Physical master planning involves a series of planning studies and decisions to be made at all Army bases to identify existing land use patterns as regards parks, outdoor recreation, and playgrounds for children, and on this basis to ascertain where the greatest need is for the development of new facilities. This section, then, provides a series of planning guidelines to be used for the assessment of base-wide existing facilities. The guidelines are arranged in a tier system of parks, from base-wide regional parks down to the scale of door-step play. Perhaps ironically, it is a major conclusion of our studies that the most important scale for children is the immediate doorstep and neighborhood, and it is here that later design criteria focus.

These planning guidelines and standards include:

201 The Tiered Park System: A Continuum of Play and Recreation Alternatives
202 Intraservice Regional Park: Tier I
203 Base-Wide Park: Tier II
204 Adjacent Neighborhood Parks: Tier III
205 Neighborhood Park: Tier IV
206 Comprehensive Neighborhood Playground: Tier V
207 Play Lots: Tier VI
208 Home Based Play Areas: Tier VII
209 Links: Tier VIII
ISSUE

MANY COMMUNITIES HAVE ONLY ONE ISOLATED PARK OR PLAYGROUND, WITHOUT OPPORTUNITIES FOR CHILDREN AND ADULTS TO CHOOSE ALTERNATIVES.

DEFINITION

A tiered park system is a coordinated collection of small to large play areas and parks connected by park links. The system is designed to facilitate the distribution of a variety of large and small, linear and concentrated, quiet and noisy, traditional and innovative recreation and play activities for children and adults. The parks range from those focused on natural features (resource oriented) to those that require special facilities (facility oriented).

JUSTIFICATION

The proposed tiered park system is modeled after the tiered park systems used by many regional, state, and large municipal or city-county park systems which strive to offer a variety of recreation alternatives to the areas they serve. The importance of play recreation and leisure are described elsewhere in the criteria document as well as the potential for a park system to contribute to the quality of life in family-housing areas and presumably to higher reenlistment rates for soldier families.

The continuum proposed for military bases is different in a couple of respects from a traditional civilian tiered park system. First, the proposed system raises the status of the smallest parks, playlots, and home-based play, to the status of tiers both because of recent understandings about the developmental relevance of close-to-home play and the predominant form of family-housing areas.

Military family housing areas are slightly more dense than most new civilian areas, and they use housing types, duplexes, and multiplexes that are not as typically found in new civilian development. In addition, new family-housing areas are more clearly based on a modified "Radburn plan" style of community planning (Travel Report, 1978) than are all but a few civilian settings.
Parks, especially close-to-home tot lots and linked areas, are traditionally major features in this type of area. Play needs of multi-family housing in general are more clearly solved by small parks in the housing development, traditionally called "tot lots" (and covered in the below design guidelines by SHARED OPEN SPACE; INFORMAL PAVED AREAS; and SEMI-ENCLOSED PLAY SPACES FOR YOUNG CHILDREN) than by neighborhood parks (Cooper, 1975) which is the smallest park in the typical civilian tiered park system.

The second difference is that linking park areas have also been raised to a tier status, both because of their multi-age group importance, adult walking, youth biking, jogging, expanding world for young children, and because linking is a fundamental part of the concepts behind Radburn master planning.

Gold (1977) lists a variety of standards for planning public recreation spaces which apply to the proposed tiered system. His source is Shivers and Hjelte (19)

- Buildings and grounds of the local public school system should be designed for multipurpose utilization and made available for use by the public recreational service department, as well as other community-based groups, when such utilization does not interfere or come into conflict with the established curriculum. In return, the facilities and spaces of the public recreational service system should be made available to the public school system under reciprocal agreements.

- Duplication of areas and facilities may be avoided by official agreements concerning the incorporation of public school plans into the total public recreational service master plan.

- Recreational service spaces may be developed adjacent to schools.

- If certain neighborhoods of the community do not contain schools, other recreational service places should be situated there to serve the needs of the residents.
- The plan for acquiring and developing recreational places for a given municipality should give cognizance to spaces beyond the present political borders of the city.

- Planning for recreational places within a system should place a premium on integration and relating all recreational places in the public domain to more effectively serve the constituent population.

<table>
<thead>
<tr>
<th>MASTER PLANNING PATTERN</th>
<th>A TIERED AND LINKED PARK SYSTEM: A CONTINUUM OF PLAY AND RECREATIONAL ALTERNATIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>COMPLETE A TIERED PARK SYSTEM FOR EACH MILITARY RESERVATION FIRST BY STUDYING AND ANALYZING EXISTING PARKS AND OUTDOOR RECREATION AREAS FOR CHILDREN AND ADULTS RELATIVE TO THE FOLLOWING CHART; SECOND, BY PLANNING NEW PARKS AT TIERS CURRENTLY MOST UNDERDEVELOPED; AND THIRD, BY DEVELOPING LINKS BETWEEN PARKS</td>
</tr>
</tbody>
</table>

| RECOMMENDED STANDARDS | The following chart (Summary of Planning Standards for Typical Leisure and Recreational Activities) both summarizes planning standards for the tiers in civilian park systems and summarizes the recommended standards for military bases. The chart also illustrates the population served by each tier by identifying matching family housing areas on military bases visited by the consultants (Travel Report, 1978). |

201-3
# SUMMARY OF TYPES OF PARKS AND PLAY AREAS AND THE POPULATION THEY SERVE

<table>
<thead>
<tr>
<th>TYPES/TIERS &amp; LINKS</th>
<th>ACRES/1000</th>
<th>RECOMMENDED SIZE</th>
<th>POPULATION SERVED</th>
<th>ACRES/1000</th>
<th>RECOMMENDED SIZE</th>
<th>POPULATION SERVED</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. INTRA-SERVICE REGIONAL PARK</strong></td>
<td>5-15</td>
<td>1/2-1</td>
<td>250-400</td>
<td>40,000</td>
<td>10</td>
<td>10</td>
<td>250 ACRE MIN.</td>
</tr>
<tr>
<td><strong>II. BASE WIDE PARK</strong></td>
<td>4-5</td>
<td>3-4 MILES</td>
<td>100-200 ACRES</td>
<td>45,000</td>
<td>2.5</td>
<td>4</td>
<td>100-200 ACRE MIN.</td>
</tr>
<tr>
<td><strong>III. ADJACENT NEIGHBORHOOD PARK</strong></td>
<td>2.0</td>
<td>1/2 MILES</td>
<td>20-100 ACRES</td>
<td>15,000-100,000</td>
<td>2.5</td>
<td>1.0 MILES</td>
<td>20-100 ACRES</td>
</tr>
<tr>
<td><strong>IV. NEIGHBORHOOD PARKS</strong></td>
<td>1.5</td>
<td>1/2 MILE</td>
<td>10-20 ACRES</td>
<td>5,000-10,000</td>
<td>2.5</td>
<td>1/2 MILE</td>
<td>8-10 ACRES</td>
</tr>
<tr>
<td><strong>V. COMPREHENSIVE NEIGHBORHOOD PLAYGROUNDS</strong></td>
<td>1.25</td>
<td>1/2 MILE</td>
<td>2-6 ACRES</td>
<td>2500-6000</td>
<td>1.0</td>
<td>1/2 MILE</td>
<td>3-5 ACRES</td>
</tr>
<tr>
<td><strong>VI. PLAYLOTS/SHARED OPEN SPACE</strong></td>
<td>1/4</td>
<td>500 FEET</td>
<td>1/2 ACRE</td>
<td>500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VII. NEIGHBORHOOD AND HOME BASED PLAY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VIII. LINKS NETWORK OF PLAY</strong></td>
<td>12-200 PT. WIDE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

