately 40,000 persons located on the banks of the Holston River. Located in Sullivan County, Kingsport experienced growth during the early nineteenth century as a popular docking point for riverine vessels.

In 1822, shortly after the City was introduced to industrial growth and population expansion, Kingsport became incorporated. Soon thereafter, Colonel James King began building mills and factories in the area due to its prime location in relation to the popular riverine shipping lane of the Holston (O'Brien 1985).

People in and around the region once considered Kingsport to be the “gateway to the southwest” due to its proximity to the Great Indian Warrior and Trader Path; this was the first road ever built in Tennessee. The road was used extensively for over 150 years and later became known as Daniel Boone's Wilderness Road (Encyclopedia 1993).

The Kingsport Parks and Recreation Department came into existence in the late 1930's following the establishment of the J. Fred Johnson Park. Some historically significant places and points of interest in and around the city of Kingsport include: Boat Yard Historic District, Clinchfield Railroad Station,
Bays Mountain Park, Long Island of the Holston, Preston Farm, Allandale, Boone Dam and Lake, and Fort Patrick Henry Dam and Lake.

Present Conditions: Kingsport

The City of Kingsport presently contains a total of eighteen parks and recreational facilities (3,190 acres) that are under the direction of the Kingsport Parks and Recreation Department (Table 4.3).

Table 4.3 Kingsport parks and recreational facilities.

<table>
<thead>
<tr>
<th>Park Type</th>
<th>Park Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini-Park</td>
<td>Highland Park (.4 ac.), Dale Street Park (.04 ac.), Sevier Street Park (.4 ac.), Hammond Park (2.6 ac.), Ridgefields (5.0 ac.)</td>
</tr>
<tr>
<td>Neighborhood Park</td>
<td>Riverview Park (5.8 ac.)</td>
</tr>
<tr>
<td>Community Park</td>
<td>Borden (17.0 ac.), Riverfront (27 ac.), J. Fred Johnson (5.0 ac.), Memorial Gardens (8 ac.), Glen Bruce Rotherwood (.4 ac.)</td>
</tr>
<tr>
<td>Large Urban Park</td>
<td>None</td>
</tr>
<tr>
<td>Sports Complex</td>
<td>Heritage (23 ac.), Granby Road Sports Complex (50 ac.), Cloud Park (12 ac.)</td>
</tr>
<tr>
<td>School-Park</td>
<td>Non Applicable</td>
</tr>
<tr>
<td>Special-Use Park</td>
<td>Allandale Park, Legion Pool, Cattails, Golf Course</td>
</tr>
<tr>
<td>Natural Resource Area</td>
<td>Bays Mountain</td>
</tr>
<tr>
<td>Greenway/Bikeway/Trail</td>
<td>Bays Mountain Bike Trails</td>
</tr>
</tbody>
</table>

(Source: Kingsport, Tennessee Parks and Recreation Department 1997)
School-parks are not considered part of the Kingsport Parks and Recreation Department inventory; these parks are maintained by the Kingsport (city) School District.

The Kingsport Parks and Recreation Department has outlined general goals and plans for the future of the parks and recreation program for the City. These plans include the completion of the Kingsport Greenbelt, the completion of the Cattails Golf Course, and the renovation of Legion Pool and Allandale Mansion. Also, the development of a new Sports Complex in the City is being considered.

Level of service estimates indicate that Kingsport contains approximately 159 acres of park land that is dedicated to serving the most basic park and recreational needs of the population (Table 4.4).

Table 4.4 Current level of service estimates for Kingsport.

<table>
<thead>
<tr>
<th>Park-Type</th>
<th>Acreage</th>
<th>Level of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini-Park</td>
<td>nine acres</td>
<td>.25 acres per 1,000 persons</td>
</tr>
<tr>
<td>Neighborhood Park</td>
<td>six acres</td>
<td>.17 acres per 1,000 persons</td>
</tr>
<tr>
<td>Community Park</td>
<td>59 acres</td>
<td>1.7 acres per 1,000 persons</td>
</tr>
<tr>
<td>Sports Complex</td>
<td>85 acres</td>
<td>2.4 acres per 1,000 persons</td>
</tr>
<tr>
<td>Large Urban Park</td>
<td>none</td>
<td>non applicable</td>
</tr>
</tbody>
</table>

(Source: Kingsport, Tennessee Parks and Recreation Department 1997)
This level of service estimate amounts to 4.52 acres per 1,000 persons. This estimate is from 1.74 to 5.98 (acres per 1,000 persons) shy of meeting the National Recreation and Parks Association minimum standard of 6.26 to 10.5 acres per 1,000 persons.

The Kingsport Parks and Recreation Department has identified all of the historical monuments, battlefields, graveyards, areas, and structures that are maintained by the Kingsport Parks and Recreation Department. These include the Boatyard Riverfront Park and Historical Area. Kingsport maintains an eight-mile greenway with eight to ten-foot wide paved trails located near the North Holston River and Reedy Creek (Zimmerman et al. 1995).

