

# APPENDICES

## A. THE PROCESS

### BACKGROUND

In August 1989, the Montgomery County Planning Board requested that the Urban Design Division, in cooperation with the Parks Department, prepare recreation guidelines to be used when the Board reviews site plans for proposed subdivision. These private recreational facilities would offer an important supplement to the public park system.

Staff had done in depth research on the subject and presented its findings to the Planning Board in March 1990. Staff proposed the recreation guidelines consist of the following components:

- a. **A method** that establishes the adequacy of recreation facilities for a given population in a proposed site plan and assures consistency and equitability;
- b. **Site and facilities design criteria;** and
- c. **Specifications and standards to ensure safety, ease of maintenance, and durability.**

The Board approved the staff proposal and appointed an Advisory Work Group to assist staff in the further preparation of the guidelines. The Work Group's primary charge was to resolve those issues that require value judgment for determining the adequacy of recreation facilities in a given site plan. The guidelines are the result of the group's work with staff.

### THE ADVISORY WORK GROUP

The Advisory Work Group was established by the Planning Board in June, 1990. The group was selected to represent the various interests as follows:

- Three citizen activists;
- Three developers (specializing in multifamily developments; small single-family developments, and upscale single-family developments);
- A president of a Homeowner Association management company;
- A designer and manufacturer of playground equipment;
- A director of recreation; and

- A lawyer who represents HOA's.

The Work Group held many formal and informal sessions. Members submitted independent comments as well. All aspects and elements of the guidelines were discussed and most were resolved through the consensus of the group.

---

### PROPOSED METHOD FOR EVALUATING THE ADEQUACY OF RECREATION FACILITIES

An important part of these guidelines is a method that provides a standard measure of adequacy. According to the proposed method, the adequacy of the recreation facilities for a given subdivision is evaluated using a point system as follows:

1. The demand of the future residents for recreation is estimated (in points representing number of users) using the Demand Table.
2. The proposed recreation facilities are evaluated for their recreational benefits by a similar point system, using the Supply Table.
3. The provision of recreation facilities is considered adequate when the sum of the supply points matches, within 10%, the sum of the demand points.

This method addresses the various **age groups** of the population and the demographics of the different **housing types**. The values assigned to both the Demand and Supply Tables rely on a judgment of the level of recreation that is considered adequate for the county. It was therefore important that this judgment was made by a group of people that represents the various interests of the community.

---

### DEVELOPING THE DEMAND AND SUPPLY TABLES

The Demand and Supply Tables are based on the premise that their numbers establish a level of adequacy that is considered acceptable. It must therefore be emphasized that it is the balance of these values that establishes the level of recreation.

The recreation demand table was developed as a product of two basic tables (see APPENDIX B):

- a. The Demographic Table, which estimates the numbers for tots, children, teens, adults, and seniors in the four housing types in the demographic data (SFD, TH, Garden Apartments, and High Rise). This table is based on Montgomery County demographic data (see APPENDIX D).
- b. The Conversion Table, which assigns weights that reflect the demand for recreation of a particular population category in a particular housing type. This table allows for value judgments and was therefore developed by the recreation Work Group. It was assumed the demand is affected mostly by housing type. For instance, in high-rise developments, all recreation needs must be met outside of the apartment, while in low density development, a substantial fraction of the recreation needs may

be met within the private yard. The Conversion Table also addresses other assumption the group made: (1) some of the adult recreation needs are met elsewhere, and (2) the tot category is effectively smaller than the actual numbers.

While the Demand Table relies on objective demographic data, the importance of the Supply Table is in its relationship to the demand and the comparative values of facilities, i.e., the value of a tot lot relative to a multipurpose court. In order to provide a rational basis for these values, it was assumed the supply values are a product of two factors, which were developed into tables (see APPENDIX C):

- a. The Utility Factor, the fraction of the recreation demand that is met through the use of a particular facility for each age group. For instance, tennis as a recreational activity would meet 30% of the recreation needs of the adult group. This table relies on value judgments and was therefore developed by the Recreation Work Group and staff.
- b. The Capacity of the particular facility (or the number of users it will accommodate). Table 5 in Appendix C, the Capacity Table, was developed by staff. The capacity is assumed for a period of an average week.

---

#### ASSIGNING VALUES TO THE SUPPLY AND DEMAND TABLE

In order to increase the validity of the values assigned to the tables, an evaluation process was introduced as a basis for the Work Group's effort. Initial values were assigned to all six tables by staff to provide a working model. Staff then selected 11 different approved site plans for subdivisions and evaluated them based on the initial tables. These site plans, which were located in different areas of the county, included different subdivision sizes and different combinations of housing types.

The Work Group was divided into 4 small evaluation groups, each working with a staff member as a facilitator. Each group evaluated 5 - 6 plans for their adequacy of recreation based on the number of units and the resulting population. As a result, each site plan was evaluated by 2 - 3 groups. This evaluation was then compared by the small group to staff's evaluation, and modifications to the initial numbers were proposed. The tables were modified to address the subgroups' comments and discussed by the whole Work Group. These values were discussed in several meetings and were adjusted in accordance with the group's consensus. The final consensus was incorporated into the guidelines.

