demand for high-cost activities, e.g., power boating, resorts, skiing. Conversely, it will increase the demand for simple, low-cost activities, e.g., walking, bicycling, swimming, canoeing.

ENERGY CONSERVATION The increased cost of gasoline or the prospect of fuel rationing may force many people to change their priorities and seek energy-conserving ways to spend their leisure time in or near cities. The option of personal transportation will be replaced with mass transit, bicycle, or pedestrian access to local recreation opportunities (Figure 2.6).

URBANIZATION By 1980, over 80 percent of all Americans will live in 150 metropolitan areas with populations of 250,000. Unless significant changes are made in the quantity and quality of the urban and suburban parks and residential environments in these areas, there will be a continuing demand to leave these areas during leisure period.

PUBLIC TRANSPORTATION Because adequate public transportation is not available to most regional and community parks, approximately 30 percent of the urban population who cannot drive or do not own cars must rely on local parks for recreation opportunities.

CULTURAL RESOURCES Some of the nation's finest leisure resources, e.g., art museums, libraries, are close to low-income, central-city residents, yet are comparatively little used by them. Conversely, many potential suburban users of these regional facilities do not use them because of the travel distance or their lack of convenient access to the central city where most of these facilities are located.

FUNDING Municipal austerity programs have had a profound effect on the maintenance, development, and redevelopment of urban parks. These park systems would be unable to accommodate increased use levels which could result from a prolonged energy crisis or recession without substantial increases in funding. Deferred development and maintenance of existing parks and declining municipal budgets for parks and recreation has made it difficult to accommodate normal use levels without imposing fees and charges or curtailing levels of development and management.

Problems and Issues
The problems and issues related to urban parks and recreation have been the focus of several national studies and the Nationwide Recreation Plan. These studies describe important differences between the quality and quantity of opportunities provided by individual cities, and major differences between the inner city and the suburbs of most metropolitan areas. However, there is a common set of problems and issues that should be considered for recreation planning at the city and regional level. An abstract of these problems and issues follows:

DISTRIBUTION OF RECREATION RESOURCES Most Americans live in urban areas. The resources for outdoor recreation are not where most people live. Severe inequities exist in the distribution of recreational opportunities and are getting worse.

RURAL BIAS Federal policy and expenditures for recreation favor nonurban areas which are accessible only to families with automobiles and used primarily for summer vacations.

TRADITION Public outdoor recreation policies and programs have not changed with the speed of social
change and are not meeting the challenge. Most cities continue to develop park and recreation facilities of a traditional type with few innovations in design or construction.

RESEARCH AND TECHNICAL ASSISTANCE. There is a serious lack of research and evaluation in urban recreation. The federal government has not provided adequate support to states and metropolitan areas for research and technical assistance.

OPEN SPACE PRESERVATION. There is a critical lack of open space in central cities and a need for natural areas within metropolitan areas.

MAINTENANCE AND OPERATION FUNDS. Existing recreation opportunities in urban areas suffer severely from a shortage of operation and maintenance funds.

PUBLIC SAFETY AND VANDALISM. Preventing vandalism and protecting the safety of park users and staff members has become a serious problem in most major cities.

COORDINATION AND COOPERATION. In most cities, no concerted effort has been made to coordinate public and voluntary or private recreation services.

NONUSE. Many urban parks and playgrounds are
empty. Inadequate design, maintenance, and program prevent them from fulfilling their potential.

SPECIAL POPULATIONS Most urban leisure spaces and services do not adequately serve the needs of racial or ethnic minorities, children, the elderly, the poor, and the handicapped (Figure 2.7).

Nationwide studies of these problems in the central cities (HUD, 1974) and metropolitan areas (HCRA, 1978) of Urban America are summarized below and in Appendix A. Although there are exceptions to some of these findings, they provide a typical profile of the present situation:

LOCATION AND ACCESS Location of parks and recreation facilities is a primary factor affecting the success of recreation programs. Consideration must be given to population density and the availability of public transportation in the location of new facilities. The acquisition of large tracts in outlying areas will not meet the recreation needs of the great majority of city residents. Emphasis must be placed on neighborhood facilities (Figure 2.8).

FEDERAL AND STATE ASSISTANCE In spite of a commitment to increased recreation programs and opportunities, cities do not have the financial capability to sustain expanded recreation programs. Cities must look to state and federal governments for financial assistance to sustain existing recreation programs.

POTENTIAL RECREATION RESOURCES Optimum utilization of potential recreation resources is not being achieved in most of the nation's cities. Publicly owned facilities with existing recreation capabilities are being underused. School facilities, even in jurisdictions having city-school recreation agreements, are not being utilized effectively. Cities must expand the multiple use of facilities, establish park-school complexes, and employ imaginative designs and new construction techniques.

COMMUNICATION Lack of communication among city, county, and private agencies is a major problem preventing the optimum utilization of existing recreational facilities and programs. Coordination is inadequate between city and county recreation departments and semipublic organizations carrying on recreation activities. Communication between recreation departments and the citizen is frequently inadequate. Citizens must be not only informed of the availability of the various programs but also convinced that participation and utilization are worthwhile.

SPECIAL POPULATIONS Cities must take into consideration the recreation needs of special segments of the population in developing priorities. In most cities, the
needs of all population groups are not being adequately met. Only in recent years have cities begun to recognize an obligation to provide recreation for the handicapped and deprived.

POVERTY Residents of deprived urban neighborhoods are almost entirely dependent upon public recreation facilities. Residents of more affluent neighborhoods have a wide range of recreational alternatives. Adequate recreation programs and facilities are considered a high-priority item among the deprived (Figure 2.9).

CITIZEN PARTICIPATION Residents of inner-city neighborhoods believe too much effort is directed toward park and recreation facilities for the middle- and upper-income groups and that recreation planning is done by persons having no real knowledge of their needs. Planners should encourage citizen participation in the planning process. Recreation programs must be what people want, not what the recreation department believes is best for people.

Changing Perspectives

Although it is difficult to rationalize leisure or recreation as significant problems when this country is burdened with problems of inflation, unemployment, poverty, energy, and environmental quality, there are significant relationships between the provision of urban parks and recreation and these problems. There is hope that park and recreation services or places can play a role in helping solve these problems and enrich the quality of community life. The past role of public parks and recreation in contributing to the quality of life and environment in Urban America is clear, but its future is not. The survival of many urban park and recreation systems is at stake in a projected era of scarce resources and competing needs for public support. It is time to question past and present assumptions, concepts, and techniques used to plan, design, and manage urban parks and consider alternatives. The urban park is not to become an endangered species.

Philosophical and pragmatic changes in American society, the Park and Recreation Movements, and evolving public policy project many changes for the delivery of leisure services in cities. These changing perspectives can provide a dynamic context for recreation planning:

QUALITY OF LIFE A cultural revolution is taking place in American thought about the environment, leisure, work, and the sense of community. This revolution places a high value on self-development, humanism, and process. It is concerned with the consumer, physical health, and the quality of life.

RATIONAL USE An era of limits is being defined in politics, science, government, and industry that says small is beautiful, less is more, we have reached the limits of unqualified growth and must make more rational use of existing resources. It is economics as if people mattered, based on a lowered set of expectations and conservation of human and natural resources.

ENERGY CRISIS The energy crisis is beginning to have an impact on disposable income, mobility patterns, and lifestyle. The choice of work or leisure patterns in many places is being conditioned by the price of fuel for transportation and heating.

EQUALITY Advocacy and pluralism are becoming expected dimensions of the planning and decision-making process. The rights of individuals, neighborhoods, and communities, for self-determination and respect for social values are being addressed by consumers, the handicapped, and racial and ethnic minorities. It is no longer enough for government to do many things for some
people and exclude special populations. It must do appropriate things for and with all people and be able to rationalize this effort in human terms (Figure 2.10).

INFLATION Local governments are experiencing a cost-revenue crisis that will not diminish in a steady-state economy coupled with rapid inflation. Cities cannot expect needed financial help from the federal government, states, or counties for the same reasons. Drastic cuts in municipal services will be necessary just to keep pace with inflation.

COST-EFFECTIVENESS Taxpayers faced with a decline in real income are not likely to approve bond issues or tax increases for local parks. They will also develop a serious interest in the effectiveness of leisure services to obtain the best value for their dollar. Parks and recreation must compete as never before for budget. The days of rationalizing public budgets with rhetoric, instead of facts, are gone.

HUMAN DEVELOPMENT Professionals have begun to redefine recreation in terms of human development. In the emerging view, it is not activities, facilities, or programs that are central; it is what happens to people. Recreation is not a specific event, point in time, or place in space. It is a dimension in life or self-development that may have little to do with activity or social acceptance.

RECYCLING The existing system of recreation spaces in most communities will be all they can afford to operate and maintain. Local funds will not be available for new spaces, which implies making the best use of existing spaces that need renewal. Many community and especially neighborhood parks no longer meet the needs of changing populations. The facilities and landscaping are obsolete and the programs may be irrelevant to the needs of special populations, e.g., racial or ethnic minorities.

PRIORITIES The traditional priorities of public land acquisition, development, and programs are being reversed in some cities that are beginning to sense the city as a recreation place in which voluntary program leadership and private opportunities are alternatives to extensive public investments in land, facilities, or program. The philosophy of alternative, noncompetitive, or self-generated recreation programs is being tried in many communities.

SELF-HELP A new spirit of self-help, community involvement, and volunteerism is emerging in many places. This spirit recognizes the limits of government in solving many human problems. It senses a degree of commitment, responsibility, and resourcefulness that can be used by people to help design, develop, and maintain urban parks. The ideas of self-generated and self-maintained urban parks are being tested in some communities (Figure 2.11). The expectation of government doing everything may be passé, if not fiscally impossible, or may not serve the best interests of people.

LIFE-STYLE The idea that urban parks are for all people and are established for the pleasurable use of leisure time is in contradiction with the life-styles and leisure behavior of a growing number of people. Many types of leisure behavior are labeled “deviant” because of outmoded laws, arbitrary policies, and conventional thinking. Urban parks are one reflection of reality in a plastic world. The notion they should be used only by “normal” people for the “constructive use of their leisure time” is not necessarily in accord with the social emphasis that characterized the establishment of the Park and Recreation Movement in America.

CONSOLIDATION A consolidation of government services is combining the traditional park and recreation department with other social services or departments of public welfare.

FIGURE 2.10 Environmental education programs for racial and ethnic minorities/East Bay Regional Park District, Oakland, California.
FIGURE 2.11 Self-generated parks: Washington Environmental Yard/Berkeley, California.
environmental planning and management. In both cases, the traditional "fun and games" or "housekeeper" images of these departments is broadened toward life enrichment or human development and environmental change or improvement (Figure 2.12).

These changing perspectives represent dramatic opportunities for the provision of leisure services. They indicate a growing awareness that the use of leisure time has important implications for community development, mental and physical health, the conservation of resources, the local economy, and the quality of life. In a planning context, these changes imply it is necessary to move beyond a narrow focus on recreation activities, buildings, and parks toward improving the quality of urban life and environment. At the policy or operational level of local government, these perspectives place parks and recreation in the broader context of a human service and environmental management system. They recognize the relationship of leisure spaces and services to the social and physical environment of cities.

CONCEPTS AND PRINCIPLES

If one accepts these relationships and realities as a context for recreation planning and design, the next step is to translate them into concepts and principles that can be applied to different situations. Human service becomes the framework for developing common principles and applying the methods and techniques of recreation planning.

Human Service Orientation

The use of leisure time has important implications for human development, community development, resource conservation, and the quality of human existence. These implications mean planners and designers must accept the consequences of what they do in terms of making people and communities better. They emphasize a humanistic approach to professional practice based on these concepts. Park and recreation agencies should:

1. Emphasize human development, social welfare, and community integration. Services should be defined in terms of human experiences rather than activities, programs, and buildings.
2. Provide for the needs of special groups and integrate their efforts with other social services (Figure 2.13).
3. Shift their philosophy of service to environmental beautification, open space planning, and a concern for all aspects of the living environment.
4. Seek a common ground with environmental and consumer groups who are also concerned with improving community life and environment.
5. Plan with, instead of for, people and be held accountable for their actions.

Planning Principles

There are some common principles of recreation planning that apply to a wide range of typical and extreme situations. These principles should be considered basic to the success of any planning effort and can be used to monitor the quality of the planning process:

1. All people should have access to activities and facilities, regardless of interest, age, sex, income, cultural background, housing environment, or handicap (Figure 2.14).
2. Public recreation should be coordinated with other community recreation opportunities to avoid duplication and encourage innovation.
3. Public recreation should be integrated with other public services, such as education, health, and transportation.
4. Facilities should be adaptable to future requirements.

![Human services diagram](image_url)
FIGURE 2.14 Recreation program for the physically handicapped/Los Angeles.
FIGURE 2.15 Cluster development concept of housing to preserve open space/Outdoor Recreation
Resources Review Commission Report.
5 Facilities and programs should be financially feasible at all stages of development. Operation and maintenance places a greater financial burden on the municipality than the initial capital cost.

6 Citizens should be involved in the planning process throughout all stages.

7 Planning should be a continuous process, requiring constant review and evaluation of the recommendations or projects.

8 Local and regional plans should be integrated.

9 Land should be acquired prior to urban development and dedicated to park and recreation uses.

10 Facilities should make the most efficient use of land, be designed and managed to provide for the convenience, health, safety, and pleasure of intended users, and represent positive examples of design, energy conservation, and a concern for people (Figure 2.15).

Design Strategies
At the project level, there are some common design strategies that apply in most cases. These strategies are the results of many case studies. They represent a basic approach to many situations:

1 Most people do not necessarily share a designer's values. They often care more about social than physical factors. Their use of the space depends more on who is there rather than what is there.

2 People involved in the design process will contribute information vital to the designer's success. Their knowledge of the planning area, activity preferences, and social needs can only be known by their active involvement in the design process.

3 People learn the benefits of self-determination by involvement in the design process. If denied this opportunity, they may oppose any proposal because it does not respect their right to be involved.

4 The application of social factors to the design of spaces results in successful spaces that acknowledge the factors of territoriality, status, conflict, cooperation, comfort, class, and life-style, which are important in urban parks.

5 People involved in the design process like the results better than people who are not involved. They will use and respect the space in proportion to their identity with it.