The Tennessee Comprehensive Outdoor Recreation Plan (1995-1999) identifies Kingsport as being in the Upper East Tennessee Planning Region. As a result of the citizen input workshop and survey regarding parks and recreation in Kingsport, a list of “high priority” issues, activities, and recreational facilities were identified by the citizenry.

These priorities include the following: youth programs, community centers, camp sites, tennis courts, community-wide trail and greenway systems, water skiing, habitat and wetland conservation, park maintenance, and park security (Zimmerman et al. 1995). These findings represent an apparent desire
for more of these services and facilities to exist in the area encompassing
Kingsport.

The Kingsport Parks and Recreation Department has a combined
operating and capital budget (for fiscal year 1997) of $1,650,000. Out of this
total budget, the operating budget is $1,300,000.00 (i.e., 78.8 percent of the
total budget) and the capital budget is $350,000 (i.e., 21.2 percent).

Using 1990 census data concerning the population of Kingsport (i.e.,
36,365 persons), the per 1,000 persons operating budget expenditure amounts to
$35,744.00 and the per 1,000 persons capital budget expenditure amounts to
$9,623.00 on parks and recreation activities, facilities, personnel, and park
maintenance in Kingsport.

Murfreesboro, Tennessee

The city of Murfreesboro is the County Seat of Rutherford County and
has a population of approximately 45,000 persons. The city was incorporated in
1817 and has an extensive and controversial history in Tennessee politics. In
1805 the town was formed from a small settlement nearby called Jefferson;
Jefferson was the original County Seat of Rutherford County (Encyclopedia
1993).
By 1811, a second County Seat was chosen (Canonsburg) and named after Newton Cannon; Cannon was a fierce enemy of Andrew Jackson and served as governor of the State (1835-1839). By 1835, however, Canon's popularity had diminished. Canonsburg was renamed Murfreesboro after the Revolutionary War hero Colonel Hardy Murfree (Encyclopedia 1993).

The former town of Canonsburg was the capital of Tennessee from 1819 to 1825. When the courthouse burned in 1822, the delegates met in nearby Nashville. After a long, unfruitful battle to retain Cannonsburg as the permanent capital, Nashville was chosen.

Several points of interest in and around the city of Murfreesboro include The Stones River National Battlefield Park, Cannonsburg Pioneer Village, Rutherford County Courthouse, Fortress Rosecrans Site, and the Stones River National Cemetery.

Present Conditions: Murfreesboro

The City of Murfreesboro presently contains a total of fourteen parks and recreational facilities (595 acres) that are owned by the Murfreesboro Parks and Recreation Department (Table 4.5). School-parks are not part and parcel of the Murfreesboro Parks and Recreation Department inventory; these parks are maintained by the Murfreesboro School District.
The general goals and plans for the future of the parks and recreation program in Murfreesboro were outlined by the Murfreesboro Parks and Recreation Department. These plans include the expansion of Rogers Park, the construction of a Frisbee Golf Course at Old Fort Park, and the construction of a Community Center at Patterson Park.

Table 4.5 Murfreesboro parks and recreational facilities.

<table>
<thead>
<tr>
<th>Park Type</th>
<th>Park Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini-Park</td>
<td>Westview Mini-Park (1.0 ac.), Jaycee Park (1.0 ac.)</td>
</tr>
<tr>
<td>Neighborhood Park</td>
<td>Rogers Park (7.4 ac.)</td>
</tr>
<tr>
<td>Community Park</td>
<td>Oakland Park (9.6 ac.), Patterson Park (8 ac.)</td>
</tr>
<tr>
<td>Large Urban Park</td>
<td>Old Fort Park (240 ac.)</td>
</tr>
<tr>
<td>Sports Complex</td>
<td>McKnight Park (137 ac.)</td>
</tr>
<tr>
<td>School-Park</td>
<td>Non Applicable</td>
</tr>
<tr>
<td>Special-Use Park</td>
<td>Samsonite Park (13 ac.), Caldwell Park (1 ac.), Cox Memorial Gym (1 ac.), Mc Fadden Community Center (3 ac.)</td>
</tr>
<tr>
<td>Natural Resource Area</td>
<td>Black Cat Cave (2.5 ac.)</td>
</tr>
<tr>
<td>Greenway/Bikeway/Trail</td>
<td>Stones River Greenway (79 ac.), Lytle Creek Greenway (7 acres)</td>
</tr>
</tbody>
</table>

(Source: Murfreesboro, Tennessee Parks and Recreation Department 1997)

Level of service estimates for the Murfreesboro park system (Table 4.6) dictate that the park system currently maintains 405 acres of park land on which "... all citizens, regardless of the taxes they pay or the use they will make of the services provided, will have an equal opportunity to share in the basic menu of"
services implicit in the standard and spatial distribution and allocating policies” 
(Mertes 1995).

These level of service by park-type estimates indicate that the city of Murfreesboro contains 404 acres of park land that is intended to serve the basic recreational needs of the community. The estimate of 8.93 acres per 1,000 persons exceeds the National Recreation and Parks Association recommendation of 6.26 to 10.5 acres (per 1,000 persons).