---

#### SITE DESIGN CRITERIA, FACILITIES GUIDELINES AND SPECIFICATIONS

These guidelines and specifications were initially written by staff, based on the research. They provided the basis for the group's work. Again, the Work Group was divided into three subgroups, each working on a different subject. The subgroups worked efficiently and resolved many issues. The results were presented to the whole Work Group and discussed. The staff draft was modified accordingly, re-

viewed by the members, and the additional comments were incorporated into the guidelines.

---

## CONCLUSIONS

The proposed guidelines promote recreation standards that a representative Work Group considers appropriate for the county. These guidelines represent a consensus of the various group representatives and should, therefore, be acceptable to the county residents, developers, and recreation experts in general. The Work Group will reconvene yearly to discuss any modifications that may be required as the guidelines are implemented.

## B.

## THE RECREATION DEMAND

The Recreation Demand Table (Table 3) is the product of two tables:

- a. The Demographic Table (Table 1) estimates the numbers for Tots, Children, Teens, Adults, and Seniors in the four housing types (Single Family Detached, Townhouse, Garden Apartments, and High-Rise). This table is based on Montgomery County demographic data (see APPENDIX C).
- b. The Conversion Table (Table 2) assigns weights that reflect the demand for recreation of a particular population category in a particular housing type. This table was developed by the Recreation Work Group. It was assumed the demand is affected mostly by housing density. For instance, in hi-rise developments, all recreation needs must be met outside of the apartment, while in low density development, a substantial fraction of the recreation needs may be met within the private yard. The conversion table also addresses other assumptions made by the group: (1) some of the adult recreation needs are met elsewhere, and (2) the number of actual users within the tot category is smaller than the group size.

**TABLE 1 - DEMOGRAPHIC TABLE**

(DEMOGRAPHIC DATA IS FOR 100 UNITS)

Type *	Tots	Children	Teens	Adults	Seniors	Community
SFD I	32	40	36	12	16	336
SFD II	32	40	36	212	16	336
SFD III **	28	24	20	212	16	336
TH	28	24	20	184	8	264
Garden	14	14	12	148	16	204
Hi-Rise	5	4	4	96	46	155

\* See page 66 for Definitions

\*\* The demographic data for SFD III was modified by the Advisory Workgroup, based on information from builders that households in small lots of detached homes tend to be similar to those in townhouses.

---

**DEFINITIONS**

- SFD I: Single-Family Detached, lots 20,000+ s.f.
- SFD II: Single-Family Detached, lots 7,000 - 19,999 s.f.
- SFD III: Single-Family Detached and Semi-Detached, lots under 7000 s.f.
- TH: Townhouses and Single-Family Attached
- GARDEN: Multiple-Family, 4 stories or less
- HI-RISE: Multiple-Family, 5 stories or more

---

**TABLE 2 - CONVERSION TABLE**

Type *	Tots 0 - 4	Children 5 - 11	Teens 12 - 17	Adults 18 - 64	Seniors 65 +
SFD	10.3	0.5	0.6	0.4	0.5
SFD II	0.4	0.6	0.7	0.5	0.7
SFD III	0.5	0.8	0.8	0.6	0.8
TH	0.6	0.9	0.9	0.7	0.9
Garden	0.7	1	1	10.8	1
Hi-Rise	0.7	1	1	10.8	1

\* See above for Definitions

---

**TABLE 3 - DEMAND POINTS FOR 100 UNITS**

THIS TABLE IS A PRODUCT OF TABLES 1 AND 2

Type *	Tots 0 - 4	Children 5 - 11	Teens 12 - 17	Adults 18 - 64	Seniors 65 +
SFD I	9.6	20	21.6	64.8	8
SFD II	12.8	24	25.2	106.0	11.2
SFD III	14	19.2	23	127.2	12.8
TH	16.8	21.6	8	128.8	7.2
Garden	10.8	14	12	118.4	16
Hi-Rise	3.5	4	4	76.8	46

\* See above for Definitions

## C. VALUES FOR RECREATION FACILITIES

The Supply Values (Table 6) were assumed to be a product of two factors, which were developed into tables:

- a. The Utility Factor, which expresses the assumed fraction of the recreation demand that is met through the use of a particular facility. Table 4, the Utility Table designates values for each population category. For instance, it was assumed that tennis as a recreational activity would meet 30% of the recreation needs of the adult category.
- b. The assumed capacity of the particular facility (or the number of users it will accommodate). In Table 5, the Capacity Table, the capacity is assumed for an average week.