Translating Concepts into Practice
The only way to test these concepts and principles of recreation planning is by demonstration and practice. Until this field has a more vigorous experimental dimension to develop new products and services, the best way to find out what works is to try them in a demonstration situation. The case studies or techniques described in the following chapters represent successful applications of these concepts to show what is possible in practice.
(j) Administration, maintenance, service and residence areas, control facilities, and

(k) Complementary facilities—water supply and distribution, sanitary facilities and sewage disposal, trash disposal, and parking.

6 Submission of a supplement to the MASTER PLAN, which will consist of a report containing preliminary cost estimates for construction of all proposed facilities, a suggested priority program in five (5) year increments covering a fifteen (15) year period including preliminary cost estimates, and such other recommendations as may be appropriate as supplementary information. Twenty-five (25) copies of this Supplementary Report, produced by duplicator methods, will be submitted.

7 Formal presentation of the completed MASTER PLAN to the Commission and Board.

ARTICLE 3: PAYMENT

In consideration of the above named services, the OWNER agrees to pay the CONSULTANT the sum of $__________, (including all travel, printing, and duplicating expenses), payable in four (4) equal installments of $__________, at twenty-five percent (25), fifty percent (50%), seventy-five percent (75%), and one-hundred percent (100%) of the project completion as determined by the OWNER, the final payment to be within ___ days following delivery of the completed MASTER PLAN to the OWNER.

ARTICLE 4: ITEMS SUPPLIED AND EXTRA WORK

(a) The OWNER shall provide topographic and aerial photography maps, with the scale, contour interval, coverage, and accuracy to be determined by the OWNER and that the STAFF will make available to the CONSULTANT all of its maps and final data pertinent to the project and the advice and guidance of its staff and consultants.

(b) It is understood and agreed that all available information relating to the status of mining claims, archaeological, and hydrological investigations, and rights-of-way outside the park will be made available to the CONSULTANT.

(c) If, during the progress of the work, and upon written authority of the DIRECTOR, the OWNER finds it desirable or necessary to cause the CONSULTANT to perform additional services other than those defined in Article 2 (and Article 4, if applicable), the payment for such additional work shall be as follows:

   Principal ____________ @ $_________/ mile
   Employees ______________ @ $_________/ hr.
   Mileage ____________ @ $_________/ mile
   Direct Charges ____________ @ at cost

(Phone, transp., etc.)

ARTICLE 5: ABANDONMENT OF PROJECT

If the owner finds it necessary to abandon the project, the CONSULTANT shall be compensated for all work completed under Article 2 and 4. Scheduled items not completed, but upon which work has been performed, shall be paid for upon basis of estimated extent of completion.

ARTICLE 6: OTHER PARTIES

Neither the OWNER nor the CONSULTANT shall assign, sublet, or transfer his interest in this agreement without written consent of the other.

ARTICLE 7: TERMINATION

(a) This Agreement shall be terminated at any time by the OWNER or the CONSULTANT upon giving _______ days' written notice. Termination by the OWNER shall comply with Article 5.

(b) This Agreement, unless previously terminated by written notice, shall be terminated by the final payment for the finished work.

IN WITNESS WHEREOF, we have executed this agreement the day and year first above written.

CITY, COUNTY, STATE OR OTHER AGENCY

By __________________________
   Chairman Date

By __________________________
   Consultant Date

ATTEST: ______________________
   Clerk Date
1. RECREATION SPACE CLASSIFICATION SYSTEM

<table>
<thead>
<tr>
<th>Orientation</th>
<th>Function</th>
<th>Space, design, and service area</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home-oriented space</td>
<td>Should meet aesthetic qualities and accommodate informal activities of an active and passive nature, i.e., sitting, reading, gardening, sunning, children’s play, and family activity</td>
<td>Varies according to housing type; immediately adjacent or within 500 feet of each dwelling unit</td>
<td>Front and back yards, driveways, sidewalks, porch, balconies, workshops, play rooms, recreation rooms</td>
</tr>
<tr>
<td>Home cluster or sub-neighborhood common space</td>
<td>Especially important in high-density areas, providing visual relief and aesthetic qualities for similar activities to those mentioned above, as well as meeting areas for small informal groups, walking, jogging, and dog walking</td>
<td>Must be visually accessible; varies from 500 square feet to 2 acres; designed to be as flexible and adaptable as possible; will serve an area of 100 yards to 1⁄4 mile radius</td>
<td>Vacant lots, cul-de-sacs, boulevards, green belts, walkways, trails, play lots, rest areas, vest-pocket parks, parkettes</td>
</tr>
<tr>
<td>Neighborhood space</td>
<td>Should accommodate neighborhood interest preferences; may include sports areas for minor leagues, outdoor skating rinks, water play, as well as special events and informal passive activities</td>
<td>Space should be associated with an elementary school; varies from 4 to 20 acres; will serve 500 people within an area of 1⁄4 to 1⁄2 mile radius</td>
<td>Neighborhood parks or park-school combinations; play fields for baseball, soccer, and football; adventure playgrounds, wading pools, neighborhood centers</td>
</tr>
<tr>
<td>Community space</td>
<td>Should accommodate social, cultural, educational, and physical activities of particular interest to the community; multi-purpose, year round, day/night activities; low-level competitive sports with limited spectator space</td>
<td>Space should be associated with a secondary school; varies from 15 to 20 acres; will serve several neighborhoods of 15,000 to 25,000 people within a radius of 1⁄4 to 1⁄2 mile; accessible by walking, cycling, and public transit</td>
<td>Community park or park-school combinations; facilities for playgrounds, recreation center, meeting rooms, and library; track and field areas, sports fields, arena, and swimming pool</td>
</tr>
<tr>
<td>Citywide space</td>
<td>Should provide specialized facilities for the use of a wide segment of the population; will accommodate the preservation of unique historical, cultural, or natural areas</td>
<td>Parks can be 25 to 200 acres; accessible to all residents by private and public transportation; should not exceed 1⁄2 hour driving time; should be linked to other open space</td>
<td>Major city parks and areas left in their natural state; beaches, trails, and picnic areas; fair grounds, civic centers, and major sports facilities</td>
</tr>
<tr>
<td>Regional space</td>
<td>Specialized areas for conservation and preservation of naturalized resources; usually involves more time-consuming activities, i.e., day-long picnics and family camping</td>
<td>Up to 500 acres or more, serving two or more municipalities; if possible accessible by public transportation; within 20 miles or 1 hour driving time of high-density areas</td>
<td>Conservation areas, botanical gardens, regional and provincial parks; wild life sanctuaries and naturalized reserves; scenic drives and waterway systems; air fields, ski areas, zoos, and museums</td>
</tr>
</tbody>
</table>

Source: Adapted from Guidelines for Developing Public Recreation Facility Standards, Ministry of Culture and Recreation, Sports and Fitness Division, Ontario, Canada, 1976, pp. 32-33.
2. CLASSIFICATION OF PARK AND RECREATION AREAS

THE FOLLOWING CLASSIFICATIONS ARE RECOMMENDED:

Playlots The playlot is a small area intended for children up to 6 or 7 years of age. It is essentially a substitute for the backyard and thus normally provided only in high-density areas such as apartment or tenement districts. Playlots are expensive to maintain and difficult to administer but serve an important function in the dense inner city areas. They range in size from 2,500 square feet up to 1 acre and usually feature play apparatus, a paved area for wheeled toys, benches, sand areas, a small wading or spray pool, and landscape treatment. They should be located within a block or super-block or near the center of a housing development. Children should not be required to cross a major arterial street to reach the playlot.

Vest Pocket or Mini-Parks There has been great emphasis of late on the vest pocket parks, which are usually vacant lots converted to recreation use. In some instances, such parks may become permanent features in the neighborhood but should be supportive to adequate open space for all needed facilities. Vest pocket parks may serve children only, senior citizens only, or all age groups, depending on the needs in the neighborhood. The size and location is determined more by the availability of vacant land than any other factor. Vest pocket parks may feature children's play areas, quiet game areas, landscaping, and some sports activities such as multi-purpose courts if space allows.

Neighborhood Parks The neighborhood parks should, if possible, adjoin the public elementary schools, which usually serve about a square mile of urban area and a total population ranging from 2,000 to 10,000. It is desirable to locate the areas for active recreation such as ball diamonds and play areas toward the interior of the site so the perimeter can be landscaped to buffer sound, provide a greater measure of safety, and prevent glare from night lighting. Operating agencies should give much more consideration to the inclusion of night lighting for outdoor facilities because it greatly extends use and tends to reduce vandalism.

Recreation facilities for adults should be provided in the park portion of the site, in accordance with the desires of the people. Such facilities as sitting areas, shuffleboard, and horseshoe courts should be located in the shade. Tables for games such as chess, checkers, and cards, and perhaps some picnic tables are desirable. The site and the school building should be designed to attract the people of the neighborhood and make it a center for education, recreation, and for cultural activities. The recommended standard for neighborhood parks is 2.5 acres per 1000 with a minimum size of 5 acres.

District Parks The district parks supplement the neighborhood parks in providing the near-at-hand recreation facilities needed by the urban population. These larger sites should, if possible, adjoin the public junior and senior high schools. They also encompass the activities formerly included in the "playfield." While the neighborhood sites should be designed to attract and serve the entire neighborhood populations, there are certain recreation facilities needed which require more space than the neighborhood sites should accommodate. Thus, the need for the district park. Other facilities may include a tennis complex, swimming pool, multi-purpose courts, community center, and adequate off-street parking. Parks of this type are best located on or near thoroughfares, easily accessible and distributed so they are within about one to three miles of each home. The increased mobility of teenagers who heavily utilize the district parks tends to widen the radius of the service area. The recommended standard for district parks is 2.5 acres per 1000, with a minimum size of 20 acres.

Large Urban or Metropolitan Parks Such parks are normally acquired to provide the urban dweller with an opportunity to get away from the noise and congestion of the city without having to travel a great distance. A central location is desirable but not always possible and the large urban park is often located near or outside the city limits.

A minimum of 100 acres is required with 250 to 1,000 acres being more desirable. This park may feature wooded areas, varying topography and water features, picnic areas, boating and swimming, a nature center, nature, hiking and riding trails, day camps, and some sports facilities on a less formal basis than the district park.

The large urban park usually serves those within a 30-minute drive, which may be 50,000 to 100,000 people. The recommended standard for large urban parks is 5 acres per 1000 and a minimum size of 100 acres.

Regional Parks These parks serve the people of a large region—usually those within an hour's travel time. The size and location will vary but at least 250 acres is recommended and may go up to several thousand acres. The responsibility for providing these extrarural parks generally falls upon the county or a regional authority. Even within the jurisdiction responsible for

there parks there may be variances in the type of development included in a regional park. Some are left primarily in their "natural state" while others will have both natural areas and extensive development. They should not, under any circumstances, take the place of neighborhood or district parks.

As the metropolitan area expands there is often pressure to put facilities in the regional park that are not in keeping with the philosophy or purpose of the park. This is actually an example of one type of park development encroaching upon another. It is easy to succumb to this pressure because the parkland is there when urban sprawl arrives. If proper location and development of neighborhood and district parks is achieved, such pressure need not exist.

Some of the facilities normally found in the regional park are campgrounds, picnic areas, nature centers, trail systems, water areas, a golf course, a miniature train, botanical gardens, and in some cases sports fields. The recommended standard for regional parks is 20 acres per 1,000, with a minimum size of 250 acres.

SPECIAL FACILITIES

Parkways and Scenic Corridors These are essentially elongated parks with a road extending throughout their length. They are usually restricted to non-commercial traffic. The parkway generally serves to connect large units in the park system or to provide a pleasant means of travel within the city and between the city and an outlying region. In some communities, what were once beautiful scenic drives have become major traffic arterials or high-speed thoroughfares, yielding under pressure of commuter traffic. This should not be condoned, and can often be avoided through proper design and speed restrictions.

The parkway usually follows stream or river alignments, shorelines of large lakes, or natural wooded areas. Thus, its location and size is dependent upon the availability and location of these resources. Where this kind of resource does not exist naturally, it is recommended that a parkway effect or scenic drive be created through proper landscape design and planting. Although no specific acreage standard is applicable, a minimum right-of-way of 300 feet is recommended; with portions being much wider for scenic vistas and other recreation development.

Swimming Pools Swimming pools, like golf courses, will draw from considerable distances—especially when there are not enough pools to serve the community.

It is highly desirable to include indoor or outdoor-inoutdoor pools in junior andor senior high schools, and these should be available for elementary school use so swimming can be taught at an early age.

In determining the number of pools required to serve a community, the standard of 15 square feet of water surface for each 3 percent of the population is recommended. This is the same as 450 sq. feet per 1000 people. Obviously the configuration of the pool determines its exact water surface area, but the average 50-meter pool will be about 9,000 square feet, thus serving a population of 20,000. A 25-meter pool will serve 10,000 people.

The deck space should be at least twice the area of the water surface.

Portable pools are proving popular in land and facility-deficient inner city areas. They are not without some problems—but many well constructed models are available. Some prerequisites for portable pools are a firm base (such as a paved area), nearby restroom facilities, an adequate water supply, and space for storage during the winter months.

Although swimming is generally thought of as a summertime, outdoor activity, new design trends such as the air-supported roof have liberated the indoor-outdoor concept. Depending on the geographical location, outdoor pools may only be in operation 25-30 percent of the year. The indoor-outdoor pool provides year-round use and is especially important for expanded learn-to-swim programs during the school year.

Golf Courses One 18-hole daily fee golf course is recommended for each 25,000 of the population. A daily fee course may include semi-private courses that charge green fees comparable to public courses and draw from the golfing element that play the public courses.

The size of the site will depend primarily on the terrain, vegetation, and shape of the parcel of land. Generally, 75 to 90 acres are required for 9 holes and 120 to 180 acres for 18 holes. A golf course architect should be retained to design any new course and every effort should be made to follow the plans explicitly without cutting corners.

The average golfer may travel 25 miles or more to play an attractive, properly maintained course. It is often desirable to locate a course within or adjacent to a large urban or regional park, but not essential. Although a golf course does not have large capacity for use (350-400 golfers/day or about of 80,000 rounds per year may be expected) compared to many other recreation areas, the fact that "open space" is created by its existence should be a factor in determining feasibility.