The Tennessee Comprehensive Outdoor Recreation Plan identifies Murfreesboro as being in the Greater Nashville District of the Middle Tennessee Planning Region. This district encompasses thirteen (surrounding) counties. As a result of citizen input surveys and workshops regarding the provision of park and recreation-related facilities, a list of “high priority” activities and facilities were identified.

Table 4.6 Current level of service estimates for Murfreesboro.

<table>
<thead>
<tr>
<th>Park-Type</th>
<th>Acreage</th>
<th>Level of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini-Park</td>
<td>two acres</td>
<td>.05 acres per 1,000 persons</td>
</tr>
<tr>
<td>Neighborhood Park</td>
<td>eight acres</td>
<td>.18 acres per 1,000 persons</td>
</tr>
<tr>
<td>Community Park</td>
<td>18 acres</td>
<td>.40 acres per 1,000 persons</td>
</tr>
<tr>
<td>Sports Complex</td>
<td>137 acres</td>
<td>3.0 acres per 1,000 persons</td>
</tr>
<tr>
<td>Large Urban Park</td>
<td>240 acres</td>
<td>5.3 acres per 1,000 persons</td>
</tr>
</tbody>
</table>

(Source: Murfreesboro, Tennessee Parks and Recreation Department 1997)
These priority activities include the following: baseball/softball; community centers; facilities for people with disabilities; greenways; off-road vehicle and hiking trails; environmental preservation; and natural area preservation. These findings represent an apparent desire for these activities and facilities among the citizens of Murfreesboro.

The Murfreesboro Parks and Recreation Department has a combined operating and capital budget (for fiscal year 1997) of $7,557,357.00. Out of this total budget, the operating budget is $3,132,357.00 (i.e., 41.5 percent of the total budget) and the capital budget is $4,425,000.00 (i.e., 58.5 percent).

Using 1990 census data concerning the population of Murfreesboro (i.e., 44,922 persons), the per 1,000 persons operating budget expenditure amounts to $69,732.00. The per 1,000 persons capital budget expenditure amounts to $98,508.00 on parks, recreational facilities, personnel, and park maintenance in Murfreesboro.

Park Space and Level of Service Comparison

Comparisons can be made among the four cities regarding the amount of park space that these relatively equal cities delegate toward park and recreation use. That is, the land that is earmarked for public recreational use among cities
of comparable size, demographic composition, and location can be displayed and the similarities and differences among the park systems noted.

The first step in a comparison of the parks, open space, greenways, and recreational facilities among these cities is accomplished by displaying the actual number of park facilities and total park acreage count present in each of the four cities (Table 4.7). This data is important because it will give evidence of how well the population of each city is represented by available (city-sponsored) park space in terms of actual facility numbers and acres. The total number of parks (minus school-parks) in each of the four cities includes: Jackson 16; Johnson City 28; Kingsport 19; and Murfreesboro 14.

Table 4.7 Comparison of cities by number of park facilities.

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>Johnson City</th>
<th>Jackson</th>
<th>Kingsport</th>
<th>Murfreesboro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini-Park</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Neighborhood Park</td>
<td>8</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Community Park</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>School-Park</td>
<td>10</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Sports Complex</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Large Urban Park</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Special-Use Park</td>
<td>7</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Natural Resource Area</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Greenway/Bikeway/Trail</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total Acres:</strong></td>
<td><strong>992</strong></td>
<td><strong>645</strong></td>
<td><strong>3,190</strong></td>
<td><strong>595</strong></td>
</tr>
</tbody>
</table>

(Note: * indicates these facilities are not maintained by parks and recreation department)
The data arranged in Table 4.7 suggests that there exists a number of stark differences among the four cities in regards to the number of parks in each park-type category. The total number of park acres among the four cities is also unequal. The total acreage count by park-type is important because it is used to define the park system level of service in each of the four cities.

Differences among the four park systems in relation to the number of parks within each level of service category, however, can be put into better perspective when the capacity (or acres) of each park-type to which level of service applies is compared (Table 4.8).

The National Recreation and Parks Association recommended core park systems (i.e., the park land that has a designated level of service application) among the four cities are not akin in the sense that they do not contain comparable amounts of total park space (Table 4.8).

Table 4.8 Level of service (acres per 1,000 persons) comparison.

<table>
<thead>
<tr>
<th>Park-Type</th>
<th>Johnson City</th>
<th>Jackson</th>
<th>Kingsport</th>
<th>Murfreesboro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini-Park</td>
<td>0.04</td>
<td>0.03</td>
<td>0.25</td>
<td>0.05</td>
</tr>
<tr>
<td>Neighborhood Park</td>
<td>1.1</td>
<td>1.4</td>
<td>0.17</td>
<td>0.18</td>
</tr>
<tr>
<td>Large Urban Park</td>
<td>4.1</td>
<td>0</td>
<td>0</td>
<td>5.3</td>
</tr>
<tr>
<td>Sports Complex</td>
<td>0.33</td>
<td>0.2</td>
<td>2.4</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>7.37</strong></td>
<td><strong>10.83</strong></td>
<td><strong>4.52</strong></td>
<td><strong>8.93</strong></td>
</tr>
</tbody>
</table>
The city of Jackson contains the largest per-capita number of core park space with .011 acres per person. This is due -in part- to the 317-acre Kate C. Robertson Park that contains a vast natural terrain area and recreational activities that include softball, tennis, and fitness trails. Other examples of the concentration of park land in a centralized location for sport-related activity (i.e., programmed activities) can be found in Johnson City at the 200-acre Winged Deer Park, and the 240-acre Old Fort Park in Murfreesboro.