1. Averages and ranges obtained from following charts of various sources.
## Summary of Planning Standards for Typical Leisure and Recreational Activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Facility</th>
<th>Facility Size</th>
<th>Population Served</th>
<th>Facility Per 1000 Residents</th>
<th>Suggested Support Facilities</th>
<th>Support Facility Area (Acres)</th>
<th>Service Radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseball</td>
<td>Diamond</td>
<td>2.8 Acres</td>
<td>10,000</td>
<td>.19</td>
<td>Parking Buffer</td>
<td>2.7 Acres</td>
<td>1.7 MILES</td>
</tr>
<tr>
<td>Softball</td>
<td>Diamond</td>
<td>1.9 Acres</td>
<td>2,000</td>
<td>.18</td>
<td>Parking Buffer</td>
<td>1.9 Acres</td>
<td>1.0 MILES</td>
</tr>
<tr>
<td>Basketball</td>
<td>Goal</td>
<td>.07 Acres</td>
<td>500</td>
<td>1.18</td>
<td></td>
<td>.07 Acres</td>
<td>.5 MILES</td>
</tr>
<tr>
<td>Tennis</td>
<td>Court</td>
<td>.15 Acres</td>
<td>1,000</td>
<td>.16</td>
<td>Parking Buffer</td>
<td>.17 Acres</td>
<td>1.0 MILES</td>
</tr>
<tr>
<td>Ice Skating</td>
<td>Rink</td>
<td>.30 Acres</td>
<td>6,000</td>
<td>.15</td>
<td>Warm House</td>
<td>.10 Acres</td>
<td>.35 MILES</td>
</tr>
<tr>
<td>Swimming (Pool)</td>
<td>Pool</td>
<td>.12 Acres</td>
<td>6,000</td>
<td>.15</td>
<td>Bathhouse Parking</td>
<td>1.09 Acres</td>
<td>1.22 MILES</td>
</tr>
<tr>
<td>Playfield</td>
<td></td>
<td>1.0 Acres</td>
<td>2,000</td>
<td>.50</td>
<td>Buffer</td>
<td>.6 Acres</td>
<td>.5 MILES</td>
</tr>
<tr>
<td>Playground</td>
<td></td>
<td>.25 Acres</td>
<td>2,500</td>
<td>.42</td>
<td>Buffer</td>
<td>.37 Acres</td>
<td>.5 MILES</td>
</tr>
<tr>
<td>Golf</td>
<td>18 Hole</td>
<td>1.35 Acres</td>
<td>26,000</td>
<td>.04</td>
<td>Clubhouse/Bunker Park</td>
<td>1.35 Acres</td>
<td>1.0 MILES</td>
</tr>
<tr>
<td>Picnicking</td>
<td>Table</td>
<td>.07 Acres</td>
<td>115</td>
<td>.75</td>
<td>Parking Shelter</td>
<td>.11 Acres</td>
<td>1.0 MILES</td>
</tr>
<tr>
<td>Skiing (Hill)</td>
<td>Slope</td>
<td>.10 Acres</td>
<td>10,000</td>
<td>.10</td>
<td>Chair Tows/Parking Lot</td>
<td>1.10 Acres</td>
<td>2.1 MILES</td>
</tr>
<tr>
<td>Swimming (Beach)</td>
<td>Beach</td>
<td>.5 Acres</td>
<td>50,000</td>
<td>.10</td>
<td>Parking Bathhouse</td>
<td>.5 Acres</td>
<td>.5 MILES</td>
</tr>
<tr>
<td>Camping</td>
<td>Camp Site</td>
<td>.33 Acres</td>
<td>550</td>
<td>.18</td>
<td>Utilities</td>
<td>.15 Acres</td>
<td>1.83 MILES</td>
</tr>
<tr>
<td>Hiking/Ski Touring</td>
<td>Trail</td>
<td>.97 Acres</td>
<td>1,250</td>
<td>1.00</td>
<td></td>
<td>2.2 MILES</td>
<td>2.8 MILES</td>
</tr>
<tr>
<td>Jogging</td>
<td>Trail</td>
<td>1.10 Acres</td>
<td>12,500</td>
<td>1.10</td>
<td></td>
<td>2.2 MILES</td>
<td>2.8 MILES</td>
</tr>
<tr>
<td>Bicycling</td>
<td>Trail</td>
<td>1.45 Acres</td>
<td>6,250</td>
<td>1.60</td>
<td></td>
<td>2.4 Acres</td>
<td>3.0 MILES</td>
</tr>
<tr>
<td>Pleasure Walking</td>
<td>Trail</td>
<td>1.45 Acres</td>
<td>6,250</td>
<td>1.60</td>
<td></td>
<td>2.4 Acres</td>
<td>3.0 MILES</td>
</tr>
<tr>
<td>Pleasure Driving</td>
<td>Marked Routes</td>
<td>1.45 Acres</td>
<td>6,250</td>
<td>1.60</td>
<td></td>
<td>2.4 Acres</td>
<td>3.0 MILES</td>
</tr>
<tr>
<td>Horseback Riding</td>
<td>Trail</td>
<td>1.25 Acres</td>
<td>20,000</td>
<td>1.00</td>
<td></td>
<td>2.4 Acres</td>
<td>3.0 MILES</td>
</tr>
<tr>
<td>Snowmobiling</td>
<td>Trail</td>
<td>1.45 Acres</td>
<td>10,000</td>
<td>1.11</td>
<td></td>
<td>2.4 Acres</td>
<td>3.0 MILES</td>
</tr>
<tr>
<td>Nature Study</td>
<td>Trail</td>
<td>.75 Acres</td>
<td>20,000</td>
<td>.10</td>
<td></td>
<td>2.4 Acres</td>
<td>3.0 MILES</td>
</tr>
<tr>
<td>Sightseeing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hiking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fishing</td>
<td>Lake/Pond</td>
<td>.20 Acres</td>
<td>2,000</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boating/Sailing</td>
<td>Lake</td>
<td>1.00 Acres</td>
<td>50,000</td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Skiing</td>
<td>Lake</td>
<td>1.00 Acres</td>
<td>50,000</td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Notes:

1. Located in a recreation corridor, backup lands with natural resource amenities should be included as support.
2. Located on private lands (leased for public use).

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201-5
The following recommendations explain some of the relationships and links between the various tiers:

- Some parks and play areas may be associated with schools because they share similar catchment areas, e.g., Tiers II, IV.

- School lands and play fields are not calculated as a part of the park system although they may reduce the demand for some specific activity.

- Parks in all tiers should have some noteworthy natural feature.

- Small isolated housing areas of, say, 100 families may need space and activities provided in Tier V and not just Tier VI.

- Special play parks should be considered for base commercial areas.

- Special types of parks like adventure playgrounds and natural play areas should be provided in Tiers III, IV, V and even VI if there is local support.

- Each base should have a Tier II park.

- Tier I, II, and III parks include elements of Tier IV, V, and especially VI parks as part of their overall design.

- Activities at Tiers VI and VII should be provided before general base-wide parks are developed.

- Specific base-wide activities like swimming and league baseball play may take precedence over general park development based on local preference, or they may be incorporated into a Tier II park.

- Provide a full range of types of developmentally-appropriate play areas for each Tier.

- In programming types of play areas, consider social, intellectual, and physical developmental needs.
• Provide a variety of linked experiences (see NETWORK OF PLAY) within a one-mile radius of each home. (A one-mile radius is the average home range of young children with bicycles.)

• Provide COMPREHENSIVE PLAYGROUNDS at Tiers III and IV, and interconnect them with NETWORK OF PLAY.

• Consider as part of a community library or recreation center the possibility of a modest hands-on children's museum.

The illustration on the following page diagrams the basic structure of a tiered park system for a mythical region with three military bases with c. 1000,000 people living on the three bases including 40,000 people living in family-housing areas on an imaginary army base. (Fort Lewis Military Reservation, Washington is somewhat an example of this situation.)

RELATED ITEMS

TIERS I-VIII
NEIGHBORHOOD-BASED PLAY
NETWORK OF PLAY
COMPREHENSIVE PLAYGROUND
general diagram of a tiered & linked park system....

I  intraservice regional park
  II  basewide park
    III  adjacent neighborhood parks
      IV  neighborhood park
            comprehensive neighborhood playgrounds
        V  playlots
    II  neighborhod- and home-based play
  III  links

air force base
  navy base
  army base

201-8
PEOPLE NEED SOME LARGE, EXPANSIVE OUTDOOR AREA FOR HIKING, WALKING, PICNICKING, QUIET DAYS IN THE COUNTRY TO RELIEVE THE BOREDOM, MONOTONY, AND PRESSURE OF MANY JOBS.

Tier I sites are defined as large outdoor recreation sites serving several large bases. Sites are selected for their natural features and recreational value and the character of their natural resources. Tier I parks provide opportunities for participation in a wide variety of resource-oriented outdoor recreation activities such as boating, skiing (downhill and cross-country), hiking, camping, picnicking, swimming, and golf. This tier serves both the single military personnel as well as military families.

A few regional situations exist where several services have large bases (e.g., San Diego; Fort Lewis Military Reservation, Washington). Planning for what is called natural resource-oriented activities in a coordinated way between the bases increases the ability of each to serve their services.

The purposes, goals and basic planning, master planning, and facility planning for areas of this scope are covered in TMS-803-12, Planning and Design of Outdoor Recreation Facilities (1975) where similar parks are called recreation-conservation areas or outdoor recreation areas.

FOR LARGE MULTISERVICE RESERVATIONS, PROVIDE AN INTRASERVICE REGIONAL PARK.
The following chart summarizes recommended standards for multiservice regional parks that apply to areas with a population over 40,000.