Par-3 golf courses continue to be popular. They should be considered as supplementary to regulation courses and not as substitutes. Par-3 courses offer opportunities for beginners to improve their game, and they serve some who do not have time for a full round on a regulation course and those who cannot meet the physical demands of walking a full-length 18-hole course. They also take some of the load off the regulation courses. A 9-hole, par-3 course can be built on 15 to 25 acres. Where possible, it is recommended that a par-3 course adjoin a regulation course in order that one manager can take charge of both courses and to combine and simplify the operation and maintenance of two courses.
Additionally, the NRPA recommends that the following concepts and trends be considered to best meet the golfing needs of the present and future:

- Small towns or cities that cannot justify expenditures or obtain adequate land for a full 18-hole course should consider the par-3 or par-3 executive course (has some par 4 holes).
- A par-3 course should be built for youth play and teaching. High schools should include a golf practice hole as part of their site plan.
- Consideration should be given to a full-length 9- or 18-hole course for novices, or "duffers" to ease the pressure and speed up play on other courses.
- Special programs should be developed to teach golf to inner-city residents (especially youth) and transport them to public golf courses.
- In cases where it is not feasible or financially expedient to light an entire course, consideration should be given to lighting the last 3 or 4 holes for extended playing time.
3. PARKLAND CLASSIFICATION SYSTEM

REGIONAL PARK AND
REGIONAL SHORELINE PARK

Purpose and Goals
A Regional Park or a Regional Shoreline Park is a spacious area of scenic or natural character in which a variety of recreational experiences and facilities are provided for the purpose of making the out-of-doors available for public enjoyment and education.

Minimum Standards
For an area to be considered suitable for designation as a Regional Park or a Regional Shoreline Park, it must possess the following characteristics:

1. The area must have either of the following features:
   a. To be suitable for a Regional Park, it must contain a minimum area of 500 acres, either in a single block, or in a series of smaller units with the smallest unit being at least 100 acres and with the potential for linking the units with a trail, scenic road, or transit system; or
   b. To be suitable for a Regional Shoreline Park, it must contain a minimum area (including tidelands and marshes) of 100 acres, either in a single block, or in a series of smaller units stretching along the bay shoreline with the potential existing for linking the units with a trail, scenic road, transit system, or ferry system.

2. Seventy to ninety percent of the area suitable for a Regional Park and sixty to eighty percent of the area suitable for a Regional Shoreline Park must have a scenic or natural character. This portion should be designated a Natural Environment Unit for planning and management purposes.

3. Ten to thirty percent of the area suitable for a Regional Park and twenty to forty percent of the area suitable for a Regional Shoreline Park must be useable for accommodating a variety of recreational activities and not possess any significant environmental features that would conflict with the development of recreational facilities. This portion should be designated an Outdoor Recreation Unit for planning and management purposes.

Planning and Management Guidelines
(Natural Environment Unit)

PLANNING AND DEVELOPMENT POLICIES
1. Development should be for the purpose of making the unit available for public enjoyment in a manner consistent with the preservation of natural values. Facilities might include such things as access roads, trails, and basic but not elaborate development necessary for camping and related outdoor activities.

2. A Natural Environment Unit may contain a Preserve Unit or a Trail Link; any such unit should be planned and managed according to the guidelines applying specifically to it. A Natural Environment Unit may not contain any staging units.

RESOURCE MANAGEMENT AND USE POLICIES
1. The primary management objective should be to provide for a variety of recreation experience in the out-of-doors, while preserving, or when necessary establishing, scenic landscape conditions. Users should be encouraged to enjoy the unit "as-is" in an outdoor environment where man is a visitor.

2. Forest and land management techniques such as tree cutting, controlled burning, reforestation and planting programs, and cattle grazing may be used to preserve, maintain, or re-create the desired environmental setting.

3. In periods of extreme fire hazard, all or some portion of the Natural Environment Unit may be closed to public use in order to protect the land and to insure the safety of the public.

4. Typical recreation activities within the unit might include such things as hiking, fishing, camping, picnicking, nature study, boating, and horseback riding.

Planning Management Guidelines
(Outdoor Recreation Unit)

PLANNING AND DEVELOPMENT POLICIES
1. The Outdoor Recreation Unit should contain all the substantial recreational development that is to be provided within a Regional Park. Development should include a broad range of facilities such as campgrounds, picnic areas, snack stands, nature interpretive facilities, equestrian complexes, road networks, beaches, ballfields, turfed meadows, and fishing piers.

2 Facilities which would involve major modifications of the
land, forests, or waters, which are attractions in themselves
and do not directly enhance the public’s enjoyment of the
outdoor environment, or which would provide for indoor or
formalized recreation facilities, should not be developed
within an Outdoor Recreation Unit.

3 All facilities should be designed to harmonize in appearance
with the surrounding natural landscape.

4 The Outdoor Recreation Unit may contain the staging
facilities for a Wilderness Unit, Preserve Unit, or Trail Link if
these elements are part of, or adjacent to, the Regional Park.

5 Wherever feasible, an internal transportation system rather
than a traditional road system should be utilized for move-
ment within the unit.

RESOURCE MANAGEMENT AND USE POLICIES

1 The primary management objective for an Outdoor Recrea-
tion Unit should be to accommodate the more structured
outdoor recreational activities and to thereby preserve the
Natural Environment Unit for unstructured enjoyment of the
out-of-doors.

2 The Unit should be managed to provide an appearance that
harmonizes with the surrounding natural landscape as much
as possible. This may require extensive maintenance be-
cause of the probable heavy use of the unit.

3 Reforestation or planting may be necessary to provide an at-
tractive environmental setting and should use indigenous
vegetation wherever possible.

REGIONAL RECREATION AREA
AND REGIONAL SHORELINE
RECREATION AREA

Purpose and Goals

A Regional Recreation Area or a Regional Shoreline Recreation
Area is an area developed for the purpose of providing for var-
ied and intensive forms of outdoor recreational activities.

Minimum Standards

For an area to be considered suitable for designation as a Re-
geonal Recreation Area or a Regional Shoreline Recreation Area,
it must possess the following characteristics:

1 The area must have either of the following features:

a To be suitable for a Regional Recreation Area, it must
contain a minimum of 100 acres, except where the de-
sign criteria for a specific recreational facility (as
noted in Minimum Standard No. 2-b) require more area;

b To be suitable for a Regional Shoreline Recreation Area,
it must contain a minimum (including tidelands and
marshes) of 50 acres, except where the design criteria for
a specific recreational facility (as noted in Minimum
Standard No. 2-b) require more area; this acreage can be
either in a single block or in a series of smaller units
stretching along the bay shoreline with the potential
existing for linking the units with a trail, scenic road,
transit system, or ferry system.

2 The area must have either of the following features:

a The land must not possess any significant or delicate en-
vironmental features that would conflict with the inten-
sive development of recreational facilities; or

b The land must be capable of withstanding intensive
human impact and have the resource characteristics (in-
cluding size) required by the design criteria for a specific
recreational facility (such as a quarry that could be used
for a swimming lake, an area of varied terrain suitable for
an off-road vehicle recreation area, or a calm lagoon
useful for a small-boat marina and sailing area).

Planning and Management Guidelines

PLANNING AND DEVELOPMENT POLICIES

1 The area should be planned and developed to provide what-
ever degree of facility development is necessary to accom-
modate many and varied forms of recreation. Large crowds
should be expected, so heavy capital investment and sub-
stantial alteration of the environment may be necessary to
facilitate intensive public use of the area.

2 Wherever feasible, nature interpretive facilities should be
provided within a Regional Recreation Area. Marshes,
wildlife refuge areas, ponds, and other similar facilities may
be artificially created for this purpose.

3 In order to provide a wide range of activities for many
people, development might include such things as parking
areas, swimming beaches, marinas, bathhouses, man-made
lakes, playing fields, and eating facilities.

RESOURCE MANAGEMENT AND USE POLICIES

1 The primary management objective should be to accommo-
date large crowds enjoying many types of outdoor recrea-
tional activities. Extensive maintenance may be necessary to
achieve this objective.

2 High quality routine maintenance should be provided in
order to provide pleasant recreational experiences to a large
number of people in a relatively small area.
1. ILLUSTRATIVE CITIZEN SURVEY QUESTIONNAIRE ON RECREATION

The 1973 St. Petersburg Questionnaire

*Indicates question that everyone surveyed is asked.

Hello, my name is __________________. I work for the St. Petersburg Parks and Recreation Department. As mentioned in the letter we sent to your household this past week, we would like to know your opinion of the pools, parks, and recreational centers in your neighborhood.

(ONLY IF RESPONDENT MENTIONS THAT HE DID RECEIVE OR SEE THE LETTER SENT TO THE HOUSEHOLD OR THAT HE DID NOT RECEIVE OR SEE THE LETTER SENT, MARK APPROPRIATE RESPONSE.)

Received letter  Yes    No

Is your telephone number _____________________________? 

Is your address _____________________________?

(IF NO TO EITHER ADDRESS OR TELEPHONE CONCLUDE THE INTERVIEW.)

(IF THEY WISH TO VERIFY SURVEY, ASK THEM TO CALL _______ AT 894-2111, EXTENSION 269.)

(IF RESPONDENT IS TOO BUSY TO TALK NOW, SAY:) I'll call back later. What time is convenient for you? ________

(IF RESPONDENT AGREES TO INTERVIEW THEN CONTINUE.)

*Q1 Are you 16 years or older? Yes    No

*Q2 Are you a member of this household? Yes  No

*Q3 How would you rate the pool, park, and recreational facilities? Excellent    Fair    No Opinion    Good    Poor    Don't know

(Would you tell me why you say that, please?)

*Q4 Did anyone in your household use these facilities (NAME EACH FACILITY) during the past month?

(a) ______ Pool   Yes    No   Don't know
(b) ______ Park   Yes    No   Don't know
(c) ______ Center  Yes    No   Don't know

(IF YES TO A, B, OR C, ASK:)

*Q5 Would you tell me which members of the household used these facilities and which members did not? I need to know the age and sex of each person, whether or not he or she used them.

(IF RESPONDENT IS UNDER 16 YEARS, OR NOT A MEMBER OF THE HOUSEHOLD, SAY:)

*Q6 Did anyone in the household use any other public recreational facilities during the past month?

Yes    No    Don't know

(IF YES, ASK:) Which ones were they and who used them?

(EXIT OTHER FACILITIES ON SPREAD SHEET FOR EACH USER. IF NO ONE IN HOUSEHOLD USED ANY OTHER FACILITY [Q4 and Q6 GO TO Q7].)

(FOR Q7 THROUGH Q11 READ QUESTIONS FOR EACH HOUSEHOLD FACILITY USER AND ENTER ANSWER ON SPREAD SHEET BEFORE GOING ON TO NEXT HOUSEHOLD USER.)

Is the mother or father of the household at home? Yes    No

(IF NEITHER IS AT HOME, SAY:)

Is some other adult at home? Yes    No

<table>
<thead>
<tr>
<th>Q5</th>
<th>Q5 &amp; Q6</th>
<th>Q7</th>
<th>Q8</th>
<th>Q9</th>
<th>Q10</th>
<th>Q11</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEX</td>
<td>AGE</td>
<td>FACILITY</td>
<td>NUMBER OF TIMES USED LAST MONTH</td>
<td>LENGTH OF STAY</td>
<td>ACTIVITY ENJOYED MOST</td>
<td>METHOD OF TRANSPORTATION</td>
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<td>Pool</td>
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*(IF THE ADULT CANNOT BE REACHED ASK WHAT TIME AN ADULT WILL BE HOME. IF THERE IS NO ADULT, CONCLUDE THE INTERVIEW.)*

*(ENTER THE SEX AND AGE OF EACH HOUSEHOLD MEMBER ON THE SPREAD SHEET.)*

*Q7* About how many times did the household member use (facility name) in the past month? *(ENTER ON SPREAD SHEET.)*

*Q8* How many hours did he/she stay on the average? *(ENTER ON SPREAD SHEET.)*

*Q9* Which single activity does he/she enjoy doing most when he/she goes there? *(ENTER ON SPREAD SHEET.)*

*Q10* What means of transportation did he/she usually use to get there? *(ENTER ON SPREAD SHEET. USE CATEGORIES: WALK, CAR, CAB, PUBLIC BUS, BIKE, MOTOR-BIKE, OTHER.)*

Q11 How many minutes does it take to get there on the average? *(ENTER ON SPREAD SHEET.)*
Q12 How do you think your household members rate the facilities that they have used during the past month? (DO NOT READ.)

(WRITE IN NAMES OF EACH FACILITY LISTED ON RATING TABLE.)

(SURVEY ONLY THOSE FACILITIES WHERE NO ATTENDANCE BY ANYONE IN THE HOUSEHOLD, NAMES OF FACILITIES WILL BE PREVIOUSLY ENTERED FOR Q11 AND Q14.)

Q13 Would you give me the reasons why during the last month your household did not use

(NAMES OF FACILITIES)  (REASONS)

a  

b  

c  

Q14 Let me read a list of possible reasons in case we have overlooked some. For (facility) . . .

(READ REASONS. INDICATE RESPONSE BY CHECK MARK IN BOX.)

<table>
<thead>
<tr>
<th>NAMES OF FACILITIES</th>
<th>POOL</th>
<th>PARK</th>
<th>CENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>a Don't know about facility or its programs</td>
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<tr>
<td>b Not open the right times</td>
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<tr>
<td>c Too far away</td>
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<td>d It's too crowded</td>
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<td>e It's not attractive</td>
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<td>f Costs too much to go there</td>
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<td>g Too dangerous there</td>
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<tr>
<td>h Do not like other users</td>
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<tr>
<td>i Personal health</td>
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<tr>
<td>j Activities not interesting</td>
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</table>

Q15 Are there any recreational activities or programs that you would add or change in the city which would improve recreation for your household?

Yes ______ No ______
Don't know ______ No opinion ______

(IF YES)

What additions or changes would you make?

________________________________________

________________________________________

(IF RESPONSE IS "DON'T KNOW" THEN SUGGEST THESE CHANGES TO RESPONDENT.)

Would you like to have more variety in the program being offered?

Yes ______ No ______ Don't know ______

(IF YES ASK)

What new programs would you like to see added?

_____________________________________________________________________

(Possible suggestions include: sewing classes, card games, wrestling, judo, dancing, etc.)

