PART 2

PLANNING GUIDELINES
Upon recognition of the general need for more or better Child Care Services, the installation shall be responsible for identifying precise need, identifying site or sites, and the functional requirements of the project (with the use of this Design Guide), and for preparation of the required documentation. At present, required documentation consists of preparing a Project Development Brochure and DD Form 1391, Military Construction Project Data, with supporting data. Preparation of the Project Development Brochure is discussed in AR415-20, and TM 5-800-3. DD Form 1391 is the instrument by which projects are defined for inclusion in military construction programs. Preparation of DD Form 1391 is discussed in AR415-15. On DD Form 1391, "Standard Design" (Block 17) should be checked and "DG-1110-3-143" should be entered under "Drawing Number". Thus, in developing the project, the project planning guidelines in this chapter should be considered in concert with the guidelines for architectural program development in the next chapter (600 series) and with the general design criteria in Part III, Design Guidelines.

This first chapter introduces the considerations involved in estimating installation needs for child care services, developing networks of child care facilities, and choosing locations for particular projects. It also includes formulae for determining the number of child care spaces needed for a community and charts for estimating the gross building and site square footage required for various sizes of facilities.

Project planning for child care has two distinct parts:

- First, a program plan that identifies the general need for different types of child care on a base.

- Second, a physical master plan based on the above local program decisions that identifies the specific types, numbers, and locations of different child care facilities.
The necessary project planning guidelines follow. Following them step by step will lead to a comprehensive installation master plan for child care facilities.

501 Estimating Need
502 Network of Child Care Facilities.
503 Family Child Care in the Network
504 Neighborhood Centers for 60-75 Children
505 Formula for Number of Child Places
506 The Role of Found Space in Child Care
507 Area of Stable Child Population
508 Seams Between Neighborhoods
509 Positive and Negative Proximities
510 Integration of Child Care in the Community Center
511 High Visibility in the Community
512 Favorable Natural Features
513 Site Size: 220 Sq. Ft. per Child
ISSUE

TO DETERMINE IF DAY CARE IS NEEDED FOR A COMMUNITY, AND IF SO, THE MAGNITUDE OF THE NEED, THE FOLLOWING FIVE CONSIDERATIONS MUST BE TAKEN INTO ACCOUNT:

- EXISTING LOCATIONS
- EXISTING POPULATION DENSITIES
- POPULATION PROJECTIONS
- CULTURAL ATTITUDES
- POSSIBILITY OF CREATING A CLIMATE OF ACCEPTANCE

DISCUSSION

The need changes in relation to these variables and therefore does not remain constant over any great length of time. This, then makes the distinction between present need and future need. Determination of future need requires examination of trends over time. Calculations should be made for these six considerations: *

1. Plot existing ECDC locations, catchment areas, and capacities on a base map.

2. Consider the current area population and especially the number of children 0-2½ years, 2½-6, and 6-12 from census tract data or equivalent.

   From this in relation to current locations, determine the areas of greatest need. (Note: Richard Ruopp, a national expert on child care, has indicated in a personal telephone interview, November 1978, that if adequate child-care facilities were provided in a community, 100% of all families with both parents or a single parent working would use them.)

* Our thanks to our students in the School of Architecture and Urban Planning, University of Wisconsin-Milwaukee, especially Scott Campbell and others for their early analysis of these issues.
3. Determine the projected population for the area of children in the above three age groups. There are two main ways of doing such projections: a) using existing projections, e.g., school projections; and b) the Cohort-Survival Population Projection Method (see, for example, Kennedy, 1973), which is based on the local birth rate, death rate, and migration rate. But either way, or from local military data, determine the number of dependent children eligible for child care: number on base in family housing; number of off-base military families; plus the number off base in military support families.

4. Determine the existing cultural attitudes on the local level regarding child care. For example, our earlier report (Travel Report, 1978) found that parents on Army bases are generally open to and in favor of child care—in fact they are strongly requesting more facilities—but only under the conditions of a) quality, developmentally-oriented child care, b) in new or conceptually "new" facilities (major renovation with a new image), and c) in safe facilities.

Parents' interest in early "head start" type education can also be a significant positive factor. The specific, local climate should be determined through mail or phone survey, through community meetings, or through discussion with legitimate representatives of community organizations. Include factors which would keep people from using new child-support facilities. Determine, therefore, the proportion of families with children in the three age groups who would use the services if available.

5. A climate of increased public acceptance can be established through community meetings, informational brochures, etc. This can modify the above percentage to an expected percentage of families who would use new services if available.
6. Availability of financing can be a major factor affecting changes in the climate of acceptance. Richard Ruopp (telephone interview, November 1978) has indicated that this can be the number one factor affecting use of day care. Success at securing subsidies is critical, which, in turn, as a base, depends on state licensing. The second real issue here is sliding fee scales and economy of operation (see Marlene Scavo Interview and the Fort Lewis Case Study in Travel Report, 1978). Together, these economic factors can have a major impact on how many families--and which families--are interested and able to use new child-support facilities.
ISSUE

NO ONE TYPE OF CHILD-CARE FACILITY IS SUITABLE FOR ALL CHILDREN AND ALL FAMILY SITUATIONS. RATHER, A COMPREHENSIVE CHILD-CARE NETWORK COULD COORDINATE THE ADVANTAGES OF FAMILY CARE IN HOMES (FOR 6 OR FEWER CHILDREN) WITH THE ADVANTAGES OF LARGER FACILITIES (FOR 60 CHILDREN), AND GIVE MANY VARIED OPPORTUNITIES FOR CHILD-CARE PROGRAMS.

JUSTIFICATION

The three major types of child-care facilities on military bases include the following:

1. Center-Based Facilities
   - specially designed for child-care needs
   - centralized budget for staff, supplies
   - centralized curriculum
   - high image in the community
   - easy monitoring of program
   - can be work-based and employer-sponsored

2. Neighborhood Centers
   - often used by children of related families
   - have easy access—less time wasted commuting
   - walking is intimate to the schema
   - have relatively good supplies, etc.
   - can be a more active part of community

3. Family Child-Care Homes
   - homelike setting
   - neighborhood location
   - often a relative or friend of the families
   - flexible and informal
   - important advantages for organized community effort and therefore for community organization, neighboring, etc.

In center-based facilities and neighborhood centers, special places can be provided for infants, after-school drop-in children, and regularly scheduled preschool attendees.
Arguments concerning center-based facilities have been raised by concerned parents and staff. The ones most often discussed on military bases visited and in the early childhood literature are the following:

Pro-Centralization

- mass purchasing (can be centralized even if centers are not)
- wide and rich range of resources
- shared use of scarce or expensive resources
- formal consultation economically feasible (also true of a coordinated system of decentralized centers)
- professional curriculum development and monitoring (can happen in a coordinated decentralized system)
- organizational economy and efficiency (can happen in a coordinated decentralized system of small child-care centers)
- control over hazards to safety, like fire regulations in widely dispersed housing units
- assumed cost efficiency

Pro-Decentralization

- close to home, in the child's neighborhood
  - little time for the child spent in commuting
    - "walking is intimate to the schema" (Lee, 1968), i.e., children learn more about their environment if they actively walk through it and interact with it
- lack of bureaucracy in a small facility encourages innovation and changes
- parents more likely to get involved (Cohen, 1974)
• less administrative staff; more actual contact time (also true of small center-based care)

• transition from home to first non-home environment is easier for the child if the facility is small and neighborhood based (extrapolated from the work of Ainsworth and Bell)

These are general findings. But there are additional considerations relative to Army bases in particular:

• Decentralization encourages the development of a full range of services, which will appear to a wider range of families

• Decentralization fits general master planning concepts at several bases (see Travel Report, especially Forts Lewis and Hood)

• Centralization would seem to economize on staff as only one overall director would be necessary (also true of coordinated centers).

• For decentralization to work, it assumes a large number of trained early childhood specialists who can be sub-directors of perhaps several medium-sized facilities and many smaller family-group facilities.

