SPACE DESIGN CRITERIA PROJECT
PROJECT REPORT, 1955 AND 1956

BY WILLIAM H. KAPPLE
PROJECT DIRECTOR

JAMES T. LENDRUM
DIRECTOR, SMALL HOMES COUNCIL

UNIVERSITY OF ILLINOIS SPACE UTILIZATION COMMITTEE
Chairman — Rudard A. Jones, Professor of Architecture
Acting Chairman — William H. Kapple,
Research Assistant Professor of Architecture
Dr. Richard Dewey, Associate Professor of Sociology
Helen E. McCullough, Assistant Professor of
Home Economics
TABLE OF CONTENTS

A. Objectives
B. Definitions
C. Test Procedure
D. Plans and Furniture Arrangement
E. Families' Reaction
F. Multi-Purpose Room Planning Standards

Appendix 1—Bibliography
Appendix 2—Activity Areas of the House
INTRODUCTION

In order to minimize the accumulation of extraneous data, the Space Utilization Committee agreed that it would be desirable to concentrate on the study of space requirements for a limited area of the house. Furthermore, it was agreed that it would be desirable to concentrate on the study of space requirements for new living patterns and the use of new kinds of equipment which are being enjoyed by a larger and larger proportion of American families today, especially including the television set. And finally, it was agreed that it is desirable that this program continue to be concerned with the establishment of space standards for quality houses, not just minimum houses.

At the present time, there is a strong trend toward raising the standard of new housing by increasing the overall house size. In order to plan those enlarged houses intelligently, there is a critical need for standards to guide the planning and design of areas for family activities. The living room or living-dining room alone is not sufficient for all of these activities. For this reason, it was deemed advisable to concentrate the next year’s space study on the open areas and furniture space for all activities normally carried on in the living room, dining room or multi-purpose room. Special emphasis will be given to the study of the multi-purpose room because it is the opinion of the committee that this technique for expansion of the family living area is one of the least understood and most important improvements in house planning which will become more and more popular in the near future.

a. See definition in Section B.
A. OBJECT AND SCOPE OF THE INVESTIGATION

1. Primary Objectives

Following are the questions to be answered by the study of data accumulated under the Space Utilization Program during 1955-1956:

A. Which activities influence the space requirements of the multi-purpose room?

B. What are the space requirements for these activities? The analysis shall consider separately the needs for:

(1). Furniture
(2). Clearance for Activity
(3). Free Area for Activity
(4). Total Room Area

C. Which activities migrate away from the living room, bedroom and other rooms when the multi-purpose room is available and adequate?

D. What savings in space are possible in these other rooms due to the elimination of these activities?

E. What advantages or disadvantages result from the provision or omission of the multi-purpose room, besides those influencing activities?

2. Activities to be Studied

The first question under Primary Objectives was tentatively answered in order to form a basis for scheduling the questions to be asked and data to be accumulated. To do this, all of the activities on Maude Wilson’s “Check List—Functions of the House”(1) were reviewed and classified as either:

a. For example, see (2) Appendix 3, page 3-I-2 (2) — A5. This answer mentions the advantages of: (1) Feeling of Openness (2) Better Ventilation
A. Activities to be studied for one of the following reasons:

(1). Multi-purpose room activities.
(2). Activities in adjoining kitchen.
(3). Activities elsewhere that might occur in the multi-purpose room.

B. Activities not to be studied for one of the following reasons:

(1). Strictly a farm activity.
(2). Always in the bathroom.
(3). No baby in the family.
(4). No measurable effect on plans or plan has no measurable affect on the family.
(5). Strictly storage problem.
(6). Will not affect selected families.
(7). In bedroom, regardless of size.
(8). Always outside or in garage.
(9). Basement house only.

For a complete listing, see Appendix 2, "Activity Areas of the House".
B. DEFINITIONS

Multi-Purpose Room

A multi-purpose room is an area within the house that:

1. Is isolated from the living room.
2. Has large windows; i.e., 1% to 2% of the floor area.
3. Is at least 100 square feet in area.
4. Is not located in the basement; i.e., all window sills are above grade.
5. Has an outside entrance.
6. Can be used for at least three of the following activities:

   (a). Recreation
   (b). Eating
   (c). Sewing
   (d). Laundry
   (e). Desk Work
   (f). Sleeping (Napping or Double-up Sleeping when housing guests)
C. TEST PROCEDURE

Data to be Recorded

Fifteen different sets of information were collected from the first three families. See Table C-1. Six of these proved valuable and should be obtained from families IV and V. See Table C-2. In addition, one new kind of information, "Activity Space Drawings," should be obtained in order to clearly identify the critical positions of the human body that determine space requirements and the dimensional relationship with the surrounding furniture and walls.