<table>
<thead>
<tr>
<th>Reference Source</th>
<th>Acres Per 1000</th>
<th>Service Radius</th>
<th>Recommended Size</th>
<th>Population Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEWRFC (1977)</td>
<td>5.3</td>
<td>10 mi.&lt;sup&gt;1&lt;/sup&gt;</td>
<td>250+AC</td>
<td>47,000</td>
</tr>
<tr>
<td>Beuchner (1971)</td>
<td>2.0</td>
<td>1 HR DRIVE</td>
<td>250+AC</td>
<td>12,500</td>
</tr>
<tr>
<td>Milwaukee</td>
<td>4.0</td>
<td>-</td>
<td>250+</td>
<td>50-100,000</td>
</tr>
</tbody>
</table>

**NOTES:**
<sup>1</sup>4 MILES MAX. IN AN AREA OVER 40,000 PER.

- Provide Tier I parks at the following ratio:
  - one for intraservice regions of over 40,000 people living in family-housing areas on or off base.
- The park should be within 10 miles of a majority of the families.
- Plan for 10 acres/1000 eligible people.
- Parks should be a minimum of 250 acres.
- Parks with golf courses should be an additional 90 (9 holes) - 180 (18 holes) acres.
### ISSUE
LARGE MILITARY BASES NEED SUFFICIENT OUTDOOR RECREATION TO PERMIT SINGLE SERVICE PEOPLE AND FAMILIES ACCESS TO MAJOR RECREATION POSSIBILITIES WITHOUT HAVING TO LEAVE THE BASE.

### DEFINITION
Tier II sites are defined as large outdoor recreation sites serving a large base with a large eligible family population. Like Tier I sites, these sites are selected for their natural features, recreational value, and the character of their natural resources. Tier II parks, however, provide for a smaller variety of recreation facilities and have smaller areas devoted to any single activity. Activities typically include boating, skiing (downhill and cross-country), hiking, camping, picnicking, swimming, and golf. This park serves single military personnel as well as military families.

### JUSTIFICATION
Large bases like Ft. Hood and Ft. Bragg, and especially those not close to major cities, may need to provide resource-oriented outdoor activities. The purposes, goals, and basic planning, masterplanning, and facility planning guidelines for areas of this scope are covered in TM5-803-12, Planning and Design of Outdoor Recreation Facilities (1975) where similar parks are called recreation/conservation areas or outdoor recreation areas.

### MASTER PLANNING PATTERN
**BASEWIDE PARK: TIER II**

PROVIDE BASEWIDE PARKS FOR ALL LARGE MILITARY BASES.

### RECOMMENDED STANDARDS
The following chart---based on summaries of standards for similar civilian parks serving similar populations---suggests recommended standards for base-wide military parks. Civilian equivalents of Tier II parks are called a variety of things, including metropolitan parks, multi-community parks, county parks, and district parks. Unfortunately TM5-803-12 does not list planning standards for outdoor recreation areas.
### Tier II

**Base-Wide Park**

<table>
<thead>
<tr>
<th>Reference Source</th>
<th>Acres Per 1000</th>
<th>Service Radius (Miles)</th>
<th>Recommended Size</th>
<th>Population Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEWRPC</td>
<td>2.5 Min</td>
<td>4</td>
<td>100-250</td>
<td>40,000 Min</td>
</tr>
<tr>
<td>NEZ</td>
<td>2</td>
<td>3</td>
<td>100-200</td>
<td>[20-40,000]</td>
</tr>
<tr>
<td>Rutledge</td>
<td>-</td>
<td>-</td>
<td>100-200</td>
<td>-</td>
</tr>
<tr>
<td>Milwaukee</td>
<td>5.5</td>
<td>3-4</td>
<td>100, UP</td>
<td>[55,000]</td>
</tr>
<tr>
<td>Beliehner (FTI)</td>
<td>5.0</td>
<td>1/2 Hr Drive</td>
<td>100+</td>
<td>/50,000</td>
</tr>
<tr>
<td>National Rec. Assoc.</td>
<td>5.0</td>
<td>-</td>
<td>100+</td>
<td>[50,000]</td>
</tr>
</tbody>
</table>

- Provide Tier II parks at the following ratio:
  - one for bases with between 20,000 and 40,000 people living in family-housing areas on or off base.
- The park should be within four miles of a majority of the families.
- Plan for 2.5 acres/1000 eligible people.
- Parks should be 100 to 200 acres minimum (without golf).
- Parks with golf courses should be an additional 90 (9 holes) - 180 (18 holes) acres.
ISSUE

SOME RECREATION ACTIVITIES, THOUGH NEEDED CLOSE TO THE NEIGHBORHOODS OF USERS, REQUIRE BUFFERING DUE TO NOISE GENERATION.

DEFINITION

Tier III parks are defined as medium-sized outdoor areas serving several adjacent family-housing areas or a small base. Sites are selected to some extent for tier natural features and primarily for their ability to support specific activities. Tier III parks provide space and facilities for recreational activities like tennis, swimming, league baseball, softball, or basketball, while providing green space and open space for other specific activities preferred by the community. Some sites will be selected primarily for the activity such as a "feature park" at a base commercial area.

JUSTIFICATION

This tier provides general, maintained open space for the small base or for groups of housing areas on larger bases. Many of the activities are highly active and noisy, or happen at late hours, and attract teen-agers, thus justifying buffering by being in a larger park than provided in Tiers IV-VII.

Special activity parks in unique locations like feature or theme parks in commercial centers, or innovative combinations like a swimming pool and a water-play recreation area, or a comprehensive playground, a major natural play area (environmental yard), and parks associated with a school would fall into this category (or: Tier IV). This is the smallest park in the tiered system where swimming pools are recommended or found. In fact "it is generally not feasible in developments of less than about 200 units /c. 7600 people/ to provide such facilities as a swimming pool, gym, hobby workshop, child-care center, etc." (Cooper, 1975, p.

MASTER PLANNING PATTERN

ADJACENT NEIGHBORHOOD PARKS: TIER III

PROVIDE LARGE, COMPREHENSIVE, OR MORE SPECIAL-FUNCTION PARKS FOR EVERY 6000-10,000 PEOPLE ADJACENT TO, YET BUFFERED FROM NEIGHBORING COMMUNITIES.
The following chart summarizes civilian standards for similarly-sized parks, usually called community parks:

<table>
<thead>
<tr>
<th>Reference Source</th>
<th>Acres Per 1000</th>
<th>Service Radius (Miles)</th>
<th>Recommended Size</th>
<th>Population Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEWERC</td>
<td>2.2</td>
<td>2 MAX.</td>
<td>25-100 AC</td>
<td>12-50,000</td>
</tr>
<tr>
<td>BEUCHNER (1971a)</td>
<td>—</td>
<td>—</td>
<td>20-37</td>
<td>—</td>
</tr>
<tr>
<td>BEUCHNER (1971b)</td>
<td>2.5</td>
<td>1 2-3 MAX</td>
<td>20-100</td>
<td>10-50,000</td>
</tr>
<tr>
<td>NEZ</td>
<td>2.5</td>
<td>2 MAX.</td>
<td>40-100</td>
<td>20,000</td>
</tr>
<tr>
<td>MILWAUKEE</td>
<td>1</td>
<td>1-2</td>
<td>30</td>
<td>30,000</td>
</tr>
<tr>
<td>RUTLEDGE</td>
<td>—</td>
<td>—</td>
<td>15-25</td>
<td>—</td>
</tr>
</tbody>
</table>

Note: ① .75 - 1.5 miles preferred

- Provide Tier III parks at the following ratio:
  - one for every 6000-10,000 people living in family-housing areas.
- The parks should be within a one-mile radius of the users.
- Plan for 2.5 acres/1000 people.
- Tier III parks should be 20-100 acres, depending on activities selected and on available land.
- Feature or special activity parks, like adventure playgrounds, may be in smaller parks.

**Related Items**

- Comprehensive Playgrounds
- Environmental Yards
- Water Play Areas
ISSUE

NEIGHBORHOODS DESERVE MORE THAN THE ALL-TOO-COMMON METAL, FIXED-IN-PLACE, MINIMAL, TOT LOT FOR CHILDREN'S--AND ADULTS--OUTDOOR RECREATION.

DEFINITION

Neighborhood parks are small sites for outdoor recreation activities serving either large family-housing areas or groups of smaller family-housing areas. Sites are selected primarily for their ability to support local recreational needs and preferences. Activities include open play fields for intensive recreation pursuits such as baseball, tennis, basketball, or special types of playgrounds like adventure playgrounds or natural play areas (environmental yards). Parks in this category are frequently developed in conjunction with school sites.