Would you like to see more facilities available, such as:

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Tennis courts</td>
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<td>Bocce diamonds</td>
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<td>Handball courts</td>
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<td>Swimming pools</td>
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<td>Shuffleboard courts</td>
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<td>Other</td>
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</table>

Q16 How many different people in your household have played golf in the last 12 months?

(IF RESPONDENT PLAYS GOLF ASK:)

Q17 What kinds of waiting times do you experience?

Usually too long ___
Occasionally too long ___
Not usually a problem ___
Don't know ___
<table>
<thead>
<tr>
<th>FACILITY NAME</th>
<th>CHARACTERISTICS</th>
<th>VERY GOOD</th>
<th>GOOD</th>
<th>FAIR</th>
<th>POOR</th>
<th>DON'T KNOW</th>
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<td>iv) Helpfulness and attitude of personnel</td>
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<td>vi) Safety</td>
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<td>vii) Overall rating</td>
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<td>vii) Overall rating</td>
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</table>
Q18 Has the cost of greens fees restricted your golfing:

--- A great deal
--- Somewhat
--- Not much

(DON'T READ) --- Don't know

Now I have some general questions to complete the questionnaire. As mentioned in the letter, your replies will be strictly confidential.

Q19 Does the household have a family vehicle like a car or truck?

--- Yes
--- No
--- Don't know
--- Won't say

Q20 What was the last grade or class the head of the household completed in school?

--- Grade 8 or less
--- High school, incomplete
--- High school, completed
--- Technical, trade or business
--- College, university, incomplete
--- College, university, graduate

--- Don't know
--- Won't say

Q21 Do you own or are you buying or do you rent the place you live in?

--- Own (buying)
--- Rent
--- Other
--- Don't know
--- Won't say

*Q22 How many years have you lived in the neighborhood?

--- Don't know
--- Won't say

*Q23 Can you tell me approximately what is the level of income for all members of your household, that is, before any taxes? What is the total annual income?

--- Below $5,000
--- Between $5,000 and $10,000
--- Between $10,000 and $15,000
--- Over $15,000
--- Don't know
--- Won't say

*Q24 Do you consider yourself a White, Black, or of another race?

--- Don't know
--- Won't say
2. ILLUSTRATIVE SURVEY OF USERS OF RECREATION FACILITIES

Adapted from Nashville and St. Petersburg User Surveys

Facility Name ___________________________ Date ______________________

READ EACH QUESTION, CHOOSE AND CIRCLE THE NUMBER TO THE LEFT OF THE RESPONSE THAT BEST APPLIES TO YOU.

1. Where did you find out about this facility?
   (1) Newspaper
   (2) Television
   (3) Friends and neighbors
   (4) City published information
   (5) Phone book
   (6) Other; specify ____________________________

2. How did you get here?
   (1) Own car
   (2) Other person’s car
   (3) Motorcycle
   (4) Bus
   (5) Bike
   (6) Walked
   (7) Other; specify ____________________________

3. How long did it take to get here?
   (1) Less than 10 minutes
   (2) 10–19 minutes
   (3) 20–29 minutes
   (4) 30–39 minutes
   (5) 40–49 minutes
   (6) 50–59 minutes
   (7) 60 or more

4. About how often have you come here during the past 12 months?
   (1) This is my first visit
   (2) Almost daily
   (3) At least once a week
   (4) At least once a month
   (5) Less than once a month

5. How long do you usually stay at this facility?
   (1) Less than ½ hour
   (2) ½ hour or more, but not 1 hour
   (3) 1 hour or more, but not 2 hours
   (4) 2 hours or more, but not 4 hours
   (5) 4 hours or more

   How would you rate the following?

<table>
<thead>
<tr>
<th></th>
<th>Excellent</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
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<tbody>
<tr>
<td>6 Hours of operation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7 Cleanliness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>8 Condition of equipment</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9 Availability of equipment</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<td>10 Amount of space (lack of</td>
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<td>2</td>
<td>3</td>
<td>4</td>
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<td>crowdedness)</td>
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<td>11 Safety conditions (including</td>
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<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>feeling of security)</td>
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<tr>
<td>12 Physical attractiveness</td>
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<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>13 Variety of programs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<td>14 Helpfulness and attitude</td>
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<td>2</td>
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<td>of personnel</td>
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<td>15 Parking area</td>
<td>1</td>
<td>2</td>
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<td>4</td>
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<td>16 Restrooms</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17 Convenience to your home</td>
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<td>2</td>
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<td>4</td>
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<td>18 Amount of supervision</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19 Is there anything else you</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>particularly like about this</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>facility?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

20. Is there anything else you particularly dislike about this facility?

21. How would you rate this facility overall?
   (1) Excellent
   (2) Good
   (3) Fair
   (4) Poor

22 Do you have any suggestions for improving this facility?


23 How long have you lived in ____________________________?

(1) Less than 3 months
(2) 3-12 months
(3) 1-5 years
(4) More than 5 years
(5) Not a resident

24 Home address (or nearest intersection to your home):


25 What is your age?

(1) Less than 14
(2) 14-18
(3) 19-24
(4) 25-34
(5) 35-49
(6) 50-64
(7) Over 65

26 What is your sex and race?

(1) White male
(2) White female
(3) Nonwhite male
(4) Nonwhite female

27 Which of the following comes closest to your total household income before taxes last year?

(1) Under $5,000
(2) $5,000 to 7,999
(3) $8,000 to 9,999
(4) $10,000 to 14,999
(5) $15,000 and over
<table>
<thead>
<tr>
<th>Land and Water Management</th>
<th>Preservation zone</th>
<th>Protection zone</th>
<th>Enhancement zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geology and Soil Erosion</td>
<td>Allow natural earth movement and erosion to take its course.</td>
<td>When important resources and visitor safety are directly threatened, attempt to inhibit natural destructive processes, including land movement and cliff erosion.</td>
<td>When important resources and visitor safety are directly threatened, attempt to inhibit natural destructive processes, including land movement and cliff erosion.</td>
</tr>
<tr>
<td>Vegetation Management</td>
<td>Upgrade water quality and wastewater facilities as needed.</td>
<td>Upgrade water quality and wastewater facilities as needed.</td>
<td>Maintain water quality and wastewater facilities.</td>
</tr>
<tr>
<td>Grazing</td>
<td>No livestock grazing.</td>
<td>Livestock grazing permitted. Eliminate all overgrazing and phase out grazing operations from unsuitable range sites.</td>
<td>No livestock grazing.</td>
</tr>
<tr>
<td>Role of Fire</td>
<td>Explore prescribed burning in conjunction with other management techniques to maintain resource diversity and contrast, and to prevent significant long-term buildup of combustible materials.</td>
<td>Explore prescribed burning in conjunction with other management techniques to maintain resource diversity and contrast, and to prevent significant long-term buildup of combustible materials.</td>
<td>No prescribed burning.</td>
</tr>
<tr>
<td>Exotics</td>
<td>Eliminate exotic plants where feasible. No planting of exotics permitted.</td>
<td>Control exotic plants where their spread threatens important recreational resources and native plant communities. Planting of exotics for specific recreational sites permitted.</td>
<td>No control of exotic plants. Planting of exotics permitted.</td>
</tr>
<tr>
<td>Herbicides</td>
<td>Utilize, wherever feasible, non-chemical management techniques.</td>
<td>Utilize, wherever feasible, non-chemical management techniques.</td>
<td>Utilize, wherever feasible, non-chemical management techniques.</td>
</tr>
<tr>
<td>Wildlife Management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unnatural Populations</td>
<td>Maintain animal populations at levels that ensure the vitality of the group, protect vegetation, and minimize contact with park visitors.</td>
<td>Maintain animal populations at levels that ensure the vitality of the group, protect vegetation, and minimize contact with park visitors.</td>
<td>Maintain animal populations at levels that ensure the vitality of the group, protect vegetation, and minimize contact with park visitors.</td>
</tr>
<tr>
<td>Exotics</td>
<td>Eliminate exotic animal species where feasible.</td>
<td>Manage level of exotic species to ensure protection of natural and recreational resources and visitor safety. Identify and protect fragile habitats.</td>
<td>Identify and protect fragile habitats.</td>
</tr>
<tr>
<td>Fragile Habitats</td>
<td>Identify and protect fragile habitats.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management of Threatened and Endangered Species</td>
<td>Identify and protect threatened and endangered species.</td>
<td>Identify and protect threatened and endangered species.</td>
<td>Identify and protect threatened and endangered species.</td>
</tr>
</tbody>
</table>

# 1. RECREATION STANDARDS: POPULATION RATIO METHOD

## BY CLASSIFICATION AND POPULATION RATIO

<table>
<thead>
<tr>
<th>Classification</th>
<th>Acres/1000 people</th>
<th>Size range</th>
<th>Population served</th>
<th>Service area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Play lots</td>
<td>*</td>
<td>2500 sq ft to 1 acre</td>
<td>500–2500</td>
<td>Subneighborhood</td>
</tr>
<tr>
<td>Vest pocket parks</td>
<td>*</td>
<td>2500 sq ft to 1 acre</td>
<td>500–2500</td>
<td>Subneighborhood</td>
</tr>
<tr>
<td>Neighborhood parks</td>
<td>2.5</td>
<td>Min. 5 acres, up to 20 acres</td>
<td>2000–10,000</td>
<td>¼–½ mile</td>
</tr>
<tr>
<td>District parks</td>
<td>2.5</td>
<td>20–100 acres</td>
<td>10,000–50,000</td>
<td>¼–3 miles</td>
</tr>
<tr>
<td>Large urban parks</td>
<td>5.0</td>
<td>100+ acres</td>
<td>One for ea. 50,000</td>
<td>Within ¼ hr driving time</td>
</tr>
<tr>
<td>Regional parks</td>
<td>20.0</td>
<td>250+ acres</td>
<td>Serves entire population in smaller communities; should be distributed throughout larger metro areas.</td>
<td>Within 1 hr driving time</td>
</tr>
</tbody>
</table>

Special areas and facilities include parkways, beaches, plazas, historical sites, flood plains, downtown malls, and small parks, tree lawns, etc. No standard is applicable.

*Not applicable.*

## SPACE STANDARDS FOR NEIGHBORHOOD PARKS

Suggested space standards for various units within the park. The minimum size is 5 acres.

<table>
<thead>
<tr>
<th>Facility or unit</th>
<th>Area in acres</th>
<th>Park adjoining school</th>
<th>Separate park</th>
</tr>
</thead>
<tbody>
<tr>
<td>Play apparatus area—preschool</td>
<td>.25</td>
<td>.25</td>
<td></td>
</tr>
<tr>
<td>Play apparatus area—older children</td>
<td>.25</td>
<td>.25</td>
<td></td>
</tr>
<tr>
<td>Paved multipurpose courts</td>
<td>.50</td>
<td>.50</td>
<td></td>
</tr>
<tr>
<td>Recreation center building</td>
<td>*</td>
<td>.25</td>
<td></td>
</tr>
<tr>
<td>Sports fields</td>
<td>*</td>
<td>5.00</td>
<td></td>
</tr>
<tr>
<td>Senior citizens’ area</td>
<td>.50</td>
<td>.50</td>
<td></td>
</tr>
<tr>
<td>Quiet areas and outdoor classroom</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Open or “free play” area</td>
<td>.50</td>
<td>.50</td>
<td></td>
</tr>
<tr>
<td>Family picnic area</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Off-street parking</td>
<td>*</td>
<td>2.30†</td>
<td></td>
</tr>
<tr>
<td>Subtotal</td>
<td>4.00</td>
<td>11.55</td>
<td></td>
</tr>
<tr>
<td>Landscaping (buffer and special areas)</td>
<td>2.50</td>
<td>3.00</td>
<td></td>
</tr>
<tr>
<td>Undesignated space (10%)</td>
<td>.65</td>
<td>1.45</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7.15</strong></td>
<td><strong>16.00</strong></td>
<td></td>
</tr>
</tbody>
</table>

†Provided by elementary school.

Basis on 25 cars @ 400 sq ft per car.

SPACE STANDARDS FOR DISTRICT PARKS
Suggested space requirements for various units within the park. The minimum size is 20 acres.

<table>
<thead>
<tr>
<th>Facility or unit</th>
<th>Park adjoining school</th>
<th>Separate park</th>
</tr>
</thead>
<tbody>
<tr>
<td>Play apparatus — preschool</td>
<td>.35</td>
<td>.35</td>
</tr>
<tr>
<td>Play apparatus — older children</td>
<td>.35</td>
<td>.35</td>
</tr>
<tr>
<td>Paved multipurpose courts</td>
<td>1.25</td>
<td>1.75</td>
</tr>
<tr>
<td>Tennis complex</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Recreation center building</td>
<td>.50</td>
<td>1.00</td>
</tr>
<tr>
<td>Sports fields</td>
<td>1.00</td>
<td>10.00</td>
</tr>
<tr>
<td>Senior citizens' complex</td>
<td>1.90</td>
<td>1.90</td>
</tr>
<tr>
<td>Open or &quot;free play&quot; area</td>
<td>2.00</td>
<td>2.00</td>
</tr>
<tr>
<td>Archery range</td>
<td>.75</td>
<td>.75</td>
</tr>
<tr>
<td>Swimming pool</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Outdoor theater</td>
<td>.50</td>
<td>.50</td>
</tr>
<tr>
<td>Ice rink (artificial)</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Family picnic area</td>
<td>2.00</td>
<td>2.00</td>
</tr>
<tr>
<td>Outdoor classroom area</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Golf practice hole</td>
<td>.50</td>
<td>.75</td>
</tr>
<tr>
<td>Off-street parking</td>
<td>1.50</td>
<td>3.00*</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>15.60</td>
<td>20.35</td>
</tr>
<tr>
<td>Landscaping (buffer and special areas)</td>
<td>3.00</td>
<td>6.00</td>
</tr>
<tr>
<td>Undesignated space (10%)</td>
<td>1.80</td>
<td>3.40</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20.46</strong></td>
<td><strong>37.76</strong></td>
</tr>
</tbody>
</table>