Comprehensive Child-Care Network

In a study commissioned and published by the U.S. Department of Health, Education, and Welfare, Donald Cohen (1974) recommends that communities and towns establish a comprehensive child-care network with centralized administration, purchasing, curriculum guidance, etc., but with satellite neighborhood-based and family-group child-care facilities predominating. Hopefully, this would achieve the organizational consistency of large centers and the intimacy of both small, neighborhood work-based and neighborhood-based family-group facilities.
For reasons also to be discussed under NEIGHBORHOOD CENTERS FOR 60-75 CHILDREN, many other authors are warning about the disadvantages of large child-care centers, and are strongly recommending small, homey, neighborhood-based settings close to the child's home and close to the parents' locus of involvement.

In a child-care network, the advantages of both centralized and decentralized facilities are combined, while eliminating most of the disadvantages of both. In a community-wide, well-planned child-care network, emphasis is on central coordination of functions (purchasing, hiring, curriculum, consultation, diagnosis if necessary, health and safety standards, etc.), while the majority of children are actually in family-group care settings (renovated homes and specially designed small centers for 60 children). Diversity and choice, consistent with care and concern, are thereby assured.

Within the network will be several types of centers which are distinguished as follows:

- center-based facilities (including work-based centers and central administration offices)
- neighborhood centers
- in-home family-group care

Center-Based Facilities

To make child care convenient for parents and to include it as part of a fringe-benefits package, many employers now sponsor child care, and the military is clearly a case in point. Large, on-base, central facilities were studied at Forts Lewis, Hood, Meade, and Bragg.

In civilian settings, centers are often close to or part of the place of work. Appropriate sites could be near hospitals, shopping centers, universities or colleges, city halls and community-service centers, or any other area of intensive adult use (see INTEGRATION OF CHILD CARE IN THE COMMUNITY CENTER).
Network of Child Care Facilities

Neighborhood-Based Center -- discussed in
NEIGHBORHOOD CENTERS FOR 60-75 CHILDREN

In-Home Family-Group Care -- discussed in
FAMILY DAY CARE FOR 4-6 CHILDREN

Networks of child-care facilities basically combine the best of the intimacy and flexibility of a small neighborhood-based facility with the economy, efficiency, and supervision of a large, center-based facility.

From Cohen (1974):

A day care network or system is not a different setting but a systematic combination of programs in various settings under a central administration. A system makes it possible to minimize the disadvantages of the different types of settings. In one system, the intimacy and flexibility of the family setting can be combined with the resources and capabilities of the large day care center, and the center can become a focal point from which services are extended to all the other settings. Central administration makes it possible to provide professional consultation and other resources to the community's day care programs; counseling and consultation to families; expert curriculum planning; professional training for day care staff; a pool of substitute workers; a communitywide screening system; and the economies of mass purchasing of supplies, food, and equipment.

Such a system allows families to choose family care if they wish, without having to sacrifice the benefits of trained personnel, curriculum, and special consultation available at a center. They have the option of starting a child in a small family setting and advancing him to a center when he is ready. Children in an in-home or family setting could be taken
to another setting for short periods, perhaps a few times a week, as a gradual introduction to a more formal program. Children and parents alike could use the center for such services as consultations and counseling. The system, in short, makes it possible to combine the advantages of all types of day care. (p. 5)

Along with Osmon (1971), Prescott and David (1976), and most of our interviewees (see Travel Report, 1978; Conclusions--Child Support Facilities), we agree that no one type of child-care service is suitable for all children and all family situations. A variety and freedom of choice, combined with the organizational and economic advantages of some centralization, are essential components of an effective program of coordinated, quality community child care. A Child-Care Network provides these combined advantages.

But we recognize several institutional problems that will make it difficult for a Community Services branch at a military base to develop and implement a new, higher quality network of facilities. These include:

- predilection for single, large facilities (see Travel Report, 1978; Fort Hood Army Base Child Care Center and Fort Lewis Army Reserve Child Care Center)

- separation of procurement procedures for the integrative parts of a child-care facility
  - outdoor activity areas
  - equipment
  - facility

- lack of appreciation for role and importance and major developmental aspects of a child-care program by base decision-makers
  - importance of group size to quality
  - importance of outdoor activity areas
  - importance of partially protected activity areas, porches, arcades, etc.
  - impact of day care on the life of a full-time day-care child
  - the disruption of drop-in service
  - misunderstanding of the role of age-group separation
Therefore, we recommend a unified procurement procedure similar to turnkey housing that encourages proposals to provide a package of facilities, equipment, and play areas.

**NETWORK OF CHILD-CARE FACILITIES**

National data (HEW, reported in Cohen, 1974) indicates that 10% of all children in child care are in large center-based facilities, 40-50% in family-group child-care facilities (very few of which have been renovated specifically for child care), and 40-50% in in-home services.

Since family-group care is precluded on military bases, we will assume that 40% to be split between centers and home-based care.

<table>
<thead>
<tr>
<th>TYPES OF CENTERS</th>
<th>RECOMMENDED LOCATIONS</th>
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<tbody>
<tr>
<td>CENTER OF 'TOWN', AT A PX, AT A HOSPITAL</td>
<td>IN A NEIGHBORHOOD WITH APPROPRIATE SUPPORT POPULATIONS</td>
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<tr>
<td>IN HOMES IN FAMILY HOUSING AREAS (SUPPLEMENTARY)</td>
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<tr>
<td>FAMILY CHILD CARE</td>
<td>IN HOMES IN FAMILY HOUSING AREAS (SUPPLEMENTARY)</td>
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### National Distribution

- **In Home:** 40-50%
- **Family Group:** 40-50%
- **Center Based:** 10%

### Recommended Distribution of Kinds

- **In Home:** 60-70%
- **Neighborhood:** 20-25%
- **Center Based:** 10%
RECOMMENDATIONS

- For every community with some form of self-defined identity (e.g., a small town, Army base, suburb, closely-knit inner-city family housing area), establish a network of developmentally oriented facilities in the following proportions:

  - 10% new, center-based facilities (center of town, at a PX, hospital, etc.)

  - 20-25% neighborhood-based child-care facilities (perhaps one for each identifiable sub-community or neighborhood, e.g., the clear residential neighborhoods at bases like Fort Hood and Fort Lewis)

  - 60-70% in-home child-care facilities (in homes, by sponsoring minimum necessary renovation to make a home double-function for child-care purposes for 6 or fewer children)

- Provide also for a central administration-coordination for the entire network.

- Use a unified procurement procedure whose goal is to encourage small, multiple, dispersed facilities as recommended in NEIGHBORHOOD CENTERS FOR 60-75 CHILDREN.
• Designate a central network administrator who can oversee all aspects of child care on a particular base:

  - organize in-service training sessions for all child-care staff

  - coordinate the systematic borrowing and lending of resources between child-care facilities—including both child-care centers and family-group child care

  - make special resource people available for all children in child care (e.g., psychiatrist, social worker, nurse, etc.)

  - arrange the trading of information between family child-care homes—facilitate the cooperation of separate homes in giving children extra play possibilities and extra child contacts (e.g., cooperative play sessions in nearby parks, cooperative field trips, visits between homes, etc.)

RELATED ITEMS

NEIGHBORHOOD CENTERS FOR 60 TO 75 CHILDREN
HOMES FOR FAMILY CHILD CARE
FAMILY CHILD CARE WILL REMAIN IMPORTANT AS AN OPTION FOR CHILDREN ON MILITARY BASES. BUT MAJOR REMODELING OF HOUSING FOR FAMILY CHILD-CARE FACILITIES IS NOT ALWAYS POSSIBLE--THUS A LIMIT OF 6 CHILDREN IS IMPOSED.