Primary attention will be given to a study of the activities that would normally be carried on in the multi-purpose room. See Appendix 2 for a detailed breakdown of these activities. Limited attention will be given to the study of activities carried on exclusively in the kitchen and activities that might occasionally overflow into the multi-purpose room.

Other than the time log, no attention will be given to activities that never occur in the multi-purpose room or kitchen, house cleaning, or storage problems.
<table>
<thead>
<tr>
<th>FORMS:</th>
<th>Time of Accumulation</th>
<th>Quantity of Information</th>
<th>Data in Final Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric Counter Readings</td>
<td>2 to 3 weeks during each plan</td>
<td>100 to 225 per plan</td>
<td>Page 169</td>
</tr>
<tr>
<td>Pedometer Readings</td>
<td>2 weeks during each plan</td>
<td>10 to 15 readings per plan</td>
<td>Appendix I</td>
</tr>
<tr>
<td>Door Counter Readings</td>
<td>2 weeks during each month</td>
<td>40 to 50 readings per plan</td>
<td>Appendix II and pages 97-164</td>
</tr>
<tr>
<td>Storage Questionnaire</td>
<td>Interview during each plan</td>
<td>64 questions per interview</td>
<td>Appendix III and pages 97-164</td>
</tr>
<tr>
<td>Preliminary Interview</td>
<td>Prior to time family moved into test house</td>
<td>227 questions per interview</td>
<td></td>
</tr>
<tr>
<td>Schedule A (Livability Questionnaire)</td>
<td>Within 24 hours after test family moved into each plan</td>
<td>27 questions per interview</td>
<td></td>
</tr>
<tr>
<td>Schedule B (Livability Questionnaire)</td>
<td>After family lived 3.5 weeks in each plan</td>
<td>164 questions per interview</td>
<td></td>
</tr>
<tr>
<td>Family Activities (Time Schedule)</td>
<td>14-day log during the middle of each test period</td>
<td>1000 to 1250 time entries per log</td>
<td>Pages 17-65</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DRAWINGS:</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearances for Household Activities</td>
<td>Once during each plan</td>
<td>1 or 2 plans with 10 or 15 measurements and critical notes by recorder</td>
<td>Page 144 and on</td>
</tr>
<tr>
<td>Furniture Placement</td>
<td>Once during each plan</td>
<td>1 or 2 plans</td>
<td>Pages 74-93</td>
</tr>
<tr>
<td>Elevations Showing Storage in Kitchen</td>
<td>Sketch made during each plan</td>
<td>1 or 2 sketches</td>
<td></td>
</tr>
<tr>
<td>Desired Plans</td>
<td>After each plan, family sketched desired test plan</td>
<td>1 plan per change</td>
<td>Pages 184-193</td>
</tr>
<tr>
<td>Suggested Plan Changes</td>
<td>After each plan, family sketched suggested plan change</td>
<td>1 plan per change</td>
<td>Pages 173-182</td>
</tr>
<tr>
<td>TEXT:</td>
<td>Time of Accumulation</td>
<td>Quantity of Information</td>
<td>Data in Final Report</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------------</td>
<td>--------------------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>Informal Interviews</td>
<td>Interview at middle of each test period</td>
<td>1 paragraph recording interview from memory</td>
<td></td>
</tr>
</tbody>
</table>

**PHOTOGRAPHS:**

- One photographic session with each family during each plan
- 3 to 10 photos per plan
TABLE C-2