These concentrations of park space accommodate the increasingly popular (and demanded) programmed and structured recreational activities (e.g., softball and baseball). Large amounts of geographically centered park land (in relation to the population) is needed to provide such facilities. Through the park planning process, the needs and desires of the public can be converted into developed park space that can better serve the needs of recreation enthusiasts.

The city of Kingsport did not report any level of service category parks that contained comparably large amounts of space. The approximately 3,000-acre Bays Mountain Park (natural resource area) accounts for 95 percent of the total park space in Kingsport. Due -in part- to these facts, Kingsport was the city that did not meet the National Recreation and Parks Association recommended park space per 1,000 persons minimum. Kingsport did, however, contain the greatest amount of park space for the Mini-Park (i.e., .25 acres per 1,000
persons). As a defined goal of the Kingsport Parks and Recreation Department, planners expect to construct a large Sports Complex in the City in the future. This data indicates park policy with a high degree of emphasis placed on the accumulation of small, easily accessible parks within the various neighborhoods in Kingsport, while not ignoring the park land needs associated with programmed and structured sports-related activities.

Citizen involvement in the park planning process has produced valuable information concerning the needs and desires of park users as it relates to the provision of park-related services. The cities of Jackson, Johnson City, and Murfreesboro have identified baseball/softball as being a high priority recreational issue according to the 1995-1999 Tennessee State Recreation Plan. Not ironically, these cities are precisely those in which high concentrations of land has been developed for sports-related ventures of this type (e.g., Kate C. Robertson Park and Winged Deer Park). Conversely, Kingsport labeled this activity as being a low priority.

The Neighborhood Park, or the "... basic unit of the park system ... and social focus of the neighborhood" (Mertes, 1995) space comparison among the four cities identified Kingsport and Murfreesboro as containing less than 20 percent of the recommended minimum park space (per 1,000 persons). By
contrast, Jackson and Johnson City contains adequate Neighborhood Park space according the these national standards (Table 4.9).

All four park and recreation departments should strive to meet the recommended minimum standards of the National Recreation and Park Association. The greatest deficiencies in park space can be solved with the acquisition of land in very large tracts for the Community Parks, Large Urban Parks, and the Sports Complexes. Deficiencies in the Mini-Park and Neighborhood Park can be solved with a proactive policy of developing park land as residential development occurs.

Park space alone will not necessarily satisfy the park needs of a community. Rather, additional space should be placed in geographically dispersed locations where park need is present. Park space should be placed in

<table>
<thead>
<tr>
<th></th>
<th>Johnson City</th>
<th>Jackson</th>
<th>Kingsport</th>
<th>Murfreesboro</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mini-Park</strong></td>
<td>11 to 23</td>
<td>10.5 to 22.5</td>
<td>0 to 9</td>
<td>9 to 21</td>
</tr>
<tr>
<td><strong>Neighborhood Park</strong></td>
<td>0 to 47</td>
<td>0 to 30</td>
<td>30 to 64</td>
<td>37 to 82</td>
</tr>
<tr>
<td><strong>Community Park</strong></td>
<td>162 to 312</td>
<td>0</td>
<td>121 to 230</td>
<td>207 to 342</td>
</tr>
<tr>
<td><strong>Large Urban Park and Sports Complex</strong></td>
<td>34 to 284</td>
<td>240 to 490</td>
<td>95 to 270</td>
<td>0 to 63</td>
</tr>
</tbody>
</table>

Table 4.9 Acreage needed to achieve minimum recommended park space.
areas where open space deficiencies have been identified. The identification of
these areas can be accomplished by comparing park space inventory data with the
recommendations of the National Recreation and Parks Association.

Per-Capita Expenditure Comparison

Comparisons among the four cities can be made regarding the annual
parks and recreation budgets and the (per 1,000 persons) expenditure among the
park and recreation departments (Table 4.10). This data will place the spending
patterns of the four departments into perspective. That is, the annual budget will
give an indication of the recreation and park program in each community in terms
of forthcoming park projects, current park maintenance, and -in general- the
progressive nature of the park departments.

Table 4.10 Per-capita park expenditures among the four cities.