**TABLE 4 - RECREATION FACILITIES - UTILITY FACTOR**

THIS TABLE WAS DEVELOPED BY STAFF AND THE RECREATION WORK GROUP

Type	Tota	Children	Teens	Adults	Seniors
Tot Lot	.30	.10	.00	.10	.10
Play Lot	.00	.20	.10	.10	.10
Multi-Age Playground	.30	.17	.01	.10	.10
Picnic	.10	.10	.15	.15	.25
Open Play Area	.30	.30	.30	.25	.20
Multipurpose Court	.20	.20	.30	.15	.05
Tennis	.00	.10	.30	.30	.20
Play Field	.10	.25	.25	.25	.10
Bike System	.05	.10	.15	.15	.10
Pedestrian System	.10	.20	.20	.45	.45
Nature Trails	.05	.10	.15	.15	.15
Natural Areas	.00	.05	.10	.10	.05
Wading Pool	.15	.05	.00	.05	.05
Swimming Pool	.05	.20	.20	.25	.15
Indoor Pool	.10	.20	.20	.30	.40
Indoor Community Space	.10	.15	.30	.30	.40
Indoor Exercise	.00	.10	.10	.20	.15
Community Garden	.10	.10	.10	.20	.25

**TABLE 5 - CAPACITIES FOR RECREATION FACILITIES**

THIS TABLE WAS DEVELOPED BY STAFF. THE DISTRIBUTION OF USERS IS REFLECTIVE OF THEIR PROPORTION IN THE TOTAL POPULATION.

Type	Tots	Child	Teens	Adults	Seniors
Tot Lot	30	20	0	40	10
Play Lot	0	45	30	40	0
Multi-Age Playground	30	65	30	70	10
Picnic	10	10	10	33	8
Open Play	20	30	40	120	10
Multipurpose Court	15	50	50	70	50
Tennis	0	15	35	80	6
Play Field (Regulation)	20	60	80	160	20
Play Field (Junior)	20	60	80	20	20

The following facilities are assumed to have an adequate capacity to accommodate the population of the proposed project: Hiker/Biker System, Pedestrian System, Nature Paths, Natural Areas, Wading Pool, Swimming Pool, Indoor Facilities, and Community Gardens. Guidance for defining these capacities are found in Facilities Guidelines.

**TABLE 6 - THE SUPPLY TABLE**

THIS TABLE IS A PRODUCT OF TABLES 4 AND 5.

Type	Tots	Children	Teens	Adults	Seniors
Tot Lot	9	2	0	4	1
Play Lot	0	9	3	4	1
Multi-Age Playground	9	11	3	7	1
Picnic	1	1	1.5	5	2
Open Play	6	9	12	30	2
Multipurpose Court	3	10	15	10.5	2.5
Tennis	0	1.5	0.5	24	1
Play Field (Regulation)	2	15	20	40	2
Play Field (Junior)	2	15	15	30	2

Facilities that are assumed to be large enough for the project are not assigned recreation points per se. Rather, their recreation values are estimated by multiplying their utility factor with the respective demand points.

**D. DEMOGRAPHIC ANALYSIS**

The demographic data used are based on the 1987 Montgomery County Census Update. These numbers may be revised when new data becomes available. The household composition is based on unit type.

**SINGLE-FAMILY DETACHED**

There is much variation within the County. Since we are dealing with new subdivisions, we used the profiles that are typical of newer areas - e.g. Olney, Fairland, Germantown, Gaithersburg.

- Household Size .....3.35 persons
- Children 0 - 4 .....9% of total population
- Children 5 - 17 .....23% of total population
- Seniors .....5% of total population

Yield per 100 dwelling units:

- Total Population.....336
- Total Children .....108
- Ages 0 - 4.....32
- Ages 5 - 17 .....76
- Seniors .....16

**TOWNHOUSE**

There is little variation in numbers among planning areas. County averages were used.

- Household Size .....2.64 persons
- Children 0 - 4 .....10.3% of total population
- Children 5 - 17 .....16.5 % of total population
- Seniors .....3.7% of total population

Yield per 100 dwelling units:

- Total Population.....264
- Total Children .....72
- Ages 0 - 4.....28
- Ages 5 - 17 .....44
- Seniors .....8

**GARDEN APARTMENTS**

Because there is little variation, county averages were used.

- Household Size .....2.03 persons
- Children 0 - 4 .....6.74% of total population
- Children 5 - 17 .....12.4% of total population

- Seniors ..... 8.1% of total population

Yield per 100 dwelling units:

- Total Population ..... 204
- Total Children ..... 40
- Ages 0 - 4 ..... 14
- Ages 5 - 17 ..... 1726
- Seniors ..... 16

---

**HI-RISE  
APARTMENTS**

These typically consist of young households or senior people. County averages were used although it is acknowledged that some high-rises may house seniors only, while others may have predominantly younger residents.

- Household Size ..... 1.55 persons
- Children 0 - 4 ..... 3% of total population
- Children 5 - 17 ..... 5% of total population
- Seniors ..... 30% of total population

Yield per 100 dwelling units:

- Total Population ..... 155
- Total Children ..... 13
- Ages 0 - 4 ..... 5
- Ages 5 - 17 ..... 8
- Seniors ..... 46