This park usually includes activities and play areas also found individually in Tiers V and VI. Thus the existence of a Tier IV park immediately close to some houses can preclude the necessity for a separate Tier V or VI park.

Most visitors to neighborhood parks travel less than one mile from home and stay no longer than one or two hours (Southeastern Wisconsin Regional Planning Commission, 1977).

JUSTIFICATION

These parks are the smallest that can handle boisterous activities like league basketball, soccer, or atypical playground types like adventure playgrounds, while providing enough open space to buffer them from family housing areas that they might disturb. However, support facilities such as bleachers, night lighting, and concessions are typically not provided so as to retain the residential character of the neighborhood. The areas typically do not contain sufficient acreage to allow an adequate buffer to the surrounding housing (Southeastern Wisconsin Regional Planning Commission, 1977).
Primary participants in various playfield activities include school-age children of both sexes. Common activities include volleyball, tag, and kite flying as well as informal football and other ball games.

Recreation lands at the neighborhood level should most desirably be provided through a joint community-school district venture with the facilities and recreational land area required to be provided on one site available to serve the recreational demands of both the school student and the resident neighborhood population. ... /The/ acreage standards relate to lands required to provide for recreational facilities typically located in a neighborhood and are exclusive of the school building site and associated parking area and any natural areas which may be incorporated in the design of the park site such as drainageways and associated storm water basins, areas of poor soils and flood lands areas. (Southeastern Wisconsin Regional Planning Commission, 1977, p.)

ACTIVITIES

Local preference should determine the range of activities provided in this tier. In Tiers V and VI the designated play advocate can encourage neighborhoods to play and support types of play areas and activities that they are not familiar with, like adventure playgrounds and natural play areas.

The following are some more traditional lists of what is expected in a neighborhood park.
According to National Park Recreation and Open Space Standards as reported by Gold (1973, p. 312), a neighborhood park would include the following:

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Play apparatus area - preschoolers</td>
<td>.25</td>
</tr>
<tr>
<td>2.</td>
<td>Play apparatus area - older children</td>
<td>.25</td>
</tr>
<tr>
<td>3.</td>
<td>Paved multi-purpose courts</td>
<td>.50</td>
</tr>
<tr>
<td>4.</td>
<td>Recreation center building</td>
<td>.50</td>
</tr>
<tr>
<td>5.</td>
<td>Sports fields</td>
<td>5.00</td>
</tr>
<tr>
<td>6.</td>
<td>Senior citizens' area</td>
<td>.50</td>
</tr>
<tr>
<td>7.</td>
<td>Quiet areas and outdoor classroom</td>
<td>1.00</td>
</tr>
<tr>
<td>8.</td>
<td>Open or &quot;free play&quot; area</td>
<td>.50</td>
</tr>
<tr>
<td>9.</td>
<td>Off-street parking</td>
<td>2.33</td>
</tr>
<tr>
<td>10.</td>
<td>Landscaping (buffer and special areas)</td>
<td>3.00</td>
</tr>
<tr>
<td>11.</td>
<td>Undesignated space</td>
<td>1.45</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>16 acres</strong></td>
</tr>
</tbody>
</table>

Our recommendations, based on more recent thinking and on child-development objectives, differ greatly as regards numbers 1 and 2. (See the entire set of patterns for specific design guidelines.)

According to the Urban Land Institute, and reported in their Community Builders Handbook of 1960, a "neighborhood" playground for 5000 people would include the following:

1. **Apparatus (preschool and older children areas)**
2. **Open space for informal play**
3. **Surfaced play areas for court games like tennis, handball, shuffle board, volleyball**
4. **Field area for softball**
5. **Quiet area for storytelling and quiet games**
6. **Shelter house with toilet facilities**
7. **Wading pool**
8. **Elderly area for table games**
9. **Landscape features**
(Urban Land Institute, 1969, p. 150)
Gold (19) also reports the following activities recommended by Recreation Magazine in January 1963:

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Play lot for preschool children and mothers</td>
<td>10,000</td>
</tr>
<tr>
<td>2</td>
<td>Apparatus area for older children</td>
<td>10,000</td>
</tr>
<tr>
<td>3</td>
<td>Shelter house or recreation building</td>
<td>3,000</td>
</tr>
<tr>
<td>4</td>
<td>Open area for group games and informal play</td>
<td>21,000</td>
</tr>
<tr>
<td>5</td>
<td>Wading or spray pool</td>
<td>1,600</td>
</tr>
<tr>
<td>6</td>
<td>Quiet areas for crafts, storytelling, etc.</td>
<td>2,800</td>
</tr>
<tr>
<td>7</td>
<td>Paved multi-use area for games, roller skating, etc.</td>
<td>10,000</td>
</tr>
<tr>
<td>8</td>
<td>Special game courts</td>
<td>18,000</td>
</tr>
<tr>
<td>9</td>
<td>Lawn areas for games such as croquet, clock golf, etc.</td>
<td>10,000</td>
</tr>
<tr>
<td>10</td>
<td>Field for team games and sports</td>
<td>130,000</td>
</tr>
<tr>
<td>11</td>
<td>Older adults area</td>
<td>10,000</td>
</tr>
<tr>
<td>12</td>
<td>Picnic area for family and small groups</td>
<td>20,000</td>
</tr>
<tr>
<td>13</td>
<td>Instructional swimming pool</td>
<td>6,000</td>
</tr>
<tr>
<td>14</td>
<td>Landscaped areas, borders, and buffer strips</td>
<td>43,000</td>
</tr>
<tr>
<td>15</td>
<td>Parking and service drive</td>
<td>17,000</td>
</tr>
<tr>
<td>16</td>
<td>Paths and walks</td>
<td>8,000</td>
</tr>
<tr>
<td>17</td>
<td>Undesignated space (10%)</td>
<td>32,000</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>(8.17 acres) 356,052 sq. ft.</td>
</tr>
</tbody>
</table>

The point in recording these lists is to reinforce the importance of providing a variety of activity areas in a neighborhood park and the importance of local preference given that lists of recommended spaces differ from source to source.

Cooper Marcus reports that "in moderate-to-higher-income developments, the most used and requested adult recreation facilities are swimming pools and tennis courts," (1975, p.

Two perhaps unexpected activities show up on analysis: buildings with toilets and parking areas for those who drive.
• Provide Tier IV parks at the following ratio:
  one for every 2000-4000 people living in family-housing areas.

• The parks should be within a half-mile radius of the users.

• Plan 2.5 acres/1000 people.

• Tier IV parks should be 8-10 acres depending on activities selected and land available (minimum of 5 acres)

• Community preference should determine the range of activities provided in this park.

• An adventure playground should be considered as a possible feature of each Tier IV park.

• A natural play area should be considered as a possible feature of each Tier IV park.

• Specific needs of individual age groups should be responded to, especially those of teens and adults.

• A public toilet and small recreation building should be provided if not otherwise available.

**RELATED ITEMS**
COMPREHENSIVE PLAYGROUND
ENVIRONMENTAL YARDS
CREATIVE PLAYGROUNDS
ADVENTURE PLAYGROUNDS
INFORMAL PAVED AREAS
OPEN GRASSY PLAY FIELDS
**Master Planning Pattern**

**Neighborhood Parks**

Provide neighborhood parks within the confines of well-defined neighborhoods for every 2000-4000 people.

**Recommended Standards**

The following chart summarizes recommended standards for neighborhood parks.

<table>
<thead>
<tr>
<th>Tier IV</th>
<th>Neighborhood Park</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standards</td>
<td>Acres Per 1000</td>
</tr>
<tr>
<td>Reference Source</td>
<td>1.7</td>
</tr>
<tr>
<td>Milwaukee (Neighborhood Park)</td>
<td>1.0</td>
</tr>
<tr>
<td>Rutledge</td>
<td>-</td>
</tr>
<tr>
<td>Nez</td>
<td>2.0</td>
</tr>
<tr>
<td>Belcher (1971)</td>
<td>-</td>
</tr>
<tr>
<td>Natl Rec. Assc.</td>
<td>1.25</td>
</tr>
<tr>
<td>Urban Land Inst. (1960)</td>
<td>1.2</td>
</tr>
<tr>
<td>Recreation Mag (1965)</td>
<td>1/475</td>
</tr>
<tr>
<td>Sewrce</td>
<td>3.3</td>
</tr>
<tr>
<td>Am. Public Health Assc.</td>
<td>[24]</td>
</tr>
<tr>
<td>Milwaukee (Playfield)</td>
<td>1.25</td>
</tr>
<tr>
<td>Gold</td>
<td>[1]</td>
</tr>
</tbody>
</table>

**Notes:**

1. Parks less than 5 acres are not Type IV.
2. Combined school and park play areas.
ISSUE

CHILDREN AND ADULTS REQUIRE MORE THAN ONE OUTDOOR RECREATION ACTIVITY NEARBY FOR FAMILY RECREATION.