*Provided by Jr. or Sr. High School
**Based on 400 sq ft per car

STANDARDS FOR SPECIAL FACILITIES

<table>
<thead>
<tr>
<th>Facility (outdoor)</th>
<th>Standard/1000 people</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseball diamonds</td>
<td>1 per 6000</td>
<td>Regulation 90 ft</td>
</tr>
<tr>
<td>Softball diamonds / youth diamonds</td>
<td>1 per 3000</td>
<td></td>
</tr>
<tr>
<td>Tennis courts</td>
<td>1 per 2000</td>
<td>(Best in battery of 4)</td>
</tr>
<tr>
<td>Basketball courts</td>
<td>1 per 500</td>
<td></td>
</tr>
<tr>
<td>Swimming pools — 25m</td>
<td>1 per 10,000</td>
<td>Based on 15 sq ft of water for ea. 3% of pop.</td>
</tr>
<tr>
<td>Swimming pools — 50m</td>
<td>1 per 20,000</td>
<td></td>
</tr>
<tr>
<td>Skating rinks (artificial)</td>
<td>1 per 30,000</td>
<td></td>
</tr>
<tr>
<td>Neighborhood centers</td>
<td>1 per 10,000</td>
<td></td>
</tr>
<tr>
<td>Community centers</td>
<td>1 per 25,000</td>
<td></td>
</tr>
<tr>
<td>Outdoor theaters (noncommercial)</td>
<td>1 per 20,000</td>
<td></td>
</tr>
<tr>
<td>Shooting ranges</td>
<td>1 per 50,000</td>
<td>Complete complex incl. high-power, small-bore, trap and skeet, field archery, etc.</td>
</tr>
<tr>
<td>Golf courses (18 hole)</td>
<td>1 per 25,000</td>
<td></td>
</tr>
</tbody>
</table>

Note: All of the above mentioned facilities are desirable in small communities, even though their population may actually be less than the standard. Every effort should be made to build all facilities for visit use, thus extending their utility.
<table>
<thead>
<tr>
<th>Facility</th>
<th>User group age</th>
<th>Spatial facility</th>
<th>Per number persons in user group</th>
<th>Minimum facility</th>
<th>Within park total acres</th>
<th>Outside park total acres</th>
<th>Service area</th>
<th>Miscellaneous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighted league play ball diamonds</td>
<td>10–40</td>
<td>1</td>
<td>6,000</td>
<td>1</td>
<td>2.2</td>
<td>4.5</td>
<td>2–3 miles</td>
<td>Adjacent to high school, buffered from residential property</td>
</tr>
<tr>
<td>Lighted regulation tennis courts</td>
<td>12–64</td>
<td>1</td>
<td>4,000</td>
<td>6</td>
<td>3.5</td>
<td>4.5</td>
<td>2–3 miles</td>
<td>Provide sheltered sitting area adjacent courts; near public transit and major arterials</td>
</tr>
<tr>
<td>Lighted shuffleboard courts</td>
<td>60+</td>
<td>1</td>
<td>1,000</td>
<td>12</td>
<td>0.5</td>
<td>7.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulation basketball courts</td>
<td>12–19</td>
<td>1</td>
<td>500</td>
<td>2</td>
<td>0.4</td>
<td>0.6</td>
<td>0.5 miles</td>
<td></td>
</tr>
<tr>
<td>Swimming pools</td>
<td>6–15</td>
<td>1</td>
<td>1,000</td>
<td>1</td>
<td>0.6</td>
<td>0.8</td>
<td>1–1.5 miles</td>
<td>Optimum pool size 5,000 sq ft shallow wading areas separate from diving pool</td>
</tr>
<tr>
<td>Play apparatus areas</td>
<td>3–12</td>
<td>1</td>
<td>500</td>
<td>1</td>
<td>0.2</td>
<td>0.3</td>
<td>0.5 miles</td>
<td>Includes sitting areas, playground equipment for children, small open areas for free play</td>
</tr>
<tr>
<td>Golf courses (private included)</td>
<td>All ages</td>
<td>18 holes</td>
<td>50,000</td>
<td>1</td>
<td>110–150</td>
<td>150</td>
<td>30-min driving time</td>
<td>Rectangle must fit desirable shape extending north to south, gently rolling terrain preferred</td>
</tr>
<tr>
<td>Picnic grounds</td>
<td>All ages</td>
<td>1 acre</td>
<td>6,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Located in natural beauty areas preferably adjacent to bodies of water, well-shaded, well-buffered from surrounding conflicting uses</td>
</tr>
<tr>
<td>Beaches#</td>
<td>All ages</td>
<td>0.2 acre sand and 50-ft shore line</td>
<td>1,000</td>
<td>1</td>
<td>2.5</td>
<td>2.5</td>
<td>30-min max driving time</td>
<td></td>
</tr>
<tr>
<td>Boat ramps</td>
<td>All ages</td>
<td>2 linear ft</td>
<td>1,000</td>
<td>200</td>
<td>6.5</td>
<td>8</td>
<td>Minimum 0.6 parking space per linear ft of ramp</td>
<td></td>
</tr>
</tbody>
</table>

*Includes acreage for auxiliary facilities.
1 Primarily 60 to 75 foot combination diamonds.
2 Peak season tourist population as well as resident population.

### Neighborhood Playlot

- **Size**: At least 1 acre preferred
- **Service area**: ¼ mile or less
- **Location**: High density neighborhoods where typical private yards do not exist
- **Usual facilities**: Paved area, playground apparatus area for small children; usually private responsibility.

### Neighborhood Park

- **Area per 1000 persons**: 3 acres
- **Size**: 5–10 acres, not including parking
- **Service area**: ½ mile or as limited by geographical barriers
- **Location**: Preferably adjacent to elementary schools or near the center of the neighborhood
- **Usual facilities**: Softball/baseball fields, multiple-use paved areas, playground apparatus areas, landscaped areas, and picnic areas. Small fieldhouse. Minimum of automobile parking.

### District Park

- **Area per 1000 persons**: 3 acres
- **Size**: 10–30 acres
- **Service area**: 1 mile
- **Location**: Preferably near the center of 4 or 5 neighborhoods
- **Usual facilities**: Facilities of neighborhood park, tennis courts, football and soccer fields, lighting for evening use, community center/recreation buildings and swimming pool. Substantial parking areas. Skating rinks, sledding hill, and natural areas.

### Large Park

- **Area per 1000 persons**: 5 acres
- **Size**: 100–400 acres
- **Service area**: 3–5 miles
- **Location**: Wherever appropriate sites can be secured with natural features
- **Usual facilities**: District park facilities, large rustic areas and picnic areas, facilities for hiking, field archery, golf, and water related recreations, many of which could be revenue producing facilities.

### Parkways and Special Areas

- **Area per 1000 persons**: 2 acres
- **Size**: Size varies depending on use of the area and land available
- **Service area**: The whole community
- **Location**: Along waterways and to provide aesthetic treatment for civic buildings and other public facilities
- **Usual facilities**: District parks, areas, and picnic facilities, zoo, hobby center, museum, golf course, and other facilities depending on function and characteristics of the park.

### Reservations and Regional Parks

- **Size**: Several hundred to several thousand acres
- **Service area**: Entire urban area
- **Location**: On the fringe of urban development at appropriate sites, preferably within one hour’s driving time

**Usual facilities**: Water resources, rustic areas, camping, nature study, bridle paths, picnicking and other facilities not requiring intensive development, usually the responsibility of a regional or state park authority.

### Specific Facility Standards*

- **9-hole golf courses**: 19-hole public course for every 25,000 persons. 45 acres for regular play, 20 acres for Par 3; located within the District
- **18-hole golf courses**: 1 18-hole public course for every 50,000 persons. Minimum size 120 acres including area for club house, parking and service areas, preferably located in a county park within 10 miles
- **Community centers**: 1 for every 20,000 persons. 1 game room for every 10,000; 1 arts and crafts room for every 10,000; 1 club room and multiple-use room for every 4,000; 1 indoor swimming pool for every 50,000; each center would include gymnasium, kitchen, office, and service facilities
- **Arenas, coliseums, or cultural center**: 1 for every 50,000 persons; should be combined with a community center. Include facilities for music, art, and dramatic interests
- **Camping facilities**: 1 group camp for every 25,000 population about one-hour distance from Elmhurst. Ideal size: 500–1,000 acres, suitable for long term camping, school camping, and family camping
- **Water related facilities**: 5 acres of water surface for each 2,000 people, boat storage, rental, and launching ramps desired. Public ownership of all stream banks within the District
- **Softball diamonds**: 1 for every 3,000 persons, %-lighted
- **Baseball diamonds**: 1 official regulation lighted diamond for every 30,000 persons. 1 junior diamond for every 3,000 persons, %-lighted
- **Football, soccer fields, handball courts**: 1 for every 10,000 persons, %-lighted
- **Tennis courts**: 1 lighted court for every 1,500 persons
- **Picnic areas**: 3 acres of picnic areas for every 1,000 persons. 4-16 picnic tables per acre at each location, and space for horse-shoes, informal softball, and other field games
- **Ice skating rinks**: Area 100' x 200' for free skating plus area 85' x 200' for hockey, lighted for night use; warming area; located in district parks
- **Community swimming pools**: 1 pool for every 20,000 persons. 8,000–10,000 square feet of water surface and double that in deck space
- **Neighborhood swimming pools**: 1 pool for every 5,000 persons outside community pool service area (would be considered where a neighborhood is isolated from the community pool). 4,000 square feet of water surface and 8,000 square feet of deck

*Standards refer to all community facilities, regardless of ownership.

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Total acreage, including parking</th>
<th>Parking provided†</th>
<th>Number of automobiles</th>
<th>Acreage required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cultural Center (adjoining a major educational institution when practical)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A  Drama and music center (auditorium seating 1000; intimate hall for chamber music)*</td>
<td>10</td>
<td>10</td>
<td>100</td>
<td>2.1</td>
</tr>
<tr>
<td>B  Outdoor theater*</td>
<td>20</td>
<td>60</td>
<td>600</td>
<td>4.2</td>
</tr>
<tr>
<td>C  Junior museum (science, crafts, art center)*</td>
<td>15</td>
<td>30</td>
<td>30</td>
<td>2.2</td>
</tr>
<tr>
<td>D  Museum; art center with art gallery and studios for painting, sculpture, and crafts; floral display hall*</td>
<td>15</td>
<td>300</td>
<td>300</td>
<td>2.1</td>
</tr>
<tr>
<td>E  Landscaping: 25 percent of total acreage of items starred*</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>75</td>
<td>1,230</td>
<td>8.6</td>
<td></td>
</tr>
<tr>
<td><strong>Recreation Park</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F  Open meadow area</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G  Natural areas, trails, lake or water course</td>
<td>45</td>
<td>150</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>M  Picnic and barbecue areas (family and group)</td>
<td>30</td>
<td>300</td>
<td>300</td>
<td>2.1</td>
</tr>
<tr>
<td>I  Day and weekend camping (family and group)</td>
<td>30</td>
<td>300</td>
<td>300</td>
<td>2.1</td>
</tr>
<tr>
<td>J  Golf courses (one 18-hole course = 10 acres)</td>
<td>110</td>
<td>1,600</td>
<td>11.2</td>
<td></td>
</tr>
<tr>
<td>K  Children's wonderland (combined with children's zoo)*</td>
<td>5</td>
<td>100</td>
<td>100</td>
<td>.7</td>
</tr>
<tr>
<td>L  Play area for preschool children and apparatus section (four or each, widely separated)*</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M  Adaptable space for circus, carnivals, outdoor conventions*</td>
<td>20</td>
<td>600</td>
<td>600</td>
<td>4.2</td>
</tr>
<tr>
<td>N  Corporation yard</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E  Landscaping: 25 percent of total acreage of items starred</td>
<td>20</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>893</td>
<td>3,050</td>
<td>21.3</td>
<td></td>
</tr>
<tr>
<td><strong>Sports Center</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P  Stadium, swimming pool, athletic fields, courts</td>
<td>50</td>
<td>1,300</td>
<td>9.0</td>
<td></td>
</tr>
<tr>
<td><strong>Civic Center</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative offices, auditorium and exhibition hall</td>
<td>30</td>
<td>600</td>
<td>600</td>
<td>4.2</td>
</tr>
<tr>
<td><strong>Plazas and Squares</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 percent of commercial district</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Greenbelts</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strip parks and tree-lined walks connecting squares, neighborhood recreation centers, community and citywide recreation parks, and the civic center Tree-lined boulevards and pathways linking larger parks Waterfront developments along ocean, bays, lakes, and rivers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Includes parking space.
†The parking standard proposed assumes joint use of parking areas. Allowance of 100 square feet per automobile.
# 3. RECREATION STANDARDS: RECREATION EXPERIENCE METHOD

HUMANISTIC AND SUPPORT CONSIDERATIONS FOR ENHANCEMENT OF THE RECREATION EXPERIENCE

### Example 1

<table>
<thead>
<tr>
<th>Recreation experience</th>
<th>Consideration</th>
<th>Standard</th>
<th>Desirability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Recreation</td>
<td>Drinking water</td>
<td>Year-round access to source of drinking water; distance to source no greater than 150 feet; water quality to meet Penna. Dept. of Environmental Resources Standards</td>
<td>X</td>
</tr>
<tr>
<td>Outdoor</td>
<td>Sanitary provisions</td>
<td>Year-round access to restroom facilities; distance to facilities no greater than 300 feet; sanitary system to be approved by Penna. Dept. of Environmental Resources</td>
<td>X</td>
</tr>
<tr>
<td>Juvenile low-organized games and free play</td>
<td>Refuse control</td>
<td>If on public land, durable, waterproof and rodent proof waste containers to be provided no greater than 150 feet apart; containers to be regularly inspected and emptied</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Protection from climate/weather</td>
<td>Access to shade, rain and/or wind control elements (convenient vegetation such as a shade tree or windbreak may be adequate, a structural shelter not necessarily required)</td>
<td>X</td>
</tr>
</tbody>
</table>

### Example 2

<table>
<thead>
<tr>
<th>Recreation experience desired</th>
<th>Examples of activities</th>
<th>Quantitative standard</th>
<th>Responsible agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Recreation (Outdoor)</td>
<td></td>
<td>Specialized facilities depending upon interest group or organization</td>
<td>Commercial, semipublic, public</td>
</tr>
<tr>
<td>Specialized individual and dual sports</td>
<td>Target shooting, flying, soaring, auto or motorbike racing, equestrian activities, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment-Related Activities (Outdoor)</td>
<td></td>
<td>Large pollution-free lake(s) at least 100 acres in size, with boat ramps and marinas, plus countywide pollution and water quality controls on all recreational water bodies and streams</td>
<td>Public</td>
</tr>
<tr>
<td>Water activities</td>
<td>Power boating, water skiing, fishing, scuba diving, sailing, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winter activities</td>
<td>Ice boating, downhill skiing, tobogganing, snowmobile racing, etc.</td>
<td>Downhill ski area with snow-making capabilities, or refrigerated toboggan chutes and runs, or snowmobile race course; all with spectator facilities—facilities provided as interest warrants</td>
<td>Public, commercial</td>
</tr>
</tbody>
</table>
2. RECREATION STANDARDS: DEMAND PROJECTION METHOD

MARICOPA COUNTY, ARIZONA, SYSTEM PLAN

1 Population distribution maps were made for 1960 and 1980. Data for 1936 (adjusted to 1960) and 1980 was adapted from the reports of the Advance Planning Task Force of the Cities of Phoenix and Maricopa County. The figures 664,000 for 1960 and 1,440,000 for 1980 were used consistently.