Caring for children in a private house or apartment will, of course, be different than caring for them in a specially designed and equipped center. But this difference is precisely what gives a special quality to family child care; a sense of home, and close personal interaction which improperly designed centers may lack. In making adjustments in a home to adapt it for child-care use, attempts should not be made to turn it into a miniature center (Cohen, 1974). Rather, changes should make the home safe, convenient, and child-responsive without altering those home-characters and home-functions which make it especially welcoming and secure for children.

Enriching the Possibilities.

The disadvantages of non-center-based care may include a paucity of resource materials and resource people, less staff training, fewer play choices, and fewer possible contacts with other children and adults. These disadvantages may be lessened by bringing family child care into an organized network of child care (see NETWORK OF CHILD CARE SERVICE FACILITIES).

MAKE FAMILY CHILD CARE PART OF THE ORGANIZED NETWORK OF CHILD CARE. EMPHASIZE HOMES AS Viable CHILD-CARE ALTERNATIVES BY CONCENTRATING EFFORTS ON: SAFETY, STORAGE, INDOOR PLAY SPACE, AND OUTDOOR PLAY ENVIRONMENT.

For design recommendations and criteria, see FIXING HOMES FOR FAMILY CHILD CARE.
RELATED ITEMS

FIXING HOMES FOR FAMILY CHILD CARE
THE ROLE OF FOUND SPACE IN CHILD CARE
ACTIVITY-SHAPED SPACES
DEVELOPMENTALLY APPROPRIATE PLAY YARDS
SITE SIZE 190 to 500 SQUARE FEET PER CHILD
ISSUE

Perhaps the single most important decision to be made in planning and programming child-care centers is the number of children to be served in one facility. It has been found through very reliable research that the developmental quality of child-care services drops sharply with increases in the number of children served in one building.

JUSTIFICATION

A number of studies have found that the optimal number of children in a center at one time is 45 to 60 children. Evans, Shub, and Weinstein (1971) found that the optimal number was between 45 and 60 and that this size allows teachers to feel close to one another while still being a large enough group to allow for sharing of materials, cooperative program development, and substitution in case of absence. In addition, they also found that it is the most effective grouping in which a single supervisor can be effective--fewer children will not make full use of a supervisor's time and expertise, and more children will dilute his or her benefits or require an assistant director or supervisor, with the attendant increase in bureaucracy. Similarly, centers with fewer than about 45 children find they cannot economically make ends meet without very high fees or massive outside assistance.

In a nationally recognized study, Prescott and Jones (1976) found that center size was a reliable predictor of program quality. The variety and quality of children's developmental experiences were directly affected by the size of the facility. In centers which served over 60 children, major emphasis tended to be placed on rules and routine guidance. Conversely, teacher emphasis on these concerns was found to be significantly lower in smaller centers. Opportunities for "pleasure, wonder, and delight" were significantly higher in centers under 60 children.

Prescott and Jones (1976) and Prescott and David (1976) also found that large centers rarely offered children the experience of participating in wide age-range groups. Mixing of ages in smaller centers offered opportunities for older children to serve as models and facilitators as well as enriching the overall play possibilities.
The play areas of large centers were rated low on organization, variety, and amount of things to do per child. Children were seldom observed to be highly interested and enthusiastically involved. Prescott and David (1976) noted that:

*Such findings have been corroborated by studies of other kinds of settings, such as schools and factory groups.*
(p. 164; see also Gump, 1975)

From our own interviews (Travel Report, 1978) we found general agreement with these findings. For example, Evan Nelson, the director of the Federal Employees Cooperative Day Care Center in Washington, DC, suggested that from the child's point of view, 30-40 children is as large a group as should be accommodated. The younger children (around 2 years of age) are overwhelmed by a variety of things including the numbers of staff, the impact of the older children, the size of the space, and the total number of children.

At the present time in this country, the magic number 60 is just in the recommendation stage by a number of national experts. But in Australia, the Regulations of the Child Welfare Act of 1939, which are found to be appropriate and therefore still in effect--specifies that

*The maximum number of children who may be cared for in the licensed premises at any one time shall be 60.* (Kindergarten Union of New South Wales, Regulations from the Child Welfare Act of 1939)

**NEIGHBORHOOD CENTERS FOR 60-75 CHILDREN**

WHEREVER AND WHENEVER POSSIBLE, ESTABLISH CHILD-CARE FACILITIES DESIGNED FOR ABOUT 60 TO 75 CHILDREN. THE PROGRAM PLANNING MODULE AND THE FACILITY PLANNING MODULE FOR CHILD-CARE FACILITIES SHOULD BE 60-75 CHILDREN MAXIMUM.

**RELATED ITEMS**

NETWORK OF CHILD-CARE SERVICES AND FACILITIES SITE SIZE 190 TO 500 SQUARE FEET PER CHILD
ISSUE

MOST BASES WILL REQUIRE MORE THAN ONE CHILD-CARE FACILITY. FACILITIES WILL DIFFER IN NUMBER OF CHILDREN AND SIZE.

JUSTIFICATION

No exact number can be given to how many child-care places will be required on a particular base, for this depends on local factors, but the following is a formula for use in making such a projection for a particular community and its given and expected population.

It is now estimated that nationally, 40% of mothers with children under 6 years of age work, and this means a heavy demand for part- or full-day child care (1978 date, up from 14% in 1950). In fact, 5 million children under the age of 13 now spend upwards of 30 hours a week under the care of someone other than their parents or teachers, most of which are in organized child-care, after-school drop-in care, or other forms of non-organized care (Gottschalk, 1978).

The formula for estimating the number of child-care positions needed in a community is the following:

Let \( n \) = population of children

and \( n + y \) = expected population of children

Let \( a = \% \text{ of children expected to use child care} \)

\( (n + y) = \text{number of children expected to use child care} \)

Then let \( b = \% \text{ using full-day service} \)

\( c = \% \text{ half day} \)

\( d = \% \text{ after-school drop-in} \)

number of positions needed = \( a(n+y)(b + \frac{1}{2}c) \)

* See discussion under #2 of ESTABLISHING NEED for estimating this percentage.
For example, for a community like the Comanche II residential area at Fort Hood:

\[ m = 4000 \]
\[ n = 900 \]
\[ \text{growth} = \text{stable} \]
\[ \% \text{ of children using care} = a = 50\% \]
(a guess—we know of no Army data on this)

If \[ b = 20\% \]
and \[ c = 10\% \]
then number of positions
\[ = a (n + y)(b + \frac{1}{2}c) \]
\[ = .50(900 + 0)(20 + .70) \]
\[ = .50(900)(.55) \]
\[ = 250 \text{ positions} \]

or approximately 1 in 20 of total population
or 1 of every 7.5 total children or 14% of the number of children in that family-housing area.

As a continuation of the example, given that NETWORK OF CHILD-CARE FACILITIES recommended that 10% of child-care children in center-based facilities, or a minimum of 60 children, which ever is more, 40-50% in family-group facilities, and 40-50% in organized home care, this would translate into the following:

center-based = 60 positions
family-group = 100-125 positions
in-home = 100-125 positions
FORMULA FOR NUMBER OF CHILD PLACES = \( a(n + y)(b + \frac{y}{2c}) \). PROVIDE CHILD-CARE PLACES IN THE COMMUNITY ACCORDING TO CALCULATIONS PERFORMED USING THE ABOVE FORMULA.

RECOMMENDATIONS
- Therefore, in such a community of approximately 4000 people, or 900 children between 6 weeks and 6 years of age, there is need for one center-based facility for 60 children, and about 20 neighborhood-based family-group centers for 6 children each, with the other 100 children in in-home care.