<table>
<thead>
<tr>
<th>City</th>
<th>Total Budget (1997)</th>
<th>Per 1,000 Persons</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Johnson City</td>
<td>$2,356,069.00</td>
<td>$47,713.00</td>
<td>44</td>
</tr>
<tr>
<td>Jackson</td>
<td>$6,744,766.00</td>
<td>$137,789.00</td>
<td>113</td>
</tr>
<tr>
<td>Kingsport</td>
<td>$1,650,000.00</td>
<td>$45,367.00</td>
<td>66</td>
</tr>
<tr>
<td>Murfreesboro</td>
<td>$7,557,357.00</td>
<td>$168,240.00</td>
<td>42</td>
</tr>
<tr>
<td>Average:</td>
<td>$4,577,048.00</td>
<td>$99,777.00</td>
<td>66</td>
</tr>
</tbody>
</table>
The combined operating and capital annual budgets among the four cities do not represent similar (per 1,000 persons) expenditures. The park expenditure in Murfreesboro, for instance, is over 3.5 times that in Kingsport. An operating and capital budget per 1,000 persons expenditure comparison among the four cities yields information that puts the expenditure differences into better perspective (Table 4.11).

The park and recreation operating budgets among the four cities represent the money that the departments have been authorized to spend over the course of the ensuing year on items like personnel, maintenance, and other services of which the parks and recreation departments are the main benefactors.

Table 4.11 Operating and capital budget comparison.

<table>
<thead>
<tr>
<th>City</th>
<th>Operating budget per 1,000 persons</th>
<th>Capital budget per 1,000 persons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>park and recreation expenditure</td>
<td>park and recreation expenditure</td>
</tr>
<tr>
<td><strong>Johnson City</strong></td>
<td>$45,688.00</td>
<td>$2,025.00</td>
</tr>
<tr>
<td><strong>Jackson</strong></td>
<td>$105,712.00</td>
<td>$32,077.00</td>
</tr>
<tr>
<td><strong>Kingsport</strong></td>
<td>$35,744.00</td>
<td>$9,623.00</td>
</tr>
<tr>
<td><strong>Murfreesboro</strong></td>
<td>$69,732.00</td>
<td>$98,508.00</td>
</tr>
<tr>
<td><strong>Average:</strong></td>
<td>$64,319.00</td>
<td>$35,558.00</td>
</tr>
</tbody>
</table>

By contrast, the capital budgets are the means by which proposed outlays and projects are financed. Comparing the operating and capital budgets of the four cities should give indication to whether a city is expanding its services in
terms of park space and facilities, or is maintaining the current state of affairs with little regard to new projects and expanded services (Table 4.12).

Table 4.12 Comparison of operating and capital budgets.

<table>
<thead>
<tr>
<th>City</th>
<th>Operating Budget</th>
<th>Capital Budget</th>
<th>Total Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Johnson City</td>
<td>$2,256,069.00</td>
<td>$100,000.00</td>
<td>$2,356,069.00</td>
</tr>
<tr>
<td>Jackson</td>
<td>$5,174,618.00</td>
<td>$1,570,148.00</td>
<td>$6,744,766.00</td>
</tr>
<tr>
<td>Kingsport</td>
<td>$1,300,000.00</td>
<td>$350,000.00</td>
<td>$1,650,000.00</td>
</tr>
<tr>
<td>Murfreesboro</td>
<td>$3,132,357.00</td>
<td>$4,425,000.00</td>
<td>$7,557,357.00</td>
</tr>
<tr>
<td>Average:</td>
<td>$2,965,761.00</td>
<td>$1,611,287.00</td>
<td>$4,577,048.00</td>
</tr>
</tbody>
</table>

Park renovation and construction in the cities of Jackson and Murfreesboro have caused the park budgets of these cities to become enormous compared to those of Johnson City and Kingsport. Recreation services and forecasted projects such as the addition of baseball/softball fields and off-road vehicle trails have caused budgetary increases in these two cities. The capital budget of Murfreesboro (i.e., $4,425,000.00), for example, is almost thirteen times larger than the capital budget of Kingsport. By comparison, the capital budget of Jackson (i.e., $1,570,148.00) is almost sixteen times larger than the capital budget of Johnson City.

The cities with the largest parks and recreation budgets (i.e., Jackson and Murfreesboro) did, however, contain more level of service (i.e., core) park acres
than the cities with comparably smaller park budgets such as Johnson City and Kingsport. The city of Kingsport had both the smallest total budget and the lowest number of park acres per 1,000 persons. The city of Jackson, by contrast, had the second largest total park budget (i.e., 10.75 percent smaller than the total park budget of Murfreesboro) and the largest park acreage per 1,000 persons with 10.83.

The number of positions in the parks and recreation departments among the four cities is unequal. With only 42 employees, $1,734,419.00 is budgeted toward all Park and Recreation salary and benefit payments in Johnson City for fiscal year 1997. This represents approximately 74 percent of the total (combined operating and capital) budget.

The preceding comparisons and examples of the situations present in the four parks and recreation departments are presented with the intention of identifying the similarities and differences among them. The four cities were chosen for comparison based on their similarities in regards to size, demographics, and geographic location. National Recreation and Parks Association recommendations, census data, and current budget information were used in conjunction with current information from each of the four parks and recreation departments to compile the preceding data.
Chapter Five

Summary, Conclusions, and Recommendations

Summary

Parks and recreational facilities that have been improved by a city parks and recreation department serve a number of functions that are difficult to accurately calculate. The enjoyment and pleasure they bring to the young and old alike cannot be given true dollar estimates. The only genuine way to ascertain whether or not a park system is sufficiently satisfying the recreational needs of a community is to ask the park users themselves. Public money that is used for park land and recreational equipment is not well spent if that money is not preceded by citizen need and desire to use those facilities.

