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Virginia Y. Trotter

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**Research Bulletin
186**

May, 1958

**The Existing Space
In Nebraska Multistory
Tee Houses**

**by
Virginia Y. Trotter**

**University of Nebraska College of Agriculture
The Agricultural Experiment Station
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The Author wishes to express her appreciation to Mr. Morton Brunig and the Department of Agricultural Engineering for their help in planning and carrying through the interviews of the study.

**TECHNICAL COMMITTEE FOR REGIONAL RESEARCH IN
FARM FAMILY HOUSING NEEDS AND PREFERENCES***

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SUMMARY

In this manuscript data are presented regarding the space and characteristics of multistory tee-shaped farmhouses.* Six economic areas were arbitrarily chosen for this project carried on by the University of Nebraska Experiment Station. The multistory tee house was found to be most prevalent in the areas of Nebraska included in this study. The sample comprised houses chosen by a method of random sampling. A personal interview was made at each farmhouse by a home economist and an agricultural engineer. Detailed measurements of the entire house and a sketch of the farmstead were made.

The multistory tee houses measured formed characteristic patterns. The size of the majority of the houses varied slightly. In a high percentage the first floor had two rooms in the cross and one or two rooms in the stem of the tee.

The lack of modernization in these houses was conspicuous. About 80 per cent of the houses had no central heating; almost 50 per cent had no water piped into the house; more than 50 per cent had no water heater, and the same percentage had no sewage disposal system. Practically all houses were electrified.

Most of the work-centers in the kitchen could not be classified into any generally accepted shape. Kitchens in most of the houses had inadequate counter and storage space.

The lack of good traffic patterns

* The tee house is shaped like the letter "t," one wing perpendicular to the main portion of the house in such a way that the main portion projects on each side.

in these houses was apparent. Major trafficways made imaginary paths through activity centers in the houses because of the many door openings in rooms.

A definite lack of storage space was noted in almost every house where an interview was made. When the space used for storage was compared to the standards published by the American Public Health Association in 1950, almost all houses sampled failed to meet minimum requirements.

Total living space in the houses was compared to standards published by the American Public Health Association. From this comparison about two-thirds of the houses were found to have floor space adequate for the conduct of basic household activities.

One hundred and three families owned the farms on which they lived, and ninety-nine rented. The families who lived in the rented houses had, in general, fewer modern conveniences than did those in owner-occupied houses.

Almost 60 per cent of the families surveyed were in the stage of the family cycle in which the homemaker had a peak load of work. Half of the couples were forty-five years of age or younger.

The data collected regarding income were available for approximately half of the families. Using the information at hand, the income which occurred most frequently was between \$3,000 and \$4,999.

The placement of the houses on farmsteads was considered satisfactory. More than 75 per cent of the houses were in good condition and

appeared to warrant expenditure for remodeling.

Since the majority of the multistory tee houses in this sample appeared structurally sound and adequate in total living space, the serious lacks and inadequacies can be alleviated by remodeling.

From this information it is recommended the application of this data be used in the following steps.

1. Develop patterns of remodeling with particular emphasis on improved traffic patterns and room use.

2. Formulate plans for increased modernization to meet healthful standards.

3. Develop plans that will save time and energy for the farm families, with emphasis on kitchen planning.

4. Plan the incorporation of storage facilities that will meet the needs of farm families living in these houses.

5. Educate landlords as to the importance of adequate housing for their tenants.

6. Consider family cycle and age of occupants in developing plans for remodeling.

7. Formulate remodeling plans which could be accomplished in step-by-step fashion to allow for variability in farm incomes.

The Existing Space in Nebraska Multistory Tee Houses

By Virginia Trotter¹

INTRODUCTION

Purpose of Study

Many articles have been written about remodeling farmhouses, but few have been based upon actual research findings.

Houses were built forty years ago with little or no regard to the needs of the families that would occupy them. Today these houses are even less able to meet the functions of everyday living in terms of living space, efficient work areas, and available utilities and appliances.

The occupants of existing farmhouses are interested in remodeling; this fact is evidenced from the study "Nebraska Needs and Preferences in Farm Housing." In that sampling it was found that while five per cent of the Nebraska farm families planned to build new homes, 12 per cent planned to remodel their existing homes.²

Remodeling is difficult to plan for in such a way that it will bring about the most satisfactory result for the time and money invested.

¹ Associate Professor and Chairman of the Department of Home Economics, College of Agriculture and Home Economics, University of Vermont.

² Virginia Trotter and Margaret Liston. Research Bulletin 175, Farm Family Housing Needs and Preferences in Nebraska. Lincoln, Nebraska, University of Nebraska. June, 1954.