DEFINITION

Comprehensive neighborhood playgrounds are small sites serving several small family-housing areas or portions of a few large family-housing areas. Sites are selected primarily for their ability to support local recreational needs and preferences. Activities are smaller in scale and are more informal than in a Tier IV park.

JUSTIFICATION

Comprehensive neighborhood playgrounds are important as a place that extends the child's home range and provides space for informal play with children outside their immediate neighborhood and with parents.

While Cooper Marcus (1975) identifies the number of dwellings grouped around a common open space large enough for play should vary between approximately 20 and 100 (c. 760-3700 people), she also cautions the designer with this comment:

*Neighborhood play provision should not be regarded as a substitute for play space within the housing development (Tiers VI and VII). Play space within the neighborhood but beyond the bounds of the specific housing development is not a realistic substitute for areas which children can use casually.* (p.

Neighborhood playgrounds are important to 5-10 year olds. This is the place where,

*Depending on the size of the development, several half-courts for basketball are preferable to one full court. Some courts could be designed with the basket at less than standard height so as to exclude larger teenage boys, who might take over the courts from younger boys. The courts should be located so as to minimize noise.* (Cooper Marcus, 1975, p.
In addition:

Space should be provided for informal soft ball games. Children are remarkably adaptable, and do not necessarily need a softball field in order to play softball. A reasonably level, grassy, open space relatively free of obstruction, will undoubtedly be used for a variety of ball games. (Cooper, 1975, p.

ACTIVITIES

According to Recreation Magazine (1963), activities included are the following:

A Children's Playground

<table>
<thead>
<tr>
<th>Activity</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Playlot for preschool children and mothers</td>
<td>10,000 sq. ft.</td>
</tr>
<tr>
<td>Apparatus area for older children</td>
<td>12,000</td>
</tr>
<tr>
<td>Open area for group games and informal play</td>
<td>41,500</td>
</tr>
<tr>
<td>Wading or spray pool</td>
<td>3,000</td>
</tr>
<tr>
<td>Paved multiple-use area for games and activities</td>
<td>10,000</td>
</tr>
<tr>
<td>Quiet areas</td>
<td>5,000</td>
</tr>
<tr>
<td>Field for children's team sports</td>
<td>60,000</td>
</tr>
</tbody>
</table>

(3.3 acres) 141,500 sq. ft.

Rutledge describes neighborhood playground activities as including the following:

Neighborhood Playground

1. Play apparatus
2. Turf area
3. Paved court
4. Story-telling ring
5. Shelter
6. Wading or spray pool
7. Table game area
8. Picnic shelter

2.5 to 10 acres Rutledge, 19, p.
Although the recommendation is potentially inconsistent with more subdued, less boisterous activities, Southeastern Wisconsin Regional Planning Commission recommends "each urban area having a population of 2500 or greater should have at least one baseball diamond" (1977, p. 290).

**MASTER PLANNING PATTERN**

**COMPREHENSIVE NEIGHBORHOOD PLAYGROUND**

For every neighborhood park and for every 2000-4000 people, provide a comprehensive neighborhood playground for children of all ages and for adults.

**RECOMMENDED STANDARDS**

The chart on the following page shows a variety of recommended planning standards for comprehensive neighborhood playgrounds.

- Provide Tier IV parks (comprehensive neighborhood playgrounds) at the following ratio:

  one for every 2000-4000 people living in family-housing areas.

- The parks should be within one half mile of the users.

- Plan one acre/800 people.

- Tier IV parks should be 3-5 acres depending on activities and available land.

- Activities identified for particular sites should be the result of a decision-making process that includes local user participation.

**RELATED ITEMS**

**COMPREHENSIVE PLAYGROUNDS**

- INFORMAL PAVED AREAS
- OPEN GRASSY PLAY AREAS
- NESTS FOR QUIET PLAY
- WATER PLAY AREAS
- DESIGNATED PLAY STRUCTURES
## Tier II Neighborhood Playgrounds

### Standards

<table>
<thead>
<tr>
<th>Reference Source</th>
<th>Acres Per 1000</th>
<th>Service Radius (Miles)</th>
<th>Recommended Size</th>
<th>Population Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEWRFC</td>
<td></td>
<td></td>
<td>1.7 Acres</td>
<td></td>
</tr>
<tr>
<td>BUTLER</td>
<td></td>
<td></td>
<td>2 1/2-10</td>
<td></td>
</tr>
<tr>
<td>URBAN LAND INST. (1961)</td>
<td></td>
<td></td>
<td>1 1/2 Min</td>
<td></td>
</tr>
<tr>
<td>NATL. REC. ASSOC</td>
<td>2.5</td>
<td>2</td>
<td>[800]</td>
<td></td>
</tr>
<tr>
<td>RECREATION MAG (JAN 1965)</td>
<td>[5]</td>
<td>1/2</td>
<td>3    6000</td>
<td></td>
</tr>
<tr>
<td>FOLLOWY (1972)</td>
<td></td>
<td>1 1/2 Min</td>
<td>1/2</td>
<td></td>
</tr>
<tr>
<td>LAUD ALLEN (1966)</td>
<td></td>
<td></td>
<td>4 Min-1/2 Min</td>
<td></td>
</tr>
<tr>
<td>PUBLIC HEALTH ASSOC (1960)</td>
<td>[4.5]</td>
<td>4.75-12</td>
<td>1000-5000</td>
<td></td>
</tr>
<tr>
<td>MILWAUKEE (PLAYGROUND)</td>
<td>1.25</td>
<td>1 1/5</td>
<td>[3750]</td>
<td></td>
</tr>
<tr>
<td>RECREATION MAG (JAN 1963)</td>
<td>[1.53]</td>
<td>1/2</td>
<td>8</td>
<td>6000</td>
</tr>
<tr>
<td>URBAN LAND INST.</td>
<td></td>
<td></td>
<td>5% Total Area</td>
<td>2000-5000</td>
</tr>
<tr>
<td>ECK (1964)²</td>
<td>1.25</td>
<td>1/2</td>
<td>4</td>
<td>[3500]-8000</td>
</tr>
<tr>
<td>NKPA (1967)³</td>
<td>1.25</td>
<td>1/2</td>
<td>2.75</td>
<td>[7125]-8000</td>
</tr>
<tr>
<td>MEYER &amp; BRIGHTBILL (1964)</td>
<td>1.25</td>
<td>1/2</td>
<td>3.5</td>
<td>2400-4000-5000</td>
</tr>
<tr>
<td>BUTLER (1969)</td>
<td>1.25</td>
<td>1/2</td>
<td>3</td>
<td>[2400]-7000</td>
</tr>
<tr>
<td>NEZ (1961)</td>
<td>1.5</td>
<td>1/2</td>
<td>4</td>
<td>[2600] VARIABLE</td>
</tr>
<tr>
<td>CHAPIN (1963)</td>
<td>1.25</td>
<td>1/2</td>
<td>5</td>
<td>[4000] VARIABLE</td>
</tr>
<tr>
<td>DOELL (1963)</td>
<td>1</td>
<td>1/2</td>
<td>6</td>
<td>[6000]-8000</td>
</tr>
<tr>
<td>FED SECURITY AGENCY (1955)</td>
<td>1.25</td>
<td>1/2</td>
<td>2.75</td>
<td>[22000]-5000</td>
</tr>
<tr>
<td>AMI PUB. HEALTH ASSOC (1968)</td>
<td>1.25</td>
<td>1/2</td>
<td>2.75</td>
<td>[22000]-5000</td>
</tr>
<tr>
<td>TIME SAVERS STD (1973)</td>
<td>1/2 - 3/4</td>
<td>6-8 (3MH)</td>
<td>3800-5700</td>
<td></td>
</tr>
</tbody>
</table>

### Notes:

1. 3/4 Acres With Adventure Playground.
2. Guidebook for State Outdoor Recreation Planning, P. 47.
3. Outdoor Recreation Space Standards.
ISSUE

PROVISION IS NECESSARY FOR DEVELOPMENTALLY-CHALLENGING AND DEVELOPMENTALLY-APPROPRIATE PLAY OPPORTUNITIES CLOSE TO CHILDREN'S HOMES.