TEST PROCEDURE

Data to be Recorded for Families IV and V

<table>
<thead>
<tr>
<th>Title</th>
<th>Time of Accumulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Preliminary Livability</td>
<td>Prior to time family occupies Test Dwelling</td>
</tr>
<tr>
<td>Schedule</td>
<td></td>
</tr>
<tr>
<td>B. Furniture Placement Drawings</td>
<td>Normal: After 1-1/2 to 2 weeks in new room arrangement</td>
</tr>
<tr>
<td></td>
<td>Special: Same as normal if possible</td>
</tr>
<tr>
<td>C. In Formal Interview</td>
<td>After 1-1/2 to 2 weeks in new room arrangement</td>
</tr>
<tr>
<td>D. Time Log. 7:00 a.m. until</td>
<td>14-day interval after two weeks in new plan</td>
</tr>
<tr>
<td>Midnight</td>
<td></td>
</tr>
<tr>
<td>E. Schedule &quot;B&quot;</td>
<td>After 5 weeks in new plan (i.e., must follow analysis of Time Log)</td>
</tr>
<tr>
<td>F. Activity Space Drawings</td>
<td>After analysis of Schedule &quot;B&quot; and with family members in place</td>
</tr>
<tr>
<td>G. Photographs</td>
<td>Along with activity space sketches and measurements</td>
</tr>
</tbody>
</table>
APPENDIX 2

ACTIVITIES OF THE HOUSE
APPENDIX 2

Activities of the House

All of the activity areas of the house are herein listed under the major headings and divisions for their analysis. Activities that are not within the scope of the project are also listed under the reason for excluding them. See Reference (1) for the original list on which this table is based.

Activities to be Studied

I. Primary Multi-Purpose Room Activities

   A. Recreation

      1. Radio and Phonograph
         Radio
         Phonograph

      2. Child Play
         Indoor Sand Box
         Floor Space for Play of Young Children — Near Kitchen
         Table Space for Play of Young Children — In or Near Kitchen
         Games (List)
         Desk Space for Children
         Work with Carpenter Tools
         Blackboard Space
         Rough Indoor Play and Exercise
         Hold Shows and Meetings

      3. Playing with Children
         Playing with Children

      4. T. V.
         Watching Television

      5. Entertaining Friends
         Serve Company Meals
         Receive Guests in place other than Family Living Room
         Dancing

      6. Hobbies
         Arrange Flowers
         Work with House Plants
         Place Indoors to Grow Flowers
         Work with Sports Equipment
         Work with Hobbies (list)
7. Reading
   Reading

B. Eating
   See IIB and IIIB

C. Sewing
   8. Sewing
      Sew at machine - usual
      Cut large garments
      Cut small pieces
      Baste and pin
      Do hand sewing
      Use mirror when designing or fitting
      Tie comforters, or quilt

D. Laundry
   9. Hang and take in clothes
      Dry special wash
      Air ironed clothes
      Dry washing indoors

   10. Ironing
      Iron clothes usually
      Press clothes for immediate wear
      Dampen clothes
      Press while sewing
      Sponge and press garments
      Do dry cleaning
      See IV also

E. Desk Work
   11. House Business
      Write checks, keep records, make plans for the household

   12. Studying
      Study away from others in family

   13. Letter Writing
      Write personal letters

   14. Telephoning
      Use telephone

F. Sleeping
   15. Napping
      Lie down during day
      Put young children to nap
16. **Lodging Guests**
   Lodge Guests
   Place for use of Women Guests

G. **Meal Preparation and Cleanup**
   See III

H. **Personal Care**
   See III
II. Secondary Multi-Purpose Room Activities

A. Recreation
   See IA

B. Eating
   1. Eating - family only
      Serve family breakfasts, dinners, suppers - light meals

C. Sewing
   See IC

D. Laundry
   See ID and IID

E. Desk Work
   See IE

F. Sleeping
   See IF

G. Meal Preparation and Cleanup
   See IIIG

H. Personal Care
   2. Dressing and Personal Grooming
      Clean muddy boots and shoes
      Polish shoes
      Dress and undress*
      Place near kitchen for homemaker to use when kitchen
      is not near bedroom
      Wash hair
      Dry hair
      Comb own hair*
      Shave*
      Get weighed*
      Use sun lamp
      Dry wet outer garments

      *Consider for each person

3. Caring for Children
   Help younger children dress
   Cut hair
III. Activities in Adjoining Kitchen

A. Recreation
   See II

B. Eating
   1. Eating - family only

C. Sewing
   See II

D. Laundry
   2. Load and Unload washer
   3. Load and Unload dryer
   4. Hand Laundry
      Do special washing (underwear, baby clothes, etc.)
      See ID also

E. Desk Work
   See II

F. Sleeping
   See I

G. Meal Preparation and Clean-up
   5. Meal Preparation and Clean-up
      Prepare regular meals, including foods (as bread)
      prepared for more than one meal at a time
      Prepare fruits and vegetables for canning
      Process canned fruits
      Check order groceries

H. Personal Care
   See II
PROJECT REPORT
SPACE DESIGN CRITERIA PROJECT
1955 AND 1956