2 Regions of use were plotted. Points equidistant both in time and distance between the five proposed regional parks were located on a Maricopa County map. Time/distance lines, at 15-minute intervals, were plotted from McDowell Regional Park outwards to a time/distance interval of one hour's driving time. The geographic area thus created was called the "region of use." Although not the only recreation "choice" factor, it was concrete and measurable.

3 Population socio-economic characteristics were correlated with density of population. The socio-economic characteristics of median age, median family income, median number of years of education and occupation were graphically plotted on maps of the Phoenix Urban Area to determine the dominant 1960 characteristics of three density groups: low (0–4.9 persons per acre), medium (5–19.9 persons per acre) and high (20 persons per acre).

4 The 1980 population 12 years of age and over was computed according to low, medium, and high density. For the McDowell region of use the results were: low density, 39,420; medium density, 185,420; county rural, 16,790. Throughout the report, county rural areas were equated as to socio-economic characteristics with high density urban areas.) The total population for 1980 of 242,000 was not by itself significant.

5 The effect on participation rates of the socio-economic characteristics of each density group was derived from studies of the Outdoor Recreation Resources Review Commission (ORRRC). This was accomplished by a complicated computer analysis which "weighted" the effect on recreation participation of each of the four socio-economic characteristics of age, income, education and occupation. The result was in the form of "percent participating" in each of the three density groups.

6 The "percent participating" figures for picnicking were then multiplied by the population in each McDowell density group, set forth in 4 above. The product of these three multiplications were then totaled to give the total number of participants in picnicking for the McDowell region of use in 1980. This total number was of persons 12 years of age and over—one of the limitations of the ORRRC studies. This figure was 130,000.

7 The number of user days per participant for a three-month peak period was multiplied times the number of participants. According to ORRRC, each participant will spend 3.6 days picnicking during a three-month peak period. Thus the total number of participants, 130,000, was multiplied by 3.6 to give 494,000 user days for a three-month peak period of picnicking.

8 The number of user days in a three-month peak was divided by 3 to give a one-month peak of 164,302.

9 From this figure, a peak weekend day was derived, or 10,281. To arrive at this figure, 164,302 was multiplied by 25% to give total user days for a one-week peak. This result was again multiplied by 25% to give a peak weekend day since 50% of the use during a week is on the weekend.

10 The number of users on a peak weekend day was reduced to the number of "picknickers." The average size of a family (excluding those under 12) in the McDowell region of use was found to be 2.5 persons. Thus, the users on a peak weekend day, 10,281, was divided by 2.5 to give the number of family units who need picnic facilities—4,112.

11 The total amount of acres for picnicking was then calculated. Using the "standard" of 10 family units per acre—or 1/10 acre per unit—it was calculated, by multiplying by 4,112, that 411.2 acres should be planned for picnicking for the McDowell region of use.

12 The number of picnic facilities existing or planned in the McDowell region of use was deducted from the number of facilities required to get the net number needed. An analysis of the McDowell region of use showed that no significant picnic facilities existed or were planned. Therefore, the net need was the same as the gross need—411.2 acres.

13 Since it must be assumed that McDowell Regional Park will fulfill the outdoor recreation needs of the people living within the McDowell region of use, the facilities needed by the region of use are the same as those which must be provided in the regional park.

Example 3

<table>
<thead>
<tr>
<th>Recreation experience (degree)</th>
<th>Examples of activities</th>
<th>Application of minimum quantitative standards to existing facilities</th>
<th>Park, forest, village, neighborhood</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Physical recreation grounds</td>
<td>Playground activities, i.e., running, jumping, climbing, swinging, sliding, etc.</td>
<td>Approximately one half open space for low-organized games and free play; margin and stationery areas for creative play (swings, slides, climbers, playhouses, etc.)</td>
<td>Adequate — existing activities meet minimum standards</td>
</tr>
<tr>
<td>A. Juvenile low-organized games and free play</td>
<td>Basketball, volleyball, paddle tennis, shuffleboard, Frisbee, baseball, frisbee, etc.</td>
<td>Paved, all-weather area for selected multi-purpose use by one or more sites (independent of neighborhood interests)</td>
<td>Adequate — existing activities meet minimum standards</td>
</tr>
<tr>
<td>B. High-organized turf and court games</td>
<td>Coaster, horseshoes, volleyball, badminton, etc.</td>
<td>Level turf area aggregate, a more than one activity location</td>
<td>Inadequate — existing activities must be expanded and should not be accommodated on existing sites</td>
</tr>
<tr>
<td>C. Specialized individual and dual sports</td>
<td>Tennis, handball, squash, soccer, lawn bowling, etc.</td>
<td>One battery of four tennis courts; other facilities as determined by neighborhood interests</td>
<td>Inadequate — existing activities must be expanded and new sites must be developed</td>
</tr>
<tr>
<td>D. Turf field sports for older youth and adults</td>
<td>Football, baseball, softball, field hockey, soccer, rugby, etc.</td>
<td>Level turf area aggregate, with no one parcel smaller than 1 acre; at least one parcel with no less than 50 yards running length in one direction</td>
<td>Inadequate — existing activities must be expanded and should not be accommodated on existing sites</td>
</tr>
<tr>
<td>II. Physical recreation grounds</td>
<td>Basketball, wrestling, volleyball, handball, paddle tennis, squash, etc.</td>
<td>Multiple-use gymnasia, depending on population warrants</td>
<td>Inadequate — these activities not currently provided for but could perhaps be accommodated on existing sites</td>
</tr>
</tbody>
</table>

Legend:
- **1 acre** — minimum recommended standard
- **1 acre** — actual existing space devoted to activities is 1 acre
- **not measurable** — actual existing space devoted to activities is not readily measurable in terms of sq ft or acres
- **3.6 acres** — no activities or facilities are currently provided

Source: Adapted from Mary Christensen, *Application of a Recreation Experience Components Concept for Comprehensive Recreation Planning* (vols. 1 and 2, Harrisburg, Pa.: Dept. of Community Affairs, Bureau of Recreation and Conservation, 1975, p. 41 (Example 2) and p. 44 (Example 3)).
### 1. Community Needs and Values

<table>
<thead>
<tr>
<th>Health and safety needs</th>
<th>Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Environments in which threats from fire, flood, earthquake, unfenced heights, deep water are minimized.</td>
</tr>
<tr>
<td></td>
<td>Protection from criminal activities, such as assault, burglary, car theft.</td>
</tr>
<tr>
<td></td>
<td>Protection from traffic, especially in residential areas with children, old people.</td>
</tr>
<tr>
<td></td>
<td>Easy access to emergency services, police, fire, and ambulances.</td>
</tr>
<tr>
<td></td>
<td>Sufficient sun, light, clean air, pure water, sanitation, trash and garbage control to maintain public health standards.</td>
</tr>
<tr>
<td></td>
<td>Adequate space and facilities for walking, jogging, cycling, and active sports.</td>
</tr>
<tr>
<td>Livability needs</td>
<td>Space</td>
</tr>
<tr>
<td></td>
<td>Adequate space to engage in desired activities.</td>
</tr>
<tr>
<td></td>
<td>Ambient noise and vibration levels to carry out desired activities; sleeping, talking, reading, and relaxing.</td>
</tr>
<tr>
<td></td>
<td>Sufficient light for activities such as reading, shopping, driving; avoidance of excessive light or glare where darkness is valued, e.g., in residential areas at night.</td>
</tr>
<tr>
<td></td>
<td>Climate</td>
</tr>
<tr>
<td></td>
<td>Climate controls that protect people from or reduce unacceptable heat, cold, wind, sun, rain, fog, or draught.</td>
</tr>
<tr>
<td>Access needs</td>
<td>Regional access</td>
</tr>
<tr>
<td></td>
<td>Access to jobs, services, schools, shops, recreational, and transportation facilities.</td>
</tr>
<tr>
<td></td>
<td>Safe and pleasant conditions for cyclists and pedestrians to circulate within and between communities.</td>
</tr>
<tr>
<td></td>
<td>Sufficient public access to valued resources, such as shorelines, beaches, lakes, rivers, viewpoints.</td>
</tr>
<tr>
<td></td>
<td>Orientation</td>
</tr>
<tr>
<td></td>
<td>Visible access or clear signage of important and desirable facilities and destinations.</td>
</tr>
<tr>
<td>Identity needs</td>
<td>Conservation</td>
</tr>
<tr>
<td></td>
<td>Environments which are familiar, stable, predictable, where severe disruptions of continuity do not take place, are not threatened, or are managed with full participation.</td>
</tr>
<tr>
<td></td>
<td>Territory</td>
</tr>
<tr>
<td></td>
<td>Places which people and communities feel “belong” to them, for which they can care and feel responsible, even if they are not owned.</td>
</tr>
<tr>
<td></td>
<td>Expression</td>
</tr>
<tr>
<td></td>
<td>Environments which allow and encourage the expression of personal, family, community, or cultural identities.</td>
</tr>
<tr>
<td></td>
<td>Mastery</td>
</tr>
<tr>
<td></td>
<td>Environments which are responsive, which can be easily changed to accommodate changing needs.</td>
</tr>
<tr>
<td></td>
<td>Choice</td>
</tr>
<tr>
<td></td>
<td>Individual, family, and community freedom to express particular desires or to explore alternative lifestyles.</td>
</tr>
<tr>
<td></td>
<td>Privacy</td>
</tr>
<tr>
<td></td>
<td>Protection from intruding eyes, noise, and distracting events for desired activities, personal, family and community life.</td>
</tr>
</tbody>
</table>

Source: Developed in cooperation with Donald Appleyard, Department of Landscape Architecture, University of California, Berkeley, 1977.
<table>
<thead>
<tr>
<th>Social contact</th>
<th>Interaction, help in times of trouble, adequate choice of friends and neighbors.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation</td>
<td>Participation in the process of analyzing community needs, policy formation, planning and design decisions.</td>
</tr>
<tr>
<td>Power</td>
<td>The chance to make decisions which affect personal or group environments.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aesthetic and symbolic needs</th>
<th>Attractiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Environments which are pleasurable and inviting to the senses; sight, sound, smell, and touch.</td>
</tr>
<tr>
<td></td>
<td>Environments which are unique, vital, vivid, and distinctive.</td>
</tr>
<tr>
<td></td>
<td>Environments which are ordered, simple structured, clean, and well-maintained.</td>
</tr>
<tr>
<td></td>
<td>Environments related to nature by natural materials open air, vegetation, views.</td>
</tr>
<tr>
<td></td>
<td>Environments which have a strong sense of identity, whose history is significant and evident.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Community needs</th>
<th>Justice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Equitable distribution of amenities and services to all population groups and areas.</td>
</tr>
<tr>
<td></td>
<td>Tolerance of different life-styles, expressions, and tastes.</td>
</tr>
<tr>
<td></td>
<td>Conservation of natural, energy, atmospheric resources.</td>
</tr>
<tr>
<td></td>
<td>Low capital-costs for easily maintained and durable environments.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sense of place and history</th>
<th>Natural character</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Environments related to nature by natural materials open air, vegetation, views.</td>
</tr>
<tr>
<td></td>
<td>Environments which have a strong sense of identity, whose history is significant and evident.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>The chance to make decisions which affect personal or group environments.</td>
</tr>
</tbody>
</table>
2. OPEN SPACE/RECREATION GOALS AND OBJECTIVES

THE CREATION, ACQUISITION, AND PRESERVATION OF OPEN SPACE

1. Maintenance of community scale and identity
   a. Identification of open space areas which may be used to prevent the blending of distinct urban areas
   b. Development of methods of controlling urban expansion

2. Maximization of opportunities for future decisions on urban growth
   a. Identification of existing open spaces which are threatened by urban expansion
   b. Avoidance of premature commitment of potential open space lands to other uses by timing the development of public facilities and services to guide rather than to precipitate growth
   c. Development of methods of preserving open space

3. Achievement of a sense of natural openness as an integral part of urban surroundings
   a. Development of programs to ensure that various types of open space are available and reasonably accessible for people of all ages and social and economic groups, and for all geographic areas of the community
   b. Investigation of methods to provide for the integration of public and private open spaces in each development

4. Coordination of the location and development of open spaces with other land uses so that they enhance one another and together contribute to a satisfying urban environment for the people of the community
   a. Relation of the amount and type of open space to the present and future needs of the city and its population
   b. Acquisition of open space lands in advance of development in order to facilitate site planning for future development
   c. Assignment of equal priority to programs for acquisition, development, and maintenance of open space lands in established areas to that given programs for advance acquisition in less-developed areas

5. Establishment of policies and plans relating to open space which will offer the greatest benefit return to the community
   a. Acquisition of open space lands in advance of development in order to take advantage of reasonable land costs
   b. Planning with sufficient flexibility to take advantage of financial opportunities which might arise

6. Preservation and conservation of natural features, resources, and amenities, and expansion of resources and similar assets as the city grows in order to maintain and enhance its unique character
   a. Preservation of open lands in their natural state in order to ensure their maintenance as wildlife and fish habitats, natural drainage areas, and areas of passive recreation and outdoor education
   b. Preservation and enhancement of the community's natural resources in acquiring and planning parks and other open spaces