DEFINITION

In a multi-tier park system, playlots are small areas serving small neighborhood groupings in family-housing areas. Their design can include a wide variety of traditional or innovative activities and they can appeal to a variety of age groups. The choice of activities should reflect interaction of overall children's developmental needs (physical, intellectual, and social play) and local neighborhood preferences.

JUSTIFICATION

On military bases with existing or planned family-housing areas, play lots provide the most visible evidence of a recreation policy that provides play areas for children. They are an important element in a neighborhood revitalization program because they are small enough so that they can be inserted into most existing housing areas.

Play lots are viewed as an important amenity by those who have them. Cooper Marcus (1975) cites several studies which suggest the following:

Many familiar with children, once they have experienced it, like to have access to shared communal open space for play and will be prepared to make do with relatively small private yards or patios in return for this shared space. (p. 228)

Still, she sees some management issues that must be made clear if the play lot areas are to be a continuing success:

It should be made very clear in the lease or residents' manual that communal open spaces are means for children's play, among other activities; in cases where this has not been made explicit, residents without children have complained about "misuse" of the space which they see primarily as an aesthetic amenity. (1975, p. 229)
Brower and Williamson (1974), in their study of play in several neighborhoods in Baltimore, conclude:

A facility that draws children from several different neighborhoods is a likely setting for conflict. (p. 344)

An observation suggests both the importance of providing adequate play opportunities as well as the relative importance of smaller neighborhood facilities that because of their location and size, don't appear to be a prime turf to conquer.

Other studies also provide observations that recommend the importance of small play groups over larger ones, both for neighborhoods and for play areas at child-care centers.

In the National Day Care Study for the Department of Health, Education and Welfare, directed by Ruopp, preliminary findings of the research have shown that:

Small groups work best. The size of the group in which the preschool child spends her/his day-care hours makes the most difference. Small numbers of children and small numbers of adults, interacting with each other, make up the kinds of groups that are associated with better care for children. (Ruopp, 1978, p. iv)

A reasonable assumption, then, is that outdoor play areas will benefit from similar small groupings.

Central Mortgage and Housing Corporation's (1978) design guidelines also recommend many small playlots over fewer larger ones:

To be most effective a preschool play space should not be smaller than 100 m² (c. 1000 sq. ft.) nor larger than 300m² (3000 sq. ft.). In larger developments, several small play areas for preschoolers are preferable to one large one. (p. 9)

Their sizes include only the developed play area and don't include other important elements in a play lot: nearby paved and grassy areas.
Clearly, the consensus among the sources is that many small play lot areas are better than a few large areas and that play areas fit the scale and "cozy quality" relating to the size of preschoolers (Central Mortgage and Housing Corporation, 1978).

Criteria for appropriate location of play lots on new and existing bases deserves discussion. Team members visiting army bases observed that generally there was available open space between groups of housing units that could be developed into play lots. These areas are generally the result of masterplanning guidelines that apply modified "greenbelt" planning principles to housing area developments that recommend density of housing units so that there is some communal open space between buildings (Travel Report, 1978).

While many sites are available, Cooper and others have made a series of observations that lead to specific recommendations for locations. The most important are proximity to housing, visibility, connection and linkages to other community activities, as well as appropriate microclimates and topography. Cooper Marcus (1975) recommends the following:

Enclosed tot lots with sand and suitably sized equipment should be provided in safe locations within view of, and easily accessible from, the dwellings they serve. Several studies report that where tot lots are provided out of view of the majority of houses and poorly equipped, they are virtually never used. Even if the tot lot is within view but requires a circuitous route to get to it, mothers may not want to leave their children there, since they cannot get to them quickly in case of accidents. However, since even in this age group some children tend to be more independent and wander out of sight of home, the entire site should be potentially safe for their play and wanderings. (p. 233)
ACTIVITIES

Play lots have an unfortunate stereotype. They are thought to be "tot lots," appealing only to small preschool children. In fact, all age groups need play areas close to home; adults and older children will use play lots if activities aimed at them are provided. The cementing of the family is supported when a wider range of activities is provided than just preschool and infant play. If there is a neighborhood organization, play lots can provide gardening or adventure play activities.

If the site is buffered and allows the noise that basketball creates, a half-court basketball hoop could be appropriate. Water play activities, no more dramatic than a series of sprinklers, can attract a wide range of age groups on a hot summer day.

In general, a play lot includes:

1. grassy play area (not a ball field, but big enough for small kids to play kickball or other ball games.

2. paved play areas for wheel play, half-court basketball, ball games

3. a developed area for specific activities mostly aimed at preschoolers

The Central Mortgage and Housing Corporation's design manual for tot lot areas shows designs with all of these elements, although the emphasis in their report is on the developed area. Their plans show the following:

1. Adjacent grassy area  c. 2500 sq. ft.
2. Adjacent paved area  c. 2500 sq. ft.
3. Developed area
   a. creative play area  c. 20%
   b. social play area  c. 20%
   c. physical play area  c. 20%
   d. quiet retreat play area  c. 5%
   e. adult seating  c. 5%
   f. play equipment storage  c. 2%
   g. plantings  c. 13%
   h. raised garden plots  c. 15%

   + 100% = c. 2500 sq. ft.

   = 7500 sq. ft.

(Central Mortgage and Housing Corporation, 1978, p. 36)
Other tot lot oriented descriptions of neighborhood play lots include the following:

TOTLOT. 2400 to 5000 square feet. Usually includes: chair swings, sandbox, regular swings, slide, climbing apparatus, wading or spray pool, playhouse, turf area, paved area for wheeled toys, benches. (Rutledge, 1975, p.

Cooper Marcus (1975) recommends the following:

- a sand pit with water spigot and good drainage
- flat surfaces surrounding or within the sand area for sand castles, small wheeled toys, etc.
- areas for tricycling
- grass for rolling on
- comfortable benches with a view for supervising adults; some close to the sand area for the parents of very small children, some further away for the supervision of older preschoolers (p.

Although very conservative in the range of activities identified, Southeastern Wisconsin Regional Planning Commission identifies the following characteristics of small neighborhood play lots:

Playgrounds [play lots] vary in size and facilities provided, from small areas simply providing a few playground apparatuses, such as swings or a sand box, to highly developed areas which may include special areas for preschool children, apparatus areas, and areas for organized games. (1977, p. 156)

Pollowy (1977) has synthesized several empirical studies done in Great Britain and has come to a series of conclusions about the characteristics of small neighborhood play lots:
• The number of children who can play in an area comfortably at one time depends on the type of play activity and the age of the children.

• Use of a playground increases with size only up to 300 sq. yds \( \frac{27,000}{27,000} \) sq. ft. or a little over \( \frac{1}{4} \) acre. Above that size, use does not increase proportionally.

• For play space other than adventure playgrounds, 32 sq. ft. total play area per child bed-space in an area is adequate. \( \sqrt{100 \text{ children}} = 32,000 \text{ sq. ft.} \) (1977, p.
MASTER PLANNING PATTERN

PLAY LOTS

PROVIDE 400 TO 5000 SQ. FT. PLAY LOTS (1/10 - 1/8 ACRE) WITHIN HOUSING AREAS FOR APPROXIMATELY 1 FOR EVERY 200-300 RESIDENTS.

RECOMMENDED STANDARDS

The following chart shows a variety of recommendations. The recommendations for military bases reflect the relatively higher proportion of children in military family-housing areas than in civilian settings, and the expressed goal on several military bases of having a "tot lot" for every 50 families (Travel Report, 1978, p.

<table>
<thead>
<tr>
<th>TIER VI PLAYLOTS</th>
<th>STANDARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REFERENCE SOURCE</strong></td>
<td><strong>ACRES PER 1000</strong></td>
</tr>
<tr>
<td>RUTLEDGE</td>
<td>—</td>
</tr>
<tr>
<td>CC MHC (1978)</td>
<td>10/1 BEDRM</td>
</tr>
<tr>
<td>URBAN LAND INST. (1960)</td>
<td></td>
</tr>
<tr>
<td>BERICHNER</td>
<td>[4/1000]</td>
</tr>
<tr>
<td>FT. HOOD</td>
<td></td>
</tr>
<tr>
<td>WALKESHA CO., WIS.</td>
<td></td>
</tr>
<tr>
<td>WEST BEND, WIS.</td>
<td></td>
</tr>
<tr>
<td>FLOWERY (1977)</td>
<td></td>
</tr>
<tr>
<td>DEPT. OF ENVIRONMENT (1973)</td>
<td>35/CHILD</td>
</tr>
<tr>
<td>ALEXANDER</td>
<td></td>
</tr>
<tr>
<td>BERGSTON (1970)</td>
<td></td>
</tr>
<tr>
<td>TIME SAVERS STANDARDS (1973)</td>
<td>60 FAMILIES</td>
</tr>
<tr>
<td>JEWREX (1977)</td>
<td></td>
</tr>
</tbody>
</table>

NOTES:
1. WITHIN SIGHT
2. ONE ADVENTURE PLAYGROUND PER 500 POP.
• Provide play lots at the rate of 80 sq. ft. per family (or .5 acres/1000 people or 1 play lot/200-300 people).