RELATED ITEMS
- ESTABLISHING NEED
- NETWORK OF CHILD-CARE SERVICES
- HOMES FOR FAMILY CHILD CARE
- NEIGHBORHOOD CENTERS FOR 60 TO 75 CHILDREN
- CAMPUS PLAN FOR VERY LARGE CENTERS
FOUND SPACE IS NO BARGAIN IF THE LOCATION IS INCONVENIENT OR IF THE BUILDING IS NOT SOUND. HOWEVER, AT THE ARMY'S CURRENT RATE OF TWO NEW FACILITIES PER YEAR, IT WILL TAKE 100 YEARS FOR THE 200 EXISTING FACILITIES TO BE REPLACED BY NEW CONSTRUCTION. SEVERAL QUESTIONS HAVE BEEN RAISED: WHAT IS THE FUNCTION OF FOUND SPACE IN PROVIDING CHILD CARE ON MILITARY BASES? WHAT ARE THE BENEFITS OF REMODELING OLD FACILITIES VS. THE CONSTRUCTION OF NEW FACILITIES?

JUSTIFICATION

The decision of remodeling vs. construction of new facilities should be based on the following considerations:

- initial capital investment/long-term economics
- life cycle costing
- potential major expenses: heating plant, insulation, roof repairs, plumbing, kitchen renovation, partition removal, air conditioning, handicapped access, new circulation including fire exits, and most importantly, fire proofing
- image: "Makeshift is second class" and "Barracks are fire traps for children" are opinions expressed by parents and child-care directors and staff on the bases visited; the quality of a program cannot always overcome a poor initial image from a partially renovated facility
- predicting where found space will be suitable for an educational program when an architectural program has not yet been written
- With old house renovation, children's image will probably be positive because of the homelike atmosphere (see Anita Olds, 1978)

If a building is basically sound, economics are a major consideration for the renovation of found space. One estimate is that even considering long term repairs, renovation should come in at 2/3 the price of new construction for the same amount of square feet (Felicity Brogden, personal communication, 1978).
The major issue however, is image. For children, an old house has a positive image because it has a "homey" atmosphere. For parents however, new construction has a positive image because of the relative ease in creating functional space. In order to change the architectural-visual character of an old building, and satisfy both parents and children, Olds (1978) has recommended several solutions: give the renovated building a distinguishable entry, a "feeling of place," increase the articulation of the new function; create a warm, informal atmosphere, a "fun place to be."

**THE ROLE OF FOUND SPACE IN CHILD CARE**

WHERE AVAILABLE, CONSIDER THE ADAPTABILITY OF FOUND SPACE FOR CHILD-CARE FACILITIES ESPECIALLY HOMES FOR CHILD CARE AND FOR SMALL NEIGHBORHOOD-BASED CHILD-CARE CENTERS. CONSIDER THE PROS AND CONS OF ADAPTIVE REUSE IN ACCORDANCE WITH THE ABOVE ISSUES.

**RECOMMENDATIONS**

For renovation of found space:

- Ensure convenient location—do not compromise on this.
- Ensure that the renovation leads to an image for children of a warm, informal, fun place to be.
- Ensure before selection that the building is sound structurally, mechanically, electrically, and that renovations to meet special child-care codes through additional plumbing requirements, kitchen renovation, partition removal, air conditioning, handicapped access, new circulation including fire exits, and fireproofing will not exceed the costs of new construction.
- Ensure that the image for parents will be one of a new, progressive, professional facility in this regard:
  - create a new, distinguishable entry
  - change the image of the grounds
  - lively, safe, child-scaled play yards at the public side of the buildings can do much to change the image of the building
- Scale the exteriors and the noticeable interiors to the child
- Create a perimeter of the building which is also an interface and makes seeing children's projects, activities, and spaces in the building possible from passing paths (see Osmon, 1971, pp. 22 ff.)
- Child-care centers should be located on the ground floor, regardless of building construction. However, multi-story facilities may be used for children age 5 or above if special construction standards or automatic fire extinguishing systems are incorporated (AR 608-1; NFPA).
- If relocation to noncombustible facilities is not feasible, existing child-care centers constructed of unprotected wood frame or unprotected ordinary construction may be used for children under 3 if the following conditions are met (AR 608-1):
  - the entire building is protected by an automatic fire extinguishing system
  - the infant room and play or sleep room for children under 3 is individually separated from other areas by 3/4 hour fire-related partitions
  - The infant room has an exit opening directly to the outdoors. All other play or sleep rooms will have two exits. Family day-care centers will comply with the section on Family Day Care Homes in the NFPA 101. Floors below ground level will not be used for child-care centers.
Child-care facilities will meet the fire and safety requirements of DOD 4270.1-M and NFPA 101, as well as local codes.

RELATED ITEMS
FAMILY CHILD CARE IN THE NETWORK
FIXING HOMES FOR FAMILY CHILD CARE
BUILDING AS A FRIEND
OBVIOUS ENTRY
ISSUE  TO FINANCIALYL SUPPORT A VIABLE, DEVELOPMENTALLY-ORIENTED CHILD-CARE PROGRAM, AND TO MEET THE GREATEST COMMUNITY DEMAND, CHILD-CARE CENTERS NEED TO BE LOCATED WHERE THERE IS A STABLE OR INCREASING CHILD POPULATION.

JUSTIFICATION  As described in below patterns, most children should be able to walk to the child-care center. A critical mass of paying users is necessary to maintain quality services. Conversely, for the image of the center as a viable, growing part of the community, it should not be located in an area where there is a noticeable outflow of population. These considerations argue for choosing a location in an area of stable or increasing child population.

PATTERN  AREA OF STABLE CHILD POPULATION

LOCATE CHILD-CARE CENTERS IN AREAS OF STABLE OR INCREASING CHILD POPULATION.

RECOMMENDATIONS

- There are a number of techniques for estimating the shift in child population over time, among the best known being use of any available school predictions, the cohort-survival technique based on census information, and long-range family-housing master plans.

RELATED ITEMS  NEIGHBORHOOD CONTEXT

ESTABLISHING NEED
YOUNG CHILDREN SOMETIMES EXPERIENCE ANXIETY WHEN FIRST GOING TO A CHILD-CARE CENTER. EVIDENCE INDICATES THAT THIS ANXIETY IS HEIGHTENED WHEN THE CHILD-CARE FACILITY IS IN AN UNFAMILIAR LOCALE. CHILD-CARE CENTERS SHOULD NOT BE LOCATED, HOWEVER, SO AS TO CONTINUE DE-FACTO SEGREGATION OF DIFFERENT MILITARY CLASSES.

Location can make or break a child-care program. Many parents are reluctant to have their very young children attend child care in an unfamiliar, distant locale. There is considerable evidence that parents prefer care near their own home. In a study using trade-off techniques with 390,000 families in Massachusetts, Rowe, et al. (1972; cited in Prescott & David, 1976), found that given a choice between paying extra for care next door versus having free care one-half hour away, 58% of families (226,000 families) would willingly pay for neighborhood proximity, 9% didn't care, and 33% would opt for free care even if driving were involved. Other studies (e.g., Ruderman, n.d. in Emlen, 1970) indicate that distance from home is associated with dissatisfaction with child-care arrangements.

Furthermore, a very important study by environmental psychologist Terrance Lee (1963) in England has shown that children who are passively taken to schools in cars or buses develop a much less detailed understanding of their urban and natural environments than children who actively walk to school and interact with nature, people, and built places along the way. Such a finding is not surprising, given Piaget's general theory of child development which stresses that for the young child, knowledge is concrete and active, that it arises from actions on objects, not abstract considerations of them. A conclusion is that children should be able to walk between home and child-care facilities.

the walk to the day care center is part of the program!
As so stated in a U.S. Department of Health, Education, and Welfare guide to child care for preschoolers:

The ideal location for day care—whether a center or a family home—is the neighborhood of the children served. (Cohen, 1975, p. 55)

The Child Welfare League of America (1973) reiterates this position:

Day care facilities, with outdoor space for children to play actively and safely, should be located so that they are easily accessible to the families needing them, preferably in the neighborhoods where they live. (p. 76)

Cohen, in the HEW guide, even argues in favor of neighborhood location over work location:

Day care programs at the parent's place of work demonstrate the importance of good location. Since such programs are located in industrial areas, often far from the homes of working families, they almost always involve travelling long distances. Even where employers have attempted to establish free child care at the work site, parents often choose day care closer to home to avoid exposing their children to rush hour traffic and long daily rides. (1974, p. 55)

Thus a wide and impressive group of national experts (Cohen, 1974; Prescott and David, 1976), and national agencies (Child Welfare League, 1973; HEW, 1974), all supported by empirical data (e.g., Rowe et al., 1972; Emlen, 1970) are in general agreement that child-care facilities should be located in the child's own neighborhood whenever possible.
Argument will be made, however, that such a position sounds socially regressive in that, given de facto housing segregation (classes, races, NCO/enlisted/officers), integration cannot happen without some strategy for permitting and encouraging mixing of children from different residential areas.