The four cities that were chosen for comparison contain certain qualities and characteristics that make them seem similar in many respects. Overall size, density, population, demographic composition, household size, and median household income are not dramatically different among the cities of Johnson City, Jackson, Kingsport, and Murfreesboro. This likeness led to the assumption that the municipal entities -namely the parks and recreation departments- among the
four cities were relatively equal in terms of their budget appropriations and park facilities inventory.

The original assumptions was that the people who populate these four cities do not dramatically differ in their needs and desires as they relate to city-sponsored recreation facilities and activities. This assumption was based on the belief that people who reside in similar regions possess similar recreational objectives and desire equated recreational services from their municipal governments.

National park standards are published by the National Recreation and Parks Association and are intended to be used as a basis for park planning in American cities. These recommendations take into consideration the (varying degree of) differences among communities, and are designed to allow park planners the latitude of creating park systems based upon the unique needs of each individual city.

The original assumption was that municipal parks maintained the minimum level of service park space per 1,000 persons as prescribed by the NRPA. This conjecture was based on the fact that municipal park funding is supplemented by national and state entities that acknowledge that these recommendations and standards exist and should be followed.
The adequate provision of park space and facilities on behalf of municipal parks departments is a difficult and ever-changing task. As communities grow, upgrading the park space and facilities inventory increases as well. The maintenance of a comprehensive plan coupled with the constant upkeep of a current facilities inventory provide the park planner with a valuable tool that can help satisfy park needs as they arise.

Conclusions

The original presupposition that the parks and recreation departments of Johnson City, Jackson, Kingsport, and Murfreesboro are relatively equal in terms of their park space inventory, park budgets, and per-capita spending on park and recreation purposes has been disproven. The park space inventory and level of service calculations among the four cities do not reflect similar situations and thus do not signify comparable park systems.

The park budgets and per-capita spending calculations among the four cities are not akin and do not reflect comparable operating budget or capital budget expenditures. These dissimilarities in park and recreation budgets indicate a difference in park and recreation goals, objectives, and policies among the four cities, and signifies a difference in their overall park inventory and facilities in their park systems.
The high priority recreational issues indicated through the citizen survey process were not similar among the four cities. The only activity that had multiple identification as high priority was baseball/softball; residents of Johnson City, Jackson, and Murfreesboro indicated a strong desire for this activity. Because consensus regarding high priority activities among the residents of each of the four cities was found to be different, the conclusion can be drawn that each parks department is reacting to the park needs and desires of the park users in their respective community.

Park space and facilities in one community will not necessarily satisfy the recreational needs and desires of the citizens in another community. That is, there is not a comprehensive set of standards that can be applied to all cities of comparable size and demographic composition that will satisfy the park needs of each, individual community. Therefore, the types and quantity of park and recreation facilities present in one city will not be equal to those in another city regardless of their equality in other respects (e.g., size, density, and median household income).

National recommendations concerning the subject should be regarded as loose guidelines for building new facilities after a genuine park need has been identified and for improving existing facilities to meet the growing and changing needs of the community.
Recommendations

Park planners should strive to satisfy the unique park and recreational needs of the residents of their city and recognize the situations present in other, similar cities. The information gained from comparing cities of like size and character regarding park space and facilities should be used to formulate park planning goals and objectives. Park planners of one community can observe how well a particular (size or type of) park or facility satisfies the recreational needs of another (i.e., trial) community and decide how a similar facility could be altered to help satisfy the park needs of their community.

Per-capita spending on park and recreational facilities should be based on citizen need and desire for certain park facilities and park space. Thus, city officials should not model their park and recreation budget appropriations after other cities. Park and recreation expenditure should be viewed as a way in which the unique park needs of a community become reality.

The recommendations of the National Recreation and Parks Association should be viewed as optimal goals. The parks departments in these four cities should create objectives that would designate park land to satisfy all level of service categories that have been identified as deficient, and to include park facilities that will satisfy the recreational needs identified through the citizen involvement process.
Any recommendation that would help satisfy recreational needs must be matched with long-term and short-term efforts on behalf of parks departments to continually monitor and act-upon park deficiencies as they arise. This will involve periodic amending of the comprehensive parks plan when faults are found with forecasted data or when situations in the community present problems with carrying-out the terms of the plan.

The park-type classification system is not without obvious flaws. There is a great degree of flexibility given to the recommended size and structure of the various park-types. If not properly careful, planners in the various parks departments may erroneously classify parks and skew the data concerning the level of service estimates for their city. This could translate into wasteful public money expenditure or unrecognized inefficient park space provision. Each of the four parks departments that were included in this study should evaluate their park-type classification system and ensure that their parks are correctly classified.