7. Preservation of options with regard to agricultural land, considering it for other uses only when it demonstrated that it is required to meet the internal needs of Davis citizens and then only to the extent necessary
   a. Avoidance of premature commitment of agricultural lands to other uses by timing the development of public facilities and services to guide rather than to precipitate growth
   b. Consideration of the unique quality of prime agricultural land when weighing the decision to commit such land irreversibly to other uses
   c. Basing of decisions to reserve open space and agricultural lands on a careful evaluation of land use capabilities and resources in the Davis area, as well as on the environmental and economic consequences of the proposed zoning change
   d. Rezoning of open space or agricultural lands for other uses based on community needs and the amount of land already zoned for development

8. Development and expansion of recreational open space land and facilities in order to provide for the happiness, health, safety, and well being of each member and segment of the community
   a. Determination of the demand for recreational open space by area and needs of residents
   b. Development of programs to ensure adequate recreational open space to meet the public demand

Source: Abstracted from the Open Space and Recreation Elements of the General Plan for Davis, California, 1976. Illustrative goals, objectives, and supporting policies or practices are shown in outline format.
c. Development of programs to create needed small open spaces

9 Establishment of policies and plans relating to private open spaces
   a. Development of standards to ensure that necessary amounts and types of open spaces are available for each Land Use category

THE CONTINUING CREATION AND MAINTENANCE OF AN ENVIRONMENT THAT ENCOMPASSES AREAS, FACILITIES, AND ACTIVITIES TO MEET THE DIVERSE RECREATIONAL NEEDS OF DAVIS RESIDENTS

1. Acquisition and development of sufficient lands to meet the recreational needs of citizens
   a. Development of standards for the acquisition, maintenance, and renovation of parks to serve the needs of all Davis residents
   b. Determination of the types and sizes of parks, and areas to be served by each

2. Creation of a series of parks that serve as focal points for the surrounding neighborhoods
   a. Centralization of such parks within a neighborhood
   b. Provision for indoor and outdoor activities and programs directed toward the needs of the neighborhood served
   c. Provision for a continuous system of interconnected bikeways in and out of the city for both transportation and recreation use

3. Protection and preservation of natural habitats existing within the city to provide wilderness areas, with a minimal number of appropriately designed facilities compatible with a wild area

4. Creation of programs and facilities to enrich the lives of all the city’s residents
   a. Provision for programs emphasizing the innate creativity of human beings and their need for self-expression and recognition
   b. Coordination of recreation programs with other city programs

5. Construction of parks with originality and innovation in design that will provide challenge and self-renewal to the viewer and user
   a. Investigation of alternative methods of park design
   b. Investigation of feasibility of establishing neighborhood design standards through preplanning of neighborhoods with parks

6. Provision of adequate shade in Davis parks through the use of shade trees and/or man-made shelters
   a. Provision for a two-step tree-planting program with fast-growing, if less-desirable, shade trees intermixed with more-desirable, slow-growing shade trees
   b. Construction of shelters, such as arbors, lattice work canopies, canopies, etc., in conjunction with the planting of trees for future shade

7. Development of parks with night-use capability
   a. Development of night-use standards to be incorporated in overall park standards
   b. Provision of sufficient night lighting, with attention to the rights of surrounding residents

8. Provision of adequate furnishings in parks for the maximum comfort of the user

9. Inclusion where appropriate of bikeways, walkways, and equestrian trails in parks
   a. Development of park plans to provide for accessibility by all modes of transportation
   b. Provision for recreational walking, bicycle riding, and horseback riding

10. Encouragement of involvement of citizen groups in the development and maintenance of specialized use areas, such as the landfill areas

11. Provision of programs and activities designed to meet the recreational needs of the residents of Davis
   a. Provision of programs and activities to meet the needs of the city as a whole as well as those of specific interest groups
   b. Periodic community evaluation to ensure that programs and activities continue to meet the changing needs and interests of the community
1. NEEDS-RESOURCE INDEX MODEL

MODEL

\[
\left( \frac{N_1 + N_2}{2} \right) + \left( \frac{N_3 + N_4}{2} \right) + \left( N_5 \right) + \left( \frac{N_6 + N_7}{2} \right) + \frac{R_1 + R_2}{2} = \text{comparative priority of need}
\]

where

- \( N_1 \) = median family income
- \( N_2 \) = % of families below poverty level
- \( N_3 \) = population density
- \( N_4 \) = average household size
- \( N_5 \) = juvenile probation referrals rate
- \( N_6 \) = target age group density
- \( N_7 \) = target age group as a % of total population
- \( R_1 \) = park acreage
- \( R_2 \) = park facilities

Limitations

The model and methodology has these limitations.

1. *Untested assumptions.* The model is based on a set of assumptions about the relationship of specific indicators to what we have defined as the comparative priority of need. To the extent that any indicator is not highly correlated with the need for community-provided recreation services, its inclusion in the analysis may distort the final ranking of neighborhoods.

2. *Boundary definitions.* A major assumption made in the development of the methodology is that the provision of parks and recreation services is keyed to specific geographic areas in the city. Indeed, the whole concept of the neighborhood and district parks hinges on a definition of geographic subareas within the city.

The analysis attempted to define subareas so that an acceptable compromise could be made between area definitions that were relevant to the provision of parks and recreation services and that related to available data. The 37 areas defined as neighborhoods, while relevant to capital facilities planning, are not directly applicable for program planning at specific facilities. Thus the data, while relevant for program planning, is not in a form that can be easily used for that purpose.

Subarea boundaries, as we have defined them, necessitate that data be aggregated to disaggregate to conform to neighborhood boundaries. Most data is keyed to census tracts or to specific physical facilities. As neighborhoods are aggregations of census tracts, the neighborhood score for any specific indicator becomes a function of a series of approximations.

The important point is that the usefulness of data based on a series of approximations is limited. If the subarea is large, the overall score may obscure significant variations within the subarea. A distribution of data which is skewed and is represented by average or median scores distorts perceptions of actual conditions within a neighborhood.

3. *Weighting.* It has been assumed for preliminary analysis of the data that all indicators considered are of equal importance. However, it is likely that some variables are more significant than others in defining the "need" for and "resources" of parks and recreation services and facilities.

To the extent that the relative significance of specific indicators is not determined, a distortion of the overall comparative priority ranking will exist.

Assumptions

The equation developed above is based on four assumptions.

1. That there are distinct characteristics which identify the need for and resources of parks and recreation services and facilities
2. That these characteristics can be quantified
3. That analysis can be keyed to specific geographic subareas within the City
4. That the seven need and the four resource indicators adequately define the demand and supply of parks and recreation services and facilities

Source: Adapted from City of San Jose, Quantitative Approach to Needs Assessment/San Jose Park and Recreation Department, Evaluation Unit, Office of Fiscal Affairs, San Jose, Calif., November 1974.
2. NEEDS ANALYSIS: EFFECTIVE POPULATION METHOD

PARK AND RECREATION ACREAGE AND INVESTMENT ANALYSIS

The approach used is a variation of the "needs/resources" technique which several cities have employed in their park and recreation studies. That technique usually gives each of a city's subareas an index of recreation need and an index of recreation resources, standardizes the scores, and then compares the needs index with the resources index to determine a priority rating for each area. While that result shows which areas are the most deficient, it does not say directly how much more deficient one area is than another—and it does not say how much of the future investment each should get. In contrast, the refinement developed in the present study does address both these questions.

COMPUTING EFFECTIVE POPULATION

The relative need for neighborhood-and community-level public parks and recreation was expressed by computing an "effective population" for each study area. To obtain this, the actual 1970 population was adjusted according to three indicators of recreation need:

1. The percentage of persons under 18 years of age
2. The percentage of persons below the poverty line
3. The percentage of housing units in multi-family buildings

It would have been better to use the proportion of persons, rather than units, in multiple dwellings, but that data was unavailable by tract.

Assumed demand ratios were used to compute for each area and for Oakland as a whole an age score, an income score, and a housing score:

Age score = % 18 or over + 3 (% under 18)
Income score = % above poverty line + 2 (% below poverty line)
Housing score = % one-family units + 1.25 (% multi-family units)

(For a complete listing of the computations and the sources see the Oakland Recreation Department's "Planning the Neighborhood")

The scores for each area were then converted into relative scores by comparing them with the corresponding citywide scores:

\[
\text{Relative age score} = \frac{\text{Area A age score}}{\text{citywide age score}}
\]

\[
\text{Relative income score for Area A} = \frac{\text{Area A income score}}{\text{citywide income score}}
\]

\[
\text{Relative housing score for Area A} = \frac{\text{Area A housing score}}{\text{citywide housing score}}
\]

If Area A has a higher percentage of people under 18, persons below the poverty line, or multi-family units than does Oakland as a whole, its relative age, income or housing score will be greater than 1.00. If it has a lower percentage than Oakland as a whole, its relative score will be less than 1.00.

For each study area, the relative scores were then multiplied by each other, and by the actual area population, to yield the area's effective population:

Effective population of Area A = \(\text{relative age score for Area A} \times \text{relative income score for Area A} \times \text{relative housing score for Area A} \times \text{actual population of Area A}\)

If an area has a higher-than-average percentage of young people, poor people, and multi-family units, its effective population will be bigger than its actual population. The reverse will be true if it has lower-than-average percentages.

The effective populations of the various study areas add up to the actual population of Oakland as a whole.

DETERMINING EXISTING ACREAGE AND INVESTMENT

In general, acreage and investment were counted for land and/or facilities which were acquired, built, or budgeted through fiscal year 1974-75. For estimating investment in land, a standard figure of $1.50 per square foot was used in all sections of Oakland. It was felt that reflecting area-by-area land value differences would have biased the analysis, since land price in itself serves no recreational purpose. It is the amount (and quality) of the space which is important. The investment in improvements at each city site was estimated by the Office of Parks and Recreation. For school playgrounds a standard improvement cost of $1 per square foot was used.

The investment figures were generally in 1972 dollars, except that for a few sites budgeted after 1972 the actual budget figures

were used. The acreage and investment totals exclude school
 gyms and other school buildings. Operating and maintenance
costs were not counted as investment.

For the analysis of usable neighborhood and community
sites, acreage and investment were counted for public school
playgrounds, recreation centers, and other usable neighbor-
hood and community parks and recreation areas—and those
portions of citywide or regional public sites which are also sub-
stantially usable at the neighborhood or community level.
Determination of the latter was based on site-by-site judgments
by the Office of Parks and Recreation and the City Planning
Department.

Some conceptual problems arose where a neighborhood or
community site is located at the edge of a study area. In such a
case the site may effectively serve only part of that area—while
also serving, though, a portion of the adjoining area. In general,
however, the study areas are big enough that situations like this
largely cancel each other out. In nearly every case, therefore,
each site (or portion thereof for a site which actually straddles
an area boundary) was simply counted in the study area where it
is physically located. However, Lakeside Park—which is physi-
ically in the Westlake, Roosevelt, and M'Cubbin study
areas—was split up among them roughly in proportion to the
amounts of close-by benefited area in each rather than the per-
centages of the park itself.

CALCULATING ACREAGE AND INVESTMENT RATIOS

To determine per capita acreage or investment, the total
amount of acreage or investment was divided by the effective
population (or, for figures on Oakland as a whole, by the actual
population). The resulting per capita figures directly indicate
the study areas' relative sufficiency in aggregate acreage or in-
vestment, as compared with local needs.

COMPUTING FUTURE INVESTMENT SHARES BY AREA

For future investment in neighborhood and community parks
and recreation, a special allocation model was developed. This
assumed that the more deficient an area is now compared to the
"best-off" area—the one with the highest per capita invest-
ment—the bigger the share it should get of future investment.

Each area was assigned an allocation score based on that
relationship:

\[
\text{Allocation score for Area } A = \frac{\text{per capita investment in best-off area}}{\text{per capita investment in Area } A}
\]

This means, for example, that if Area A now has only half as
much investment per capita as the 'best-off' area, it gets an allo-
cation score of 2.00.

(The formula gives all the study areas some share in the fu-
ture allocation, since even the best-off area itself gets a score of
1.00.)

Because the study areas vary greatly in population, it was
then necessary to weight each area's allocation score by its
effective population:

\[
\text{Weighted allocation score for Area } A = \text{allocation score for Area } A \times \text{effective popu-
lation of Area } A
\]

Finally, the weighted scores for all the areas were added up,
and each area's figure was computed as a percentage of this
total. That percentage is the area's implied share of future
neighborhood and community park and recreation investment:

\[
\% \text{ share for Area } A = \frac{\text{weighted allocation score for Area } A}{\sum \text{weighted allocation scores for Areas } A \text{ through } n}
\]

An alternative method which might be used in future would in-
volves setting some desirable standard for aggregate investment
per capita. Allocation scores would then be assigned in propor-
tion to each area's per capita "gap," if below that standard.
APPENDIX J | LOCAL ACTIONS AND POLICY OPTIONS

A CONSERVE OPEN SPACE FOR ITS NATURAL, CULTURAL, AND RECREATIONAL VALUES.

Develop procedures for public-private conservation of open space, through mechanisms such as free acquisition, purchase of easement, management strategies, or establishment of regional resource conservation and recreation authorities with independent taxing and management roles.

Transfer derelict land, tax delinquent land, surplus highway rights-of-way, and other land not presently in productive use to park agencies through land exchange, purchase, or long-term, no-fee leases.

Make maximum use of lands associated with public water supply reservoirs to meet urban recreation needs.

Adopt regulations for new residential, business, or industrial development and redevelopment which require either the dedication of park lands, provision of recreation facilities, or payment of money to public recreation fund.

Work intensively with the private sector to encourage donations or bargain sales.

Work closely with conservation groups to conserve open space.

B PROVIDE FINANCIAL SUPPORT FOR PARKS AND RECREATION.

Evaluate user fee policies and identify ways to increase recreation revenues through user fees and concession royalties.

Earmark a portion of local tax revenues for parks and recreation.

Hire grants experts to ensure that the local government is taking advantage of all appropriate nonlocal sources of assistance.

C PROVIDE CLOSE-TO-HOME RECREATION OPPORTUNITIES.

Establish priorities which recognize the location of potential users when considering new recreation land acquisition.

Use streets closed to traffic, rooftops, parking lots, utility rights-of-way, water supply reservoirs, etc., to provide nearby recreation in heavily developed and densely populated areas.

Use mobile recreation units where appropriate.

D ENCOURAGE JOINT USE OF EXISTING PHYSICAL RESOURCES.