In theory the resolution of this conflict is not difficult, though in practice it can be very difficult. If new construction is anticipated, or even renovation of found facilities, it is possible and desirable to locate child-care centers which are within walking distance of the homes of the children who will be using them and at the same time on the seams of at least two residential areas or communities.

Such a solution has other benefits. Parents are more likely to drop in and participate in the program if it is close to their home. Most of the acknowledged leaders in the child-care movement (e.g., Prescott and David, 1976; Cohen, 1974; Child Welfare League of America, 1973) favor location near the child's home.

PATTERN

SEAMS BETWEEN NEIGHBORHOODS

LOCATE MEDIUM TO LARGE CHILD-CARE CENTERS ON THE SEAMS BETWEEN TWO OR MORE RESIDENTIAL AREAS OR COMMUNITIES WHEREVER POSSIBLE. IN SITUATIONS WHERE FAMILY-HOUSING AREAS ARE FULLY INTEGRATED, LOCATE CENTERS AT THE CENTER OF GRAVITY OF THE NEIGHBORHOOD. IN EITHER CASE, LOCATE THE CENTER WITHIN WALKING DISTANCE OF MOST CHILDREN (CATCHMENT AREA EQUAL TO ¼ MILE RADIUS).

RECOMMENDATIONS

- Locate child-care centers so most children live within walking distance (¼ mile radius).
- Locate child-care facilities on the seams between neighborhoods in the case where neighborhoods have different racial, economic, or military classification compositions (e.g., on a seam between the residential areas of NCO and commissioned officers).
- Where family-housing master planning has led to completely integrated housing and communities, locate child-care centers in the center of different neighborhoods.

- When it is not possible to locate the center within walking distance for most children, it becomes important to make access by automobile and public transportation easy. The location of facilities thus needs to be near major arteries and on major bus lines.

- Safety considerations indicate that child-care facilities should not be directly on major arteries (though minor, low-traffic arteries are acceptable). Therefore, locate all child-care centers \( \frac{1}{4} \) to one block off major arteries.

- Any children and parents coming by car or bus should not have to cross streets on foot to get to the facility.

- Walking distance should also be minimized in cold weather climates.

- Reroute bus lines and stops to provide a major bus stop \( \frac{1}{2} \)-1 block from the selected location.

**RELATED ITEMS**
- LEARNING FROM COMMUNITY RESOURCES
- DEVELOPMENTALLY-APPROPRIATE PLAY YARDS
- PEDESTRIAN ACCESS AND CIRCULATION
- OBVIOUS ENTRY
ISSUE

CHILDREN SIMULTANEOUSLY ARE THEIR OWN SPECIAL CREATURES AND YET ARE DEVELOPING TOWARD ADULT ROLES IN THEIR COMMUNITY. AS CHILDREN, A NUMBER OF PROXIMITIES BETWEEN LOCATION OF CHILD-CARE CENTERS AND OTHER FACILITIES ARE INAPPROPRIATE. YET AS RUDDING ADULTS, OTHER PROXIMITIES HAVE POSITIVE DEVELOPMENTAL POTENTIAL.

JUSTIFICATION

There are four types of proximity issues to be considered in locating child-care centers (in addition to neighborhood and seam location discussed above):

- the potential for learning from community resources
- access to other community services
- dangers
- the creation of defensible space
- locational image

LEARNING FROM COMMUNITY RESOURCES

From research conducted in child-care centers in Europe, Utzinger (1970) concluded that it is important to integrate child-care facilities into the ongoing urban fabric. Such facilities should be viewed as part of a larger scheme, rather than an isolated entity serving only a single need. Children need to spend some time in the center of things, near schools, libraries, places of work, shops, and the like, in order to acquire a familiarity with the adult life of the community. Facilities for early childhood development should therefore establish some link with community activities.

Alexander, Ishikawa, and Silverstein (1977) also argue strongly that any form of children's facility should provide the foundation of a network of learning in a community. As children grow older and become more independent, patterns of learning must be supplemented by a mass of institutions, schools and yet not schools, dotted among the living functions of the community. Piaget and Inhelder (1969)
and other child-development theorists have shown that children learn from doing—there is no substitute for involving children in the actual functions and adult behaviors of their community.

Two types of activities should be close to child-care centers: housing (or work) and interesting community resources. In general, the location of a center is one of the most important factors affecting use.

Child-care facilities should be located near places of natural interest to children. This provides opportunities for field trips, use of the natural environment as a learning environment, and provides the possibility of sharing certain facilities.

Examples of such proximities would be:

- libraries
- interesting places of work
- shops
- museums
- galleries
- nature areas, zoos, botanical gardens
- other natural areas, fields, rock outcroppings, streams, woods

DANGERS

On the other hand, there are a number of obvious negative proximities:

- dangers from arterial streets and roads
- dangers from heavily-used intersections
- dangers from railroads
- dangers from special facilities on Army bases such as storage depots, service vehicles areas, drill fields, etc.
• dangers from dust, fumes, car exhausts, hazardous wind-carried pollutants

• disruptions from noise of busy intersections, arterials, air fields, manufacturing facilities, etc.

DEFENSIBLE SPACE

The location of a center is also important with respect to possible vandalism and theft. Jane Jacobs (1961) and Oscar Newman (1973) have suggested a need for creating "defensible space." They note that some spaces are safer from vandalism and crime due to site and architectural considerations. The four aspects of defensible space are:

• surveillance--eyes on the street--that the area is naturally well-peopled and that there are naturally sufficient numbers of people watching activities to provide surveillance and protection

• clearly defined territory--that the architectural cues define a clear territory which is noticeably under jurisdiction of the center and which can be defended if necessary

• image and milieu--that the center has an image of being busy, active, peopled

• safe zones--that the center be located in proximity to other safe activities, and not in proximity to dangerous or seemingly dangerous activities, i.e., close to a church rather than beside a large parking lot of a supermarket

LOCATIONAL IMAGE

In addition to the locational factor, interviews with child-care directors and parents on military installations indicated that the image of child-care facilities is important to their overall success as programs (Travel Report, 1978). Directors felt that the appearance of the exterior of the building, its location, and the quality of surrounding buildings and other facilities are the most
important variables in this image. (We know of no hard empirical research on this topic.)

With regard to this issue of what we might call "image contagion," some military child-care centers we visited were located next to very inappropriate facilities (truck depot, rail line, refuse-strewn dead-end streets), while others were located amidst viable community services (recreation halls, PX, newly renovated buildings, etc.). Significantly, the former facilities had much poorer images in parents' minds than the latter, and it is entirely possible that the quality of surrounding buildings was a most relevant variable.

PLACE CHILD-CARE CENTERS SO AS TO MAXIMIZE THE POTENTIAL THAT CHILDREN WILL BE ABLE TO LEARN FROM COMMUNITY RESOURCES, SO AS TO BENEFIT FROM POSITIVE LOCATIONAL IMAGE, SO AS TO BENEFIT FROM NATURAL SURVEILLANCE AND OTHER FACTORS INFLUENCING DEFENSIBLE SPACE, AND SO AS TO MINIMIZE DANGERS FROM NEGATIVE PROXIMITIES.