• Play lots serve 50-100 maximum (50 preferred) units (200-300 residents), and should be close to the units they serve, preferably visible from the kitchen of a majority of the units they serve.

• Preferred size of play lots is c. 4000-5000 sq. ft.

• About 1/3 of a full-sized play lot should be a developed area.

• About 1/3 of a full-sized play lot should be a grassy area.

• About 1/3 of a full-sized play lot should be a paved area.

• The specific activities identified for the play lot will influence the size of its parts and the overall design.

• Every neighborhood should consider making a play lot a neighborhood-run adventure playground.

• Some play areas should be buffered from some housing units by distance or an architectural or landscape feature.

• Play lots should be built in areas that are sheltered and sunny (FAVORABLE MICROCLIMATE) especially in late morning and early afternoon.

• Each play lot should include at least one special tree planted to provide both a shady area and a memorable image.

RELATED ITEMS

- SHARED OPEN SPACE
- INFORMAL PAVED AREAS
- VIEWS TO AND FROM PLAY AREA
- OPEN GRASSY PLAY AREAS
- LOOSE PARTS
- SEMI-ENCLOSED PLAY AREAS FOR YOUNG CHILDREN
- CREATIVE PLAYGROUND
- "CHILDREN ONLY" AND MULTI-AGE GROUP PLAY TERRITORIES
- WATER PLAY AREAS
- CHILDREN'S GARDENS
- RETREAT AND BREAKAWAY POINTS
DESIGNATED PLAY STRUCTURES
OUTDOOR STORAGE
PROTECTED SAND AND DIRT PLAY AREA
FAVORABLE MICROCLIMATE
DEGREES OF SHELTER
## Issue

The most-used play spaces are semi-private, undesignated play areas near the child's home--the front steps, the lawn, the back alley, etc. This poses a real challenge not only to playground designers but more so to housing designers and neighborhood planners.

## Definition

Home-based play areas are characterized by proximity to housing. They include semi-public areas around each housing unit---yards, car ports, driveways, immediate sidewalk areas close to each child's home. It does not include private enclosed yards and enclosed private play equipment. It is play outside the front door usually within eye contact of home. The radius away from the home within which children will play is related to their home range. "Home range . . . that series of linkages and settings traversed and occupied by the individual in his normal activities" (Anderson & Tindall, 1972, p.

While planning for home-based play as a part of housing areas is a recent trend, the occurrence and recognized preference for play close to home has been documented in many national studies (cf. Cooper, 1975; Hale, 1966; Department of the Environment, 1970; Bengtsson, 1970; Coates and Bussard, 1972; Coates, 1972).

Home-based play is a necessary tier in an overall master plan for children's outdoor recreation for several reasons including developmental relevancy and actual children's behavior and preferences. While both are intertwined, review of the literature available on each helps identify the importance of planning for home-based play as a first planning step in a multi-tier park and recreation system.

## Developmental Relevance

Home-based play is part of a child's development of a concept of self. Ainsworth and Bell (1970) assert that exploratory behavior is supported by the security of attachment. Play close to home provides the attachment and secure base from which a more independent self can be developed.
If there is no threat of separation the infant is likely to be able to use his mother or a secure base from which to explore, manifesting no alarm in even a strange environment as long as she is present. (Ainsworth and Bell, 1968, p. 64)

Other researchers have asserted similar conclusions:

It is also important, particularly for the very young, that they should be able to play within sight and sound of home. (Holme and Massie, 1970, p. 233)

Clare Cooper Marcus cites six studies in developing the following conclusion about the needs of preschool children:

Children under six and their parents have very distinct needs, and it is most critical that they be met. Most children under six like to play within sight and/or calling distance of their parents or other adults known to them. (Cooper Marcus, 1975, p. 233)

Information on the way children spend their time playing confirms the importance of close-to-home play to children. Reporting on play-grounds in an inner city neighborhood, Brower and Williamson (1974) suggest the following:

There were far fewer children, teens, and adults recreating in these facilities [playgrounds] than immediately around the house. Those playgrounds observed in detail were used well below their technical capacity. (p. 336)

They go on to conclude:

Both census and diary results revealed that home-based recreation accounted for the major portion of recreation time throughout the study area. (p. 336)
Clare Cooper Marcus (1975) draws a similar conclusion in her book and cites 10 studies which draw the same conclusion:

Small children tend to play close to the most frequently used entrance to a dwelling or building. (p. 234)

In addition she cites 10 studies in drawing another related conclusion:

Children tend to play anywhere and everywhere and not just in designated play spaces. (p. 232)

A study done in England comes to similar conclusions:

Although playgrounds are well used in proportion to the space which they occupy, they do not succeed in diverting all the children from the roads and footpaths and other paved spaces. Some of the children on roads and footpaths are walking from one place to another. However, much of the activity in these areas is play in the stricter sense. (Hole, 1966, p.

In their comparative study of play in several areas in Baltimore, Brower and Williamson (1974) conclude:

In the first place, it seems clear that home-based recreation is an extension of domestic life, that it will occur in spaces immediately around the house. In newer suburban areas, home-based recreation takes place mainly in the private open land attached to individual dwellings. (p.

In our Travel Report (1978) on the basis of research visits to 50 military and civilian sites, we arrived at similar conclusions:

At all bases children were observed to play more in the streets, on front porches, around front yards, corners, cul-de-sac drives, and natural areas than they were in any designated traditional type of play spaces, whether they were located behind housing, in the "green belt," or on school playgrounds. (p.
By far the majority of younger children we saw outdoors were in the front yards, near the streets, or on house steps and porches. Relatively very few were seen in the designated play areas behind the housing, except when they were a captive audience as at the Child Care Center. (p.

Generally, more children were seen playing with features of the natural environment, and in front of dwelling units, than on designated playgrounds or playing fields. (p.

Home-based play is characterized by proximity to housing. Proximity is determined by distance, visibility, audibility, convenience, and safety. These characteristics deserve further discussion.

For young children all sources giving data agree that eye contact between child and housing unit is important.

Central Mortgage and Housing Corporation (1978) of Canada quotes research that shows preschoolers are home-centered, with a range of about 100 yards without accompanying adults.

Arvid Bengtsson (1970) also recommends that play for small children be within sight of home to provide feelings of security for both the parent at work around the home, and for the child.

Pollowy (1977) also feels that security of parent and child is important:

For these children [preschoolers] the play area should fulfill the function of a large play or discovery room, an adjunct to other living spaces in or near the home, within its immediate safe vicinity so that parent and child can remain within sight and sound of each other. (p. 127)

The British Department of the Environment (1973) agrees that play areas for young children should be as close to housing as possible.
In recommending that children's play areas be visible, Cooper Marcus says:

_Irate mothers complained of patios or backyards located on downhill sites where the kitchens were one floor above and the mothers could not keep an eye on their children._ (1975, p.

Interviews with residents in the Baltimore study by Brower and Williamson (1974) indicated that activities occurred in spaces immediately around the home for the following reasons: convenience and safety. Convenience was further explained:

_Being near home, adults or teenagers were at hand to receive callers, answer the phone, keep an eye on the stove, listen for sleeping children; men could socialize with their friends without leaving their families; young children could be sure that their parents were nearby in case of trouble; people could go out on short notice and for short periods of time between routine chores. The spaces used were not always appropriate, but they were convenient._ (p. 336)

**ACTIVITIES**

The actual activities of children playing close to home don't fall as clearly into categories of play as do baseball, hiking, or swimming. Small children can appear to an adult to be doing very little while to the children themselves they are doing a lot. They might be examining a leaf, or a found and treasured bolt or washer or shiny rock, or a little water in a puddle or in a dirt play area. Their play might be simply sitting and sharing with a friend. The activities are not dramatic. Still an environment that is empty, without bushes to get behind, rock or sand to pick up or stand on, stoops or steps to sit on, or secure protected private outdoor places to leave a doll sitting in, can't fulfill the requirements of the home-based play tier in the design of a tiered park system.
HOME-BASED PLAY AREAS

In planning housing, or in making innovations to housing or neighborhood design, provide a range of home-based play areas for children. (See neighborhood-based play and home-based activity pockets below for design details.)