The future of park and recreation studies of this type should include comparisons of the actual sports equipment and facilities present in each of the park-types for various cities. This data should include a comparison of the condition of the equipment in terms of equipment age and usability. This information would be useful in comparing the maintenance of park facilities and
would be an excellent comparison of the number (and type) of programmed and structured sports activities that are offered among similar cities.

A comparison of the minimum population service requirements among cities of comparable size and demographic composition could also be accomplished. This comparison would ascertain how well the recreation supply compares with the recreation demand for all parks within the park system and among comparable cities. This information would be useful in comparing the degree of visitation among park systems of comparable cities using factors such as park accessibility and park user demand.
BIBLIOGRAPHY
BABBIGROPHY


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APPENDIX
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1. Number of Persons Per Household
Kingsport, Tennessee household size breakdown (number of persons per household)

Murfreesboro, Tennessee household size breakdown (number of persons per household)

1. (continued)
1. Jackson (families with children) breakdown

- 1) Total number of families (12,913)
- 2) Families with children under 18 years of age (6,010) 47%
- 3) Families with children under 6 years of age only (1,459)
- 4) Families with children under 6 years and 6-17 years (1,203)

2. Johnson City (families with children) breakdown

- 1) Total number of families (12,599)
- 2) Families with children under 18 years of age (5,303) 42%
- 3) Families with children under 6 years of age only (1,363)
- 4) Families with children under 6 years and 6-17 years (911)

2. Number of Families and Children Breakdown
1) **Total number of families** (10,612)
2) **Families with children under 18 years of age** (4,112) 39%
3) **Families with children under 6 years of age only** (1,046)
4) **Families with children under 6 years and 6-17 years** (677)

---

1) **Total number of families** (10,409)
2) **Families with children under 18 years of age** (5,200) 50%
3) **Families with children under 6 years of age only** (1,344)
4) **Families with children under 6 years and 6-17 years** (996)

2. (continued)
3. Racial Composition
Department of Parks and Recreation

Total Number of City (i.e., city-owned and maintained) parks: __________

Number of school campuses (e.g., elementary, middle, and high-school) __________
A. Are school recreation areas maintained by the City Parks Department? __________
B. Are they included in the inventory of park facilities? __________

Names of City parks:
1) Mini-Parks (i.e., vest-pocket parks) ________________________________
2) Neighborhood Parks ________________________________
3) Community Parks ________________________________
4) Sports Complexes ________________________________
5) Special-Use Parks ________________________________
6) Private Parks (e.g., Rotary Club) ________________________________
7) Natural Resource Areas ________________________________
8) Greenways/Bikeways ________________________________
9) Park Trails ________________________________
10) Other ________________________________

Names (and types) of school campuses (if maintained by City) and a brief description of the (parks and recreation) facilities in each:

1) ________________________________
2) ________________________________
3) ________________________________
4) ________________________________

General list of the parks and recreation equipment, buildings, and facilities (non-school) presently maintained by your Department:

1) ________________________________
2) ________________________________
3) ________________________________
4) ________________________________
5) ________________________________
6) ________________________________
7) ________________________________
8) ________________________________
9) ________________________________
10) ________________________________
11) ________________________________
12) ________________________________

4. Questionnaire for Parks Departments
General goals and plans for the future of the parks and recreation program of your City:

Please list the items (that the parks department recognizes and maintains) that have the following characteristics:

1) Historical monuments, battlefields, graveyards, structures, and others.
2) Mountain, lake, river, and other public facilities that are natural resource related.

---

4. (continued)
5. Study Area Boundaries
Johnson City Parks and Recreation
Citizen Survey

The City of Johnson City invites you to participate in the valuable process of evaluating how well the city-sponsored recreational services meet your desires, needs, and expectations. This survey is important as we strive to provide the most comprehensive park and recreation system that Johnson City can possibly offer. To do this, we need your help! Your name was selected at random to participate and your opinion is important. Please view this survey as helpful and fun.

Survey respondents will be eligible for a grand prize drawing!

Please return the survey in the provided envelope within three days of receiving it. To be eligible for the following prize drawings, please complete the box at the end of the survey.

Thanks in advance for your help!
Prizes To Be Awarded By Random Drawings

- 1997 Family season pass to Legion Pool
- Roller Skating Party for 20 children
- Pool Party for 10 children at Legion Pool
- One free (17 day) pavilion rental at Rosary Park
- Pool Party for 10 children at Freedom Hall Pool
- Two season passes to JC Cardinals home games
- Six-month lap swim pass to Freedom Hall Pool
- Two 6-month green fees at Buffalo Valley Golf Course

1. How important is recreation to you and other members of your household? (Please circle only one of the following)
   a. very important
   b. important
   c. somewhat important
   d. not important

2. How satisfied are you with recreational opportunities available in Johnson City? (Please circle only one of the following)
   a. very satisfied
   b. satisfied
   c. dissatisfied
   d. very dissatisfied