RECOMMENDATIONS

- Locate child-care centers as a part of a natural network of connected learning opportunities in the community.
- Locate child-care centers near community learning resources, e.g., schools, libraries, places of work, shops, museums, galleries, nature areas, zoos, botanical gardens, other natural areas, etc.
- Locate child-care centers away from all possible dangers and noxious elements, e.g., away from dangers from arterial streets and roads, heavily used intersections, railroads, special facilities like storage depots, service areas, drill fields, noxious elements like generators of dust, fumes, exhausts, hazardous wind-carried pollutants, etc., and away from noise and vibrations caused by busy intersections, air fields, manufacturing facilities, etc.
- Locate child-care centers in areas of natural surveillance, in an area which can become a clearly defined territory, and in a safe zone in proximity to other activities perceived as positive, desirable, and safe.

- Locate child-care centers to borrow from positive neighborhood images, e.g., amidst community facilities, in a park, or in the midst of housing, rather than near rail lines or pool halls.

- Locate child-care centers on current lines of all major public services: sewers, water mains, gas lines, electricity, and telephone lines.

- Locate child-care centers such that the building entry can be highly visible so that it presents the image of being a busy, active, peopled place.

**RELATED ITEMS**

SEAMS BETWEEN NEIGHBORHOODS
INTEGRATION WITH A COMMUNITY CENTER
VARYED OR FAVORABLE NATURAL FEATURES
OBVIOUS ENTRY
ISSUE

Programs which consider the child but not the family are not compatible with current child-care philosophy. The image of a child-care center as being only for women and children, while men and other family members have little or no involvement is in conflict with trends in American society away from sex-role stereotyping.

JUSTIFICATION

Learning environments should serve both young and old, and should appeal to women, men, and children. A primary approach to achieve the above goal and other benefits as well, is to physically integrate one child-care facility on base with other centralized facilities for community services. Physical integration contributes to:

- Close proximity of services which in return increases users' conveniences, reinforces their sense of community, and saves travel time and energy.

- Shared use of facilities which in return results in some saving in capital investment and on-going maintenance costs, increase in familiarity with the facility enhanced sense of community, and increased use of all facilities.

A community-oriented center which supports child care and other related programs provides convenience for the user who can come to the facility, drop off children, and participate in a variety of associated Community Service programs. Familiar surroundings probably encourage participation in all of these activities, thus lead to a less-institutional atmosphere as users become less suspicious of government/army-administered programs. The proximity of child care to other child-oriented and other community service programs may lead to increased use of these other programs, e.g., health care, nutritional center, family social clubs, and vice-versa.
The economics of the efficient use of buildings also speaks in favor of the intensive and multi-functioning use of buildings at different times through the day. Multi-purpose buildings can lead to savings in time and materials in construction because sharing space and doubling-up in the use of single spaces reduce the total demand for space. Such buildings can be used in the day time for child care and other community service programs, and at night for formal and informal community use, continuing education, etc.

Cohen (1974, p. 145), in a survey of day care systems, noted that day care programs range from those which provide a complete range of family services to those which offer instructional programs for multi-ethnic urban populations. Family services might include guidance counseling, meal and budget planning, and other life-skills. Other integrated community programs provide instruction in typing, filing, record-keeping, and remedial English to help local residents improve their job skills.

**PATTERN**

**INTEGRATION WITH A COMMUNITY CENTER**

**AT LEAST ONE CHILD-CARE FACILITY (THE CENTER-BASED ONE) SHOULD BE COMBINED AND PHYSICALLY INTEGRATED WITH OTHER COMMUNITY PROGRAMS AND FACILITIES.**

**RECOMMENDATIONS**

- Base-wide surveys made at the programming stage can determine possibilities for combining specific community service programs and facilities.

Army Community Service (ACS) Center has several programs which might be incorporated in a multi-function community center. Included are the following:
- ACS lending closet
- civilian credit counseling service
- food locker assistance
- handicapped referral and placement
- child advocacy office
- foster care office
- ACS Volunteer Corporation
- ACS Human Resource Council
- personal affairs assistance office
- financial planning office
- consumer education office
- family counselling service
- community organization office
- vocational training
- health and nutritional services office

Related Items

Found Space
Network of Child-Care Facilities
Centers for 60
Establishing Need
Implementation Strategies
Formula for Number of Centers
511 HIGH VISIBILITY IN THE COMMUNITY

ISSUE
A NEW CHILD-SUPPORT FACILITY SHOULD HAVE REASONABLY HIGH VISIBILITY FOR TWO REASONS: SO THAT PARENTS KNOW ABOUT ITS EXISTENCE AND LOCATION, AND AS A MEASURE OF PROTECTION FOR CHILDREN, BUILDING(S), AND GROUNDS.

JUSTIFICATION
In a community unaccustomed to quality child-care facilities, it is important that a new facility announce itself. (This is much less necessary for a well-known, well-attended facility.) Parents on military bases either are unaware of child-care opportunities, or, in many cases, have negative images of them based on old, barely remodeled barrack facilities (see Travel Report, 1978). It is thus important that any new program offering developmental services be highly visible to passers by.

In any community where there is a high incidence of part-day drop-in child care, which is the tradition on military bases, it is also important that infrequent users easily be able to find the facility, parking, its entry, etc. (This concern is less important for a facility of primarily long-term regular users.)

Supporting these specific arguments is the general finding of Appleyard (1970) that people remember buildings first and foremost in terms of their function, secondly in terms of visibility to the cone of vision walking and driving, and third and last in terms of architectural character and detail.

PATTERN
HIGH VISIBILITY IN THE COMMUNITY
LOCATE (AND SITE) NEW CHILD-CARE FACILITIES WITHIN A 90 DEGREE CONE OF VISION OF MAJOR ARTERIES, PUBLIC TRANSPORTATION ROUTES, AND MAJOR WALKWAYS.
RECOMMENDATIONS

- Insure that child-care centers are easily seen to passing motorists, riders of public transportation, and people walking in the area.

- While not violating specifications for COMPATABILITY WITH NATURAL AND BUILT ENVIRONMENTS, insure that child-care centers are clearly recognized as such, e.g., by the use of playful images.

RELATED ITEMS

PEDESTRIAN ACCESS AND SITE CIRCULATION

OBVIOUS ENTRY
 ISSUE

CHILDREN WANT TO USE THE OUTDOORS AS MUCH AS POSSIBLE FOR ACTIVITIES AND PLAY. THE OVERALL DEVELOPMENTAL QUALITY OF CHILD-CARE FACILITIES IS A FUNCTION OF THE QUALITY OF THE NATURAL OUT-OF-DOORS.

JUSTIFICATION

Child-care directors and staff desire to make great use of the outdoors as an extension to the indoors for various activities. Often, in fact, the distinction between indoors and outdoors is minimal. In some centers (e.g., Pacific Oaks College Children's School, see Travel Report, 1978), children enter the "center" through the outdoors along a "lane" but spend most of their day outdoors. A constant lament, at many centers however, is that the lack of quality outdoor spaces makes this indoor-outdoor relation impossible.

National experts point to quality outdoor space as being a necessary component of developmentally-oriented child care (Prescott and David, 1976; Cohen, 1974; Child Welfare League, 1975; Osmon, 1971). While some states require only 75 sq. ft. per child for 1/3 of the children in attendance at any one time, i.e., as little as 25 sq. ft. per child. Other states require 75 sq. ft. per child and national experts recommend between 100 and 200 sq. ft. of usable outdoor space for every child in attendance at a given time. Army regulations (AR 608-1) suggest 100 sq. ft. of outdoor space per child.

To maximize the out-of-doors potential for children, and to maximize the possibilities of what they can learn from the out-of-doors, locations for child-care centers should be selected for natural amenities: plant life, animals, water, earth forms, trees, bushes, etc. Variety is a key to the success of outdoor play areas. If a choice is available, a naturally rolling site should be selected. In addition, land should be well drained, well shaded, and should be near to natural areas like creeks, fields, woods, rock outcroppings, ponds, etc. for possible field trips.
To extend the seasonal use of outdoor spaces, the location for child-care centers should be chosen with two additional things in mind:

- **Protection from Elements**

  Protection can be provided by vegetation in its natural state; large stands of trees, shrubs, hedges, etc. not only provide shade from harsh mid-summer sun, but also provide protection from wind and driving rain or snow. In addition, they help hold soil and help with natural drainage of outdoor areas.