Since home-based play is an emerging trend, standards matching those for other tiers in the park system haven't been established. Only a few bits of information fit the format that serves the rest of the tiers.

<table>
<thead>
<tr>
<th>TIER VII</th>
<th>HOME-BASED PLAY</th>
<th>STANDARDS</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Reference Source</th>
<th>Acres per 1000</th>
<th>Service Radius</th>
<th>Recommended Size</th>
<th>Population Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>BERGSTON (1970)</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLLWAY (1977)</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COOPER MARCUS (1973)</td>
<td></td>
<td>*</td>
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<td></td>
</tr>
</tbody>
</table>

Notes:
*Within sight & visibility
• Space for home-based recreation should be a required component of each housing package.

• Spaces immediately around buildings and especially near the prime entry should be viewed as usable play spaces and should be visible from either the major living space or the kitchen space.

• Sidewalks or bike-jogging paths should be included in each housing package for wheel-toy play close to home.

• It should be possible to casually supervise children playing elsewhere while an adult is working in the kitchen.

• A window over the sink or work counter should directly overlook the backyard, patio, or front door.

• Access to the dwelling should be safe and large enough, paved (and partially covered) and be suitable for play.

• Entrances and play areas on the south or southeast are preferred.

• Provide paths (preferably paved) from home areas to the next tier: playlots.

• Front yards should have some subdivision that defines a protected area for play (and partially screens its messiness from public view).

RELATED ITEMS

NEIGHBORHOOD-BASED PLAY
HOME-BASED ACTIVITY POCKETS
PLAY LOTS
ISSUE

OFTEN IT IS THE INBETWEEN SPACES, THE SPACES CONNECTING DESIGNATED PLAY AREAS, THAT CHILDREN USE THE MOST. IT IS IMPORTANT TO PLAN AND DESIGN THESE LINKS IN ORDER TO TIE TOGETHER AN OVERALL TIERED PLAY/PARK SYSTEM.

DEFINITION

Links are parks that are linear, not very wide, and connect other tiers or specific recreation activities with walks, paths, or open space.

JUSTIFICATION

Pleasure walking is the most popular general recreation activity, (Links provide a structured way, especially in family-housing areas without sidewalks (most family-housing areas do not have sidewalks) for pleasure walking, jogging, biking, "nature" courses, and safe connections for children who move between the parks and use parks further away from home as they get older. The links also provide safe, traffic-free paths to school in family-housing areas and are consistent with the goals of the modified Radburn-type planning which typifies new construction for family-housing areas at most bases.

Links are important to the development of children because they provide literal and safe connections to the expanding sphere of their world. This has not been unnoticed by a variety of researchers. Clare Cooper cites over a dozen similar observations, including:

Children tend to play anywhere and everywhere and not just in designated play spaces. The whole site should be designed with this in mind. The total environment must be thought of as an environment primarily for children, but since adults (residents, management, staff) need some degree of predictability as to what will happen where, there needs to be some place-structuring of activities. It must be made clear to both adults and children that noisy activities happen in certain places, digging in other places,
sitting quietly elsewhere, etc. Children need to know that in certain places--totlot-playground, basketball area--they have autonomy over a territory which is theirs. It is important to try and anticipate which spaces will be attractive to children and ensure that nuisance will not be caused through noise or intrusive prying. (1975, p. 232)

The justification for links also comes from another concern--safety:

Families with children under about the age of 10 highly value a safe (i.e., accident free) residential environment. The exclusion of moving cars from the site seems to be one of the most crucial factors in residents' perceptions of a safe environment for children. Children tend to play on or near roads if they are the public areas nearest to home; often they are more popular play spaces than are gardens. Some Swedish research has indicated that until the eleventh or twelfth year various important sensory mechanisms (sight, hearing, ability to differentiate right from left, fast from slow, near from far) may not be fully developed; children are thus especially vulnerable in traffic situations (S. Sandels, "Small Children in Traffic," Stockholm, 1969). A British study showed a statistically significant difference in child accidents between two neighborhoods, one traffic-segregated and one not. (Cooper, 1975, p. 220)

Finally, the simple reason of frequency of use and stimulating use becomes a justification for connected play experiences. Clare Cooper cites a half dozen studies which bring her to the conclusion that

The most frequent outdoor play activity of children is moving around the home neighborhood. Children like to be constantly on the move, by walking, running, cycling, roller skating, skate-boarding, etc., and they are often careless about traffic and other
pedestrians. The pathway system should be free from traffic and wide enough for children on bicycles as well as walking adults, and it should be made clear in the residents' manual that riding bikes is permissible. If children are forbidden to ride their bicycles on the pathway system, they will ride them anyway in more dangerous locations, such as parking lots and approach roads. (1975, p. 233)

Existing standards for links or linear parks typically refer only to links between the largest units in the park system and are concerned primarily for conservation areas or for pleasure driving. Standards for these kinds of linear parks are "resource oriented." Typically they support hiking, camping, snowmobiling, and cross-country skiing. Many metropolitan areas, Milwaukee County for instance, have identified old creek and stream beds as fulfilling the natural resource stratas emphasized in Tiers I and II and have developed them as linear regional parks. This designation also protects the country from ill-fated construction and development in the flood plains that edge even the smallest streams.

These parks are also called "recreation corridors" and are defined:

as a publicly owned continuous linear expanse of land which is generally located within scenic areas or areas of natural, cultural, or historical interest and which provides opportunities for participation in trail-oriented outdoor recreation activities especially through the provision of trails designated for such activities as biking, hiking, horseback riding, nature study, and ski touring. (Southeastern Wisconsin Regional Planning Commission, 1977, p. 290)
They are also called "environmental corridors" which have the following characteristics:

The primary environmental corridors are a composite of the best individual elements of the natural resource base including surface water, streams, and rivers and their associated floodlands and shorelands; woodlands, wetlands, and wildlife habitat; areas of groundwater discharge and recharge; organic soils, rugged terrain, and high relief topography; and significant geological formations and physiographic features. By protecting these elements of the natural resource base, flood damage can be reduced, soil erosion abated, water supplies protected, air cleansed, wildlife population enhanced, and continued opportunities provided for scientific, educational, and recreational pursuits. (Southeastern Wisconsin Regional Planning Commission, 1977, p. 288)

Linking parks and parkways with usable green space is a typical feature of many of Frederick Law Olmsted's park designs. Boston's park system is perhaps the best-known park system with linear corridors.

Links at the other end of the size scale are typically found in better-planned unit developments. They are also a conceptual part of modified Radburn community planning. No category of standards exists at this level.

Linkages between Tiers VII, IV, and V are important because many small children are supervised by older siblings at various times (Central Mortgage and Housing Corporation, 1978; Department of the Environment of England, 1973).
PLANN AND DESIGN A SERIES OF LINKS BETWEEN OTHER MAJOR RECREATION SITES WHICH CAN DOUBLE-FUNCTION AS CIRCULATION ROUTES AND AS PLAY AREAS.

## Recommended Standards

<table>
<thead>
<tr>
<th>Tier VIII Links</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference Source</td>
<td>Acres per 1000</td>
</tr>
<tr>
<td>SEWRPC Recreation Corridor</td>
<td>200 ft wide</td>
</tr>
<tr>
<td>Jogging</td>
<td>12' wide</td>
</tr>
<tr>
<td>Biking</td>
<td></td>
</tr>
<tr>
<td>Nature Trail</td>
<td></td>
</tr>
<tr>
<td>Horseback Riding</td>
<td></td>
</tr>
<tr>
<td>Ski Touring/Hiking</td>
<td></td>
</tr>
<tr>
<td>Snowmobiling</td>
<td></td>
</tr>
</tbody>
</table>
• Provide some resource-oriented linear parks in conjunction with the development of Tier I and Tier II parks at the following ratios:

- Develop parallel trail areas for a combination of trails supporting hiking, biking, horseback riding, ski touring, nature trails.

- .5 miles/1000 people, 100-200 ft. wide, 1.5 -.2.0 acres/linear mile

- 1.5 miles is the recommended minimum length

• Develop designated parallel trails for different activities. The following should not be mixed on the same trails:

- hiking (includes potential duplicate use for ski touring, pleasure walking, and nature trails)

- snowmobiling

- horseback riding

• Provide activity-oriented linear parks between Tiers III, IV, V, VI, and VII.

- Provide .3 -.5 linear miles of parks/1000 people. Park widths should be 50-200 feet and should have wider spots 9250 ft. for games, picnics, and narrow spots (50 ft.) for passing by and through areas.

• Link parks in the community with activities involving older children and parents with small children.

RELATED ITEMS

NETWORK OF PLAY