3. Please circle the activities that you and/or your family enjoy. (Circle all that apply)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Activity</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>archery/sculpting</td>
<td>golf</td>
<td>pleasure driving</td>
</tr>
<tr>
<td>attending cultural events</td>
<td>hobby arts &amp; crafts</td>
<td>racquetball/handball</td>
</tr>
<tr>
<td>baseball/softball</td>
<td>hiking/rock-climbing</td>
<td>reading</td>
</tr>
<tr>
<td>basketball</td>
<td>ice skating</td>
<td>roller skating</td>
</tr>
<tr>
<td>bicycling</td>
<td>lecture/seminars</td>
<td>running/jogging</td>
</tr>
<tr>
<td>club meetings related</td>
<td>martial arts</td>
<td>shopping/antiques</td>
</tr>
<tr>
<td>collecting</td>
<td>model building related</td>
<td>soccer</td>
</tr>
<tr>
<td>computer/electronics</td>
<td>movie/theater</td>
<td>attending sporting events</td>
</tr>
<tr>
<td>disc golf</td>
<td>nature studies</td>
<td>tennis</td>
</tr>
<tr>
<td>drama/musical</td>
<td>outdoor water sports</td>
<td>tennis</td>
</tr>
<tr>
<td>exercise programs</td>
<td>outdoor water sports</td>
<td>track and field</td>
</tr>
<tr>
<td>fishing</td>
<td>picnicking</td>
<td>visiting parks</td>
</tr>
<tr>
<td>fitness walking</td>
<td>tennis</td>
<td>yoga/meditation related</td>
</tr>
<tr>
<td>football</td>
<td>playgrounds</td>
<td>other options (list the space below)</td>
</tr>
</tbody>
</table>

4. Here, using the same list, please list the three activities in order of importance that you and/or your family enjoy the most:
   Children (under 18-years)
   1. 
   2. 
   3. 
   Adults (18-years and over)
   1. 
   2. 
   3. 

5. What activities / programs / facilities should the City improve?

6. What other recreational activities not currently offered do you need? (please list)

6. Citizen Survey Instrument
7. How many times do you or any members of your household use parks or other recreation facilities (parks, playgrounds, recreation centers, picnic pavilions, sports fields, etc.)
   a. __________ times a week
   b. __________ times a month
   c. __________ times a year
   d. __________
   e. __________

8. If you or other members of your household do not participate in recreational activities provided by the Johnson City Parks and Recreation Department, please tell us why:
   a. __________ facilities are too far away
   b. __________ not enough money
   c. __________ facilities are too crowded
   d. __________ personal health and/or disability
   e. __________ areas are not safe
   f. __________ facilities are poorly maintained
   g. __________ not aware of locations of facilities
   h. __________ do not have appropriate skills
   i. __________ not enough time to participate
   j. __________ membership in a private health club or facility
   k. __________ not interested
   l. __________ other (please list) ____________________________

   Please circle "Yes," "No," or "No Opinion" for each of the following questions:

9. Yes No No Opinion Is there a park within walking distance of your home?
   If Yes, name of park ____________________________

10. Yes No No Opinion Do you or anyone in your household use indoor school facilities for recreation?

11. Yes No No Opinion Do you or anyone in your household use outdoor school grounds for recreation?

12. Yes No No Opinion Do you feel that the recreation facilities are well maintained?

13. Yes No No Opinion Are you aware of the recreational facilities and programs that are available in the city?

14. Yes No No Opinion Do you feel that the city has enough parks and/or recreation facilities?

15. The city should provide more: (Please circle only one of the following)
   a. organized sports
   b. open play space
   c. all of the above
   d. none of the above
   e. other (please list) ____________________________

16. How many children of each age are in your household? (Please fill in the bubbles that apply)
   Age Group: ____________________________
   Number of Children: ____________________________

17. How many adults in your household, excluding yourself? (Please fill in the bubbles that apply)
   Age Group: ____________________________
   Number of Adults: ____________________________

18. Your household income fits into which category? (please circle one of the following)
   a. 0 to $15,000
   b. $15,000 to $30,000
   c. $30,000 to $45,000
   d. $45,000 to $60,000
   e. $60,000 or more

19. How close is the nearest city park and/or recreation facility to your place of residence? (Please estimate the distance and circle one answer)
   a. within 1/4 mile
   b. within 1/2 mile
   c. within a mile
   d. more than 1 mile

20. Please use the following space for any additional comments that you may have concerning the future of Johnson City's Parks and Recreation facilities.

   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________

Thank You for taking the time to complete this Survey!!!!!!

(Complete this box to be eligible for the prize drawing)
Name: (please print) ____________________________
Street Address: ____________________________
Apt #: ____________________________
City: ____________________________
Daytime Phone: ____________________________
Zip Code: ____________________________
VITA

George T. Morton III was born in Greensboro, North Carolina on September 20, 1970. He attended schools in the Guilford County Public School System, where he graduated from Southeast Guilford High School in 1988. He entered the United States Air Force in December, 1988 serving four years as an Inventory Control Specialist at Sembach Air Base, Germany and Pope Air Base, North Carolina. He entered East Tennessee State University in August, 1992 and received the Bachelor of Arts in Political Science in December, 1994. In August, 1995 he entered the Master’s program in Planning at the University of Tennessee. The master’s degree was received in August, 1997.