- **Natural Light**

  Sunlight and fresh air will allow a greater use of the outdoors on cool days and early and late in the season. South and west exposures in particular are appropriate for winter use in most parts of the country.

**FAVORABLE NATURAL FEATURES**

**RECOMMENDATIONS**

- Choose a site so that there is the potential of at least 100 sq. ft. of usable outdoor space for every child in attendance at a child-care center at a given time.

- Choose a location for a child-care center such that outdoor activity areas can be directly adjoining the building, can be directly accessible from each indoor activity space.

- Choose a location which will provide potential protection of outdoor play yards from sun, wind, and precipitation.
- Choose a natural site with as many natural amenities as possible. Plants, animals, creeks, and earth forms provide rich learning experiences for children.

- Site planning recommendations are made, generally, in the following:

  TM5-803-3 Installations Planning--Site Planning General

  TM5-830-1 Planting--Planting Design

  TM5-830-2 Planting--Planting Turf

  TM5-822-2 General Provision and Geometric Design for Roads, Streets, Walks, and Open Storage Areas

RELATED ITEMS

DEVELOPMENTALLY-APPROPRIATE PLAY YARDS
CREATING FAVORABLE MICROCLIMATES
INDOOR-OUTDOOR RELATIONSHIP
FORM IN RESPONSE TO CLIMATE
FRONT YARD AND FRONT PORCH
PORCHES AND DECKS AS ACTIVITY SPACES
NATURE STUDY AREAS
ISSUE

DEVELOPMENTALLY ORIENTED CHILD CARE REQUIRES ADEQUATE SQUARE FOOTAGE FOR INDOOR ACTIVITY SPACE, OUTDOOR PLAY YARDS, AND VEHICULAR PARKING AND SERVICE. IN SELECTING A POTENTIAL SITE, THE QUESTION IS, WILL IT FIT?

JUSTIFICATION

Having identified one or more potential sites which fit the above site selection criteria, the final question must be, "Will a developmentally oriented child-care facility fit on this potential site?" The question not only involves the question of gross square footage for the building itself, but also for the play yards and for vehicular circulation and parking. Furthermore, the question not only involves the determination of gross square footages, but also preliminary siting design to see if a reasonable fit of buildings, yards, and service can be made on a particular site given its constraints of orientation, topography, and neighborhood context.

A preliminary siting design is thus an absolutely necessary part of any site selection process, and should be done in the light of both the above site-specific location criteria and the principles for site design and development given below (e.g., HIGH VISIBILITY IN THE COMMUNITY; FAVORABLE NATURAL FEATURES; DEVELOPMENTALLY-APPROPRIATE PLAY YARDS; OBVIOUS ENTRY; PARKING AND SERVICE AREAS AWAY FROM PEDESTRIANS AND PLAY).

Gross square footages are calculated from a variety of sources combined with the research and professional experience of the authors. The three critical components are:

- facility size (comprised of primary activity space, secondary activity space, and non-assignable space)

- outdoor play area (comprised of child-care play yards plus after-school drop-in playing fields)

- vehicular space (comprised of staff parking, parent-visitor parking, drives, drop-off area, and service area)
The following two tables document the relevant calculations necessary to determine the gross square footage of the facility, play area, and vehicular area.

The left column is the absolute minimum square footage allowable by minimum state requirements, fire laws, and some military documents. The center column, however, is the recommended sizes for all military child-care centers, and—as can be seen—is in line with the civilian recommendations which have been in effect for a number of years (e.g., Child Welfare League of America, 1969; Osmon, 1971; Cohen--Office of Child Development, HEW, 1974; Evans, Saia, and Evans, 1974; Prescott and David, 1976).

The second table gives sample square footages for a typical range of child-care facilities (child-care homes for 6 children; small neighborhood centers for 40-45 children; large neighborhood or work-based centers for 60-75 children; and very large center-based campuses for 240 children).

**PATTERN**

**SITE SIZE 220 TO 500 SQUARE FEET PER CHILD**

SELECT A SITE WHICH HAS AN ABSOLUTE MINIMUM OF 190 SQUARE FEET OF USABLE SPACE PER CHILD, AND PREFERABLY ONE WHICH HAS 300 TO 350 SQUARE FEET PER CHILD.

**RECOMMENDATIONS**

- Provide a preliminary siting design as part of any approval of site process to insure not only that the site is large enough in gross square footage terms, but also that the basic building and siting requirements can be met by the site.

- Absolute minimum and recommended sizes can be read on the accompanying charts.
The absolute minimum size of 190 square feet per child will provide for only the following:

- minimum indoor activity space
- an outdoor activity area which will have to have staggered use in order to meet some state codes
- parking space for only half the staff members and one out of every 20 parents

Therefore, it is more appropriately called "care only" service.

The recommended square footages equalling 300 to 400 square feet per child will provide:

- adequate indoor activity space for developmentally appropriate child care
- adequate play yards, including a modest-sized playing field for after-school drop-in children if using 400 s.f./child
- off-street parking for all staff members (assuming an average ratio of 1:6 -- staff to children).
- parking for one out of every 10 parents so as to encourage them to become involved with their children for a few minutes at drop-off and pick-up time
- adequate service space and drives to insure PARKING AND SERVICE AWAY FROM PEDESTRIANS AND PLAY.
<table>
<thead>
<tr>
<th>Calculation for Gross Square Footage for Child Care Building and Site Under Minimum, Recommended, and Generous Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Facility Primary Activity Space</strong></td>
</tr>
<tr>
<td>Absolute Minimum: 35 SF/C</td>
</tr>
<tr>
<td>Adequate/Recommended: 42 SF/C</td>
</tr>
<tr>
<td>Generous: 50 SF/C</td>
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<tr>
<td>(Some state min; NFPA; AR 608-1)</td>
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<tr>
<td>(Evans; recommend min)</td>
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<tr>
<td>(Recommend rec)</td>
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<tr>
<td><strong>2. Facility Other Assignable Space</strong></td>
</tr>
<tr>
<td>25 SF/C</td>
</tr>
<tr>
<td>30 SF/C</td>
</tr>
<tr>
<td>42 SF/C</td>
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<tr>
<td>(Moore)</td>
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<tr>
<td>(Moore)</td>
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<tr>
<td>(Moore)</td>
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<tr>
<td><strong>3. Facility Non-Assignable Space</strong></td>
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<tr>
<td>20% of assignable</td>
</tr>
<tr>
<td>25% of assignable</td>
</tr>
<tr>
<td>30% of assignable</td>
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<tr>
<td>12 SF/C</td>
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<td>20 SF/C</td>
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<tr>
<td>30 SF/C</td>
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<tr>
<td><strong>4. Total Facility Size (1+2+3)</strong></td>
</tr>
<tr>
<td>72 SF/C</td>
</tr>
<tr>
<td>100 SF/C</td>
</tr>
<tr>
<td>122 SF/C</td>
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<tr>
<td><strong>5. Day Care Play Yard(s) Size</strong></td>
</tr>
<tr>
<td>79 SF/C</td>
</tr>
<tr>
<td>100 SF/C</td>
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<tr>
<td>200 SF/C</td>
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<td>(Some state min; NFPA)</td>
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<td>(AF 608-1; Evans; Oaman)</td>
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<tr>
<td>(Recommend rec)</td>
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<tr>
<td><strong>6. After-School Drop-in Playing Fields</strong></td>
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<tr>
<td>0</td>
</tr>
<tr>
<td>5,000 SF (TMS 6265-10)</td>
</tr>
<tr>
<td>81,000 SF (TMS 6265-10)</td>
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<tr>
<td><strong>7. Total Outdoor Play Area (5+6)</strong></td>
</tr>
<tr>
<td>75 SF/C</td>
</tr>
<tr>
<td>100 SF/C + 5,000 SF</td>
</tr>
<tr>
<td>200 SF/C + 51,000 SF</td>
</tr>
<tr>
<td><strong>8. Staff Parking and Drives</strong></td>
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<tr>
<td>1:12 C</td>
</tr>
<tr>
<td>153 SF/C PARKING ONLY</td>
</tr>
<tr>
<td>216 SF/C TM 5-622-3</td>
</tr>
<tr>
<td>1:6 C</td>
</tr>
<tr>
<td>200 SF/C CAR</td>
</tr>
<tr>
<td>316 SF/C CAR TOTAL</td>
</tr>
<tr>
<td>66 SF/C TM 5-622-3</td>
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<td>1:6 C</td>
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<tr>
<td>200 SF/C CAR</td>
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<tr>
<td>316 SF/C CAR TOTAL</td>
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<tr>
<td>66 SF/C</td>
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<tr>
<td><strong>9. Parent/Visitor Parking and Drives</strong></td>
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<tr>
<td>1:10 C</td>
</tr>
<tr>
<td>153 SF/C PARKING ONLY</td>
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<tr>
<td>216 SF/C CAR TOTAL</td>
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<td>40 SF/C TM 5-622-3</td>
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<tr>
<td>200 SF/C CAR</td>
</tr>
<tr>
<td>516 SF/C CAR TOTAL</td>
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<tr>
<td>40 SF/C</td>
</tr>
<tr>
<td><strong>10. Drop-off Area</strong></td>
</tr>
<tr>
<td>944 SF/MOORE</td>
</tr>
<tr>
<td>1,934 SF/MOORE</td>
</tr>
<tr>
<td>1,934 SF/MOORE</td>
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<td>(Moore)</td>
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<tr>
<td><strong>11. Service and Drives</strong></td>
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<tr>
<td>624 SF SERVICE ONLY</td>
</tr>
<tr>
<td>1,248 SF Total (Julem)</td>
</tr>
<tr>
<td>720 SF SERVICE ONLY</td>
</tr>
<tr>
<td>912 SF SERVICE ONLY</td>
</tr>
<tr>
<td>(Julem)</td>
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<td>(Julem)</td>
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</tr>
<tr>
<td><strong>12. Total Vehicular Space</strong></td>
</tr>
<tr>
<td>42 SF/C + 1,908 SF</td>
</tr>
<tr>
<td>106 SF/C + 3,024 SF</td>
</tr>
<tr>
<td>126 SF/C + 3,408 SF</td>
</tr>
<tr>
<td>(5+9+10+11)</td>
</tr>
<tr>
<td>(5+9+10+11)</td>
</tr>
<tr>
<td>(5+9+10+11)</td>
</tr>
<tr>
<td><strong>13. Total Site Size</strong></td>
</tr>
<tr>
<td>184 SF/C + 1,908 SF</td>
</tr>
<tr>
<td>300 SF/C + 8,024 SF</td>
</tr>
<tr>
<td>425 SF/C + 8,408 SF</td>
</tr>
<tr>
<td>(4+7+12)</td>
</tr>
<tr>
<td>(4+7+12)</td>
</tr>
<tr>
<td>(4+7+12)</td>
</tr>
<tr>
<td>1. FAMILY CHILD CARE HOMES (6 Children)</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td><strong>FACILITY</strong></td>
</tr>
<tr>
<td><strong>PLAY YARDS</strong></td>
</tr>
<tr>
<td><strong>VEHICULAR</strong></td>
</tr>
<tr>
<td><strong>TOTAL SITE</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. SMALL NEIGHBORHOOD CENTER (45 Children)</th>
<th><strong>ABSOLUTE MINIMUM</strong></th>
<th><strong>ADEQUATE/RECOMMENDED</strong></th>
<th><strong>GENEROUS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FACILITY</strong></td>
<td>5250 S.F. 300 M²</td>
<td>4,500 S.F. 420 M²</td>
<td>5,000 S.F. 450 M²</td>
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<tr>
<td><strong>PLAY YARDS</strong></td>
<td>6375 S.F. 395 M²</td>
<td>7,000 S.F. 660 M²</td>
<td>10,000 S.F. 9,300 M²</td>
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<tr>
<td><strong>VEHICULAR</strong></td>
<td>9800 S.F. 355 M²</td>
<td>7,800 S.F. 725 M²</td>
<td>8,175 S.F. 745 M²</td>
</tr>
<tr>
<td><strong>TOTAL SITE</strong></td>
<td>10,425 S.F. 970 M² .25 A. .11 H.</td>
<td>21,800 S.F. 1,935 M² .50 A. .2 H.</td>
<td>103,475 S.F. 2,100 M² 2.4 A. 1.2 H.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. LARGE NEIGHBORHOOD/WORK-BASED CENTER (75 Children)</th>
<th><strong>ABSOLUTE MINIMUM</strong></th>
<th><strong>ADEQUATE/RECOMMENDED</strong></th>
<th><strong>GENEROUS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FACILITY</strong></td>
<td>5400 S.F. 500 M²</td>
<td>7,800 S.F. 735 M²</td>
<td>9,150 S.F. 850 M²</td>
</tr>
<tr>
<td><strong>PLAY YARDS</strong></td>
<td>5625 S.F. 525 M²</td>
<td>12,500 S.F. 1,125 M²</td>
<td>16,000 S.F. 1,450 M²</td>
</tr>
<tr>
<td><strong>VEHICULAR</strong></td>
<td>5050 S.F. 470 M²</td>
<td>10,475 S.F. 1,020 M²</td>
<td>11,350 S.F. 1,055 M²</td>
</tr>
<tr>
<td><strong>TOTAL SITE</strong></td>
<td>16,075 S.F. 1,495 M² .4 A. .18 H.</td>
<td>32,975 S.F. 2,925 M² .7 A. .3 H.</td>
<td>116,500 S.F. 12,835 M² 2.2 A. 1.1 H.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. VERY LARGE CENTER-BASE CHILD CARE CAMPU (4 Modules @ 60 Children = 240 Children)</th>
<th><strong>ABSOLUTE MINIMUM</strong></th>
<th><strong>ADEQUATE/RECOMMENDED</strong></th>
<th><strong>GENEROUS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FACILITY</strong></td>
<td>17,500 S.F. 1,630 M²</td>
<td>24,000 S.F. 2,230 M²</td>
<td>29,500 S.F. 2,750 M²</td>
</tr>
<tr>
<td><strong>PLAY YARDS</strong></td>
<td>18,000 S.F. 1,675 M²</td>
<td>21,000 S.F. 2,700 M²</td>
<td>24,000 S.F. 2,920 M²</td>
</tr>
<tr>
<td><strong>VEHICULAR</strong></td>
<td>12,000 S.F. 1,125 M²</td>
<td>25,500 S.F. 2,450 M²</td>
<td>28,000 S.F. 2,720 M²</td>
</tr>
<tr>
<td><strong>TOTAL SITE</strong></td>
<td>47,500 S.F. 4,135 M² .11 A. .45 H.</td>
<td>61,500 S.F. 7,020 M² 1.4 A. .75 H</td>
<td>107,500 S.F. 17,450 M² 4.5 A. 1.6 H</td>
</tr>
</tbody>
</table>

*Calculated from above data. Rounded.*
RELATED ITEMS
NETWORK OF CHILD CARE
HOMES FOR FAMILY CHILD CARE
CENTERS FOR 60 TO 75 CHILDREN
HIGH VISIBILITY IN THE COMMUNITY
FAVORABLE NATURAL FEATURES
DEVELOPMENTALLY-APPROPRIATE PLAY YARDS
OBVIOUS ENTRY
PARKING AND SERVICE AWAY FROM PEDESTRIANS
AND PLAY