Utilize school buildings that have been closed because of declining enrollments for recreation.

Consider the potential for joint recreation use in the planning stages for all new or expanded school and park facilities.

Develop reciprocal, no-fee policies which encourage both park use by school groups and school use by park groups.

Assist in providing services required to open up school facilities to the public for recreational purposes after school hours; this will overcome present constraints on joint-use owing to prohibitive custodial and maintenance costs.

Encourage use of schools by nonpublic recreation providers.

Encourage joint-use for recreation, wherever possible, on lands and facilities committed to other public and private purposes, including federal properties, utility rights-of-way, and the property of institutions and private corporations.

Develop model contracts between park and recreation agencies, schools, community colleges, and other public and private agencies now providing some type of recreation services as a means of standardizing and simplifying the techniques for joint facility development and programming.

Encourage use of local park and recreation facilities for a wider range of human delivery services (i.e., health information, consumer protection, nutrition, bookmobiles, etc.).

E ENSURE THAT RECREATION FACILITIES ARE WELL MANAGED AND WELL MAINTAINED, AND THAT QUALITY RECREATION PROGRAMS ARE AVAILABLE, BY EMPLOYING AN ADEQUATE NUMBER OF WELL-TRAINED STAFF.

Develop, with universities and colleges, well-planned curricula and intern programs to train recreation professionals to deal with the unique problems and opportunities associated with urban recreation.

Provide support for in-service training to create greater job mobility and career ladders in parks and recreation. Specialists from other nonpark and recreation disciplines could participate in the program.

Increase use of neighborhood residents as recreation leaders and aides by recruiting staff from neighborhoods in which they will work, and by developing flexible recruitment standards which will allow use of nonprofessionals with neighborhood experience.

Contract for services with nonprofit agencies for recreation programming, and with private-for-profit agencies for operation and maintenance, when savings can be achieved without lowering service levels.

Contract with nonprofit community organizations for development, operation, and maintenance of neighborhood facilities. Encourage use of neighborhood residents in these activities, especially of unemployed youth.

Utilize private-nonprofit agencies to help recruit volunteers.

Recruit, train, and place volunteers to provide program assistance and light maintenance. Establish a separate volunteer unit in the park and recreation agency. Use neighborhood organizations and residents, whenever possible.

Create a summer internship program to use undergraduate recreation majors as volunteers.

Develop meaningful, highly visible volunteer recognition programs which express appreciation for citizen-volunteer services.

Establish programs which provide training and work-release opportunities in parks for inmates of local correction institutions and work-parole opportunities for juvenile offenders. These programs could provide both horticultural and maintenance staffing for park departments and rehabilitation for working participants.

Participate with the state and federal governments in joint implementation of youth conservation programs, and encourage support and participation by conservation, environmental, and community organizations.

Support all alternative staffing resources with training, supervision, supplies, and community recognition.

F REDUCE DETERRENTS TO THE FULL UTILIZATION OF EXISTING URBAN RECREATION FACILITIES AND PROGRAMS.

Encourage residents to assume responsibility for making neighborhood parks safe by giving them a role in park supervision and/or maintenance.

Sentence vandals caught destroying park property to repair the effects of their vandalism.

Develop park-oriented crime prevention courses for integration into public safety and law enforcement curricula at state and local colleges and universities.

Develop and promote use of an in-service seminar package on park security problems and methods for the continuing education of police and recreation professionals.

Improve police-community relations in parks by greater involvement of police officers and police academy cadets in the supervision of youth recreation activities under the police athletic league and other programs.

Design park facilities which discourage crime and vandalism without reducing recreation, aesthetic, and environmental benefits.

Coordinate park planning and public transit planning to ensure that new parks are accessible by public transit.

Improve public transit service to parks during weekends and evenings, times of peak recreation use.

Plan for maximum pedestrian and bicycle access to new parks, as an alternative to automobile access.

Develop master plans for trails to be used as guides in creating comprehensive recreation and transportation systems for pedestrian and all nonmotorized vehicles.

Ensure that transit-dependent people have real input to the transportation planning process.

Provide recreation leaders with sensitivity training on conducting recreation programs for members of special populations.

Increase the awareness of all park and recreation employees to the needs and desires of special populations.

Fund outreach and transportation services for those with special needs as part of a coordinated approach by all public and private agencies.

Develop a comprehensive inventory and plan for all parks and physical improvements as a first step toward removing or modifying architectural barriers for the physically handicapped.

Provide specialized staff and equipment for the handicapped, seniors, and young children to help them make better use of park facilities and programs.

Develop programs to lease portions of parks to private groups for recreation use.

Expand local efforts to inform citizens of existing recreation opportunities and issues, with emphasis on reaching residents such as the handicapped or economically disadvantaged who do not regularly participate in recreation programs, as well as informing regular users of new programs, schedules, and use-related problems.

Utilize the techniques described in "How Effective Are Your Community Recreation Services?" (BOR, 1973) to determine who the users of recreation services are and what citizen desires and preferences are not being served.

G PROVIDE APPROPRIATE AND RESPONSIVE RECREATION SERVICES THROUGH SOUND PLANNING.

Employ professionals to do recreation services planning, as well as facility planning, on a continuing basis.

Improve coordination between planning and implementation efforts to ensure realistic plans and responsive action to meet identified needs.

Coordinate recreation planning with other human service
planning; coordinate park and facility planning with overall land use planning.

Conduct citizen participation and preference surveys to determine recreation deficiencies.

Create user advisory councils at neighborhood or community levels to ensure citizen participation in the planning process.

Create recreation coordinating councils at the jurisdiction level composed of all public and private (commercial and voluntary) recreation providers to coordinate recreation service delivery.

Create metropolitanwide planning bodies, composed of park and recreation agencies, schools, and other public and private park and recreation providers, to coordinate park and recreation acquisition and development.

Develop formal working ties, with environmental and conservation groups, to help in planning and implementing open space protection and park development programs.

**MAKE ENVIRONMENTAL EDUCATION AND MANAGEMENT AN INTEGRAL PART OF URBAN PARK AND RECREATION POLICIES AND PROGRAMS.**

Adopt policies and provide in-service training programs that result in sound environmental management.

Use local parks as year-round, close-to-home urban environmental laboratories for all age groups to study natural systems. Use other facilities such as waste water treatment centers, streets, and utilities to study the interaction between human beings and their environment.

Broaden the scope of interpretive programming to address local environmental issues; sponsor public forums on land use planning, energy conservation, and environmental management programs to involve the public in the decision-making process.

Sponsor cooperative programs for environmental improvement in park lands with civic and youth organizations, special populations (senior citizens, handicapped, juvenile offenders, etc.), and other local government and private agencies.

Develop cooperative programs between resource agencies and local educational advisors so that park and recreation resources become an instrument for environmental teaching as an extension of the standard academic program.

Conduct teacher/parent workshops on the use of park lands for environmental education.

Provide internship opportunities in natural resource agencies to train CETA-funded urban personnel in environmental interpretation.

**STRENGTHEN THE ROLE OF THE CULTURAL ARTS IN URBAN RECREATION.**

Encourage urban recreation programming to include quality art opportunities by using imaginative, locally available talent of public and private institutions, organizations, and individuals.

Use CETA funds to hire people to develop arts programs in parks and community centers.

Appoint an arts committee to do an inventory of public and private facilities with potential for public recreation and art program use. Such a survey could also identify facility deficiencies and needs.

Develop more arts-in-the-parks programs, combining such features as citizen mural programs, regularly scheduled art shows and sales, mobile performance stages, etc.

Develop a highly qualified cultural arts staff with responsibility for developing program ideas which can be used throughout park systems; for training recreation staff to upgrade their arts programming skill; and for planning and implementing a sequenced series of major arts events.

Consider passage of a local entertainment tax to finance public arts facilities and/or programs.
ESTUDO DAS ATITUDEIS EM RELAÇÃO A ARBORIZAÇÃO URBANA DE CURITIBA

Avaliação Pessoal sobre as Árvores de Rua de seu Bairro

As questões seguintes se referem às árvores que estão plantadas ao longo de ruas em seu bairro, ou melhor, a uma ou duas quadras de sua casa, apartamento ou ponto comercial. Esta pesquisa tem por objetivo, determinar como essas árvores contribuem para a qualidade de seu bairro (vizinhança). Este questionário levará apenas alguns minutos para ser respondido.

1. A seguir, estão algumas das possíveis características positivas das árvores de rua. Por gentileza, marque com um X o nível de benefício que você recebe dessas árvores:

<table>
<thead>
<tr>
<th>nenhum benefício</th>
<th>pouco benefício</th>
<th>algum benefício</th>
<th>grande benefício</th>
<th>muito grande benef.</th>
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   a. dão sombra
   b. são agradáveis aos olhos
   c. têm flores
   d. têm cores bonitas no outono
   e. tornam o bairro mais habitável
   f. reduzem o barulho
   g. refrescam as casas no verão
   h. reduzem a velocidade do vento
   i. aumentam a privacidade
   j. filtram a poeira do ar
   k. aumentam o valor da propriedade
   l. trazem a natureza para perto
   m. atraem os pássaros
   n. dão um senso de orgulho
   o. outro: ________________

2. Que tipo(s) de benfeitoria(s) você gostaria de ver mais em seus parques locais? POR GENTILEZA NUMERE (1, 2, 3, ..., 10), DO MAIS IMPORTANTE (1), PARA O MENOS IMPORTANTE (10).

   ___ área para piquenique               ___ equipamentos de playground
   ___ quadra de basquetebol             ___ quadra de tênis
   ___ jardins e canteiros de flores     ___ quadra de voleibol
   ___ campo de futebol                   ___ caminhos e ciclovias
   ___ árvores e arbustos                 ___ bancos
   outros: ____________________

---

URBAN TREE ATTITUDES AND COMPARISON OF THREE SURVEY METHODS IN THE CITY OF CURITIBA
(MICHIKO NAKAI DE ARAUJO)
3. A seguir, estão algumas das possíveis características negativas das árvores de rua. Por gentileza, marque com um X o nível de problema que você tem com essas árvores.

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4. Quem faz a maioria do trabalho de jardim ou quintal em sua casa?
   — marido
   — mulher
   — filho(a)
   — jardineiro
   — não se aplica
   — outro:____________

5. Você participaria nos seguintes programas, se estivessem disponíveis?

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<th></th>
<th>sim</th>
<th>não sei</th>
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<td>Outro:____________</td>
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6. Qual é a sua opinião geral com relação às condições das árvores de rua em sua vizinhança?
   ___excelentes ___muito boas ___boas ___ruins ___muito ruins

7. Você sente que o tamanho das árvores de rua em sua vizinhança é:
   ___muito pequeno ___tamanho certo ___muito grande ___sem opinião

8. A poda das árvores de rua em sua vizinhança tem sido:
   ___excelente ___muito boa ___boa ___ruim ___muito ruim

9. Como você qualifica a manutenção que a Prefeitura está dando às árvores de rua?
   ___excelente ___muito boa ___boa ___ruim ___muito ruim

10. Você sente que mais árvores deveriam ser plantadas na cidade?
    ___sim ___não Se for sim, ONDE? MARQUE COM UM X APENAS UM LOCAL:
        ___ruas ___parques ___praças ___seu próprio jardim outro:

11. Você participa do programa de reaproveitamento do lixo ("Lixo que não é lixo")?
    ___sim ___não ___algumas vezes

12. Qual é, para você, o nível de importância das árvores e arbustos nas seguintes áreas? MARQUE APENAS UM X EM CADA LINHA:

   não é   pouco   alguma   grande   muito gran-
   impor-
   tante   impor-
   tante   impor-
   tância   impor-
   tância   impor-
   tância

   a. nos parques da cidade
   b. no centro comercial da cidade
   c. nos jardins das casas
   d. nas ruas residenciais
   e. nos estacionamentos
   f. nas áreas industriais
   g. nos quintais das casas

13. Você estaria disposto a pagar (na forma de imposto ou taxa) para ter mais dos seguintes serviços comunitários?

   sim     não     sem opinião

   a. programas recreacionais
   b. parques
   c. educação ambiental
   d. arborização de ruas
   e. ciclovias
   f. outros:__________________
14. A seguir, estão alguns dos serviços públicos. Quais desses serviços devem ser melhorados na sua vizinhança? POR CENTILPEZ NUMERRE (1, 2, 3, ..., 10), DO MAIS IMPORTANTE (1), PARA O MENOS IMPORTANTE (10):

- Água e esgoto
- escolas públicas
- serviço policial
- transporte público
- parques e praças
- conserto de calçadas
- arborização de ruas
- controle de trânsito
- conserto de ruas
- coleta de lixo
outros:

15. A seguir, estão algumas sentenças referentes à Cidade de Curitiba e seu meio ambiente. MARQUE APENAS UM X EM CADA LINHA:

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<tbody>
<tr>
<td>a. A cidade é um modelo de planejamento urbano.</td>
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<td>b. As árvores contribuem para a qualidade de vida na cidade.</td>
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<td>c. Meu bairro é bem planejado.</td>
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<td>d. A cidade é um paraíso ecológico.</td>
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<td>e. As árvores influenciam na minha escolha de onde morar.</td>
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<td>f. A cidade deveria preservar mais áreas verdes.</td>
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<td>g. A cidade necessita melhorar a qualidade de sua arborização urbana.</td>
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<tr>
<td>h. Curitiba é a &quot;Capital Ecológica do Brasil&quot;</td>
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16. Na sua opinião, quais são os problemas ambientais mais importantes em Curitiba?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

17. As seguintes questões são apenas para fins estatísticos. Você não será identificado de forma alguma.


b. O imóvel é: _____próprio _____alugado

c. Você é do sexo: _____masculino _____feminino

d. Sua idade: 16-19 20-29 30-39 40-49 50-59 mais de 60

- Sua idade: _____

- Seu nível de escolaridade (Circule o ano de estudo mais alto que você tenha completado):
  - primeiro grau: 1 2 3 4 5 6 7 8
  - segundo grau: 1 2 3
  - grau universitário: 1 2 3 4 5

f. Qual é aproximadamente a renda mensal de sua família (em salários mínimos-S.M.)?

- 1 a 5 S.M. 6 a 10 S.M. 11 a 15 S.M.
- 16 a 20 S.M. 21 a 25 S.M. mais de 26 S.M.