It is hoped that the present study will point out the extent to which plans of multistory tee houses are similar.

Standards for Adequacy

Any appraisal of family housing carries with it the problem of suitable standards for adequacy. The standards used in this research were developed for new houses, but can be applied to remodeling old houses.

We believe that every dwelling, if it is to contribute to the physical and mental health of the family, should have well organized, effective space for:

1. Sleeping and dressing
2. Personal cleanliness and sanitation
3. Food preparation and preservation
4. Serving food and dining
5. Recreation and self-improvement
6. Extra-familial association
7. Housekeeping
8. Care of infants or of the ill and infirm
9. Circulation between various areas of the dwelling
10. Operation of utilities

It is a reasonable assumption that estimates of the necessary space for the required furniture and equipment, and their convenient use and storage, can contribute to substantial improvement in design.³

These standards were determined to be the best available and were taken as a technique to use in determining the adequacy of space in the Nebraska tee farmhouse of more than one story.

Objectives

This study was made to determine the extent of similarity in the plan of the tee house of more

than one story. Patterns of remodeling will be developed if the similarity of existing houses is justified.

The objectives of this study:

1. To determine the nature of the occupied tee house of more than one story in terms of placement on the farm, condition of the structure, the floor plan, the existing utilities, work areas and storage space.

2. To determine the adequacy of tee houses of more than one story in terms of recommended minimum health requirements and the stage of the family cycle.

3. To suggest recommendations for remodeling the tee house of more than one story.

METHOD AND PROCEDURE

Many farmhouses are built in similar fundamental shapes. The Agricultural Engineering Department at the University of Nebraska noted the types of farmhouses and how often each type occurred. They found that basic shapes of most of the houses could be classified as square, rectangular, tee, or ell, of one or two stories.⁴ The agricultural engineers observed that the tee house of more than one story occurred more frequently than any other type.

To determine the predominant types of dwellings located on the farms in the sampling segments included in this study 1,487 Nebraska

³ American Public Health Association Committee on the Hygiene of Housing. Standards for Healthful Housing. Planning the Home for Occupancy. Chicago. Public Administration Service. 1950 p. 3.

⁴ The ell house is a variation of the tee where the main portion of the house projects only on one side of the perpendicular wing forming a house shaped like the capital "L." For the purpose of this study, houses were classified as being two story if the major wing of the house was more than one story.

houses were observed. About 90 per cent of these houses were occupied and were considered over ten years old. The farmhouses sampled were classified to find which types were prevalent (Table 1).

Tee houses, the greater number of which had more than one story, were found more frequently than any other single type of house. About 20 per cent of all farmhouses typed were multistory tee houses and about 95 per cent of them had been built more than ten years ago. About 15 per cent of the multistory tee farmhouses were not occupied.

The tee house of more than one story was chosen for this study because of the frequent occurrence, its apparent age, and the many remodeling problems which might be anticipated (Figures 1, 2, and 3).

Description of the Sample

To determine the prevalence of all major house types in the six eastern economic areas of Nebraska⁵ a random sample was drawn. All houses within each segment were typed. A resident of each

multistory tee house was interviewed. A sample of 300 houses was recommended as the number desirable for a maximum decrease in the variance of the sample mean for the time and money expended.

From data supplied by the agricultural engineers about 20 per cent of the houses were expected to be multistory tee houses. To obtain 300 interviews it was necessary to survey about 100 segments of fifteen to twenty farmhouses.

These segments were chosen from economic areas 3a, 3b, 4, 5, 6, and 7. Economic areas one and two (the sandhill and panhandle regions) were omitted from the sample because the nature of these areas is such that fewer houses of this type would be expected and the great distance between houses would add considerably to the cost

⁵ State economic areas established by the Bureau of Census in 1951 to be a grouping of counties having similar economic and social characteristics. A complete discussion of these divisions is made in U. S. Bureau of the Census, State Economic Areas, by Donald J. Bogue. U. S. Government Printing Office, Washington, D. C., 1951.

Table 1. Types of houses in the sampling segment, the state of occupancy and the age.

Types of houses	Houses Observed		Occupied		More than 10 years old	
	Number	Percent	Number	Percentage of type	Number	Percentage of type
All houses	1487	100.0	1364	91.7	1360	91.4
Multistory tee	265	17.8	220	83.0	247	93.2
Two story ell	201	13.5	186	92.5	187	93.0
Two story square	167	11.2	160	95.8	155	92.8
Two story rectangle	201	13.5	187	93.0	183	91.0
1½ story square	90	6.1	83	92.2	82	91.1
One story rectangle	162	10.9	142	87.7	146	90.1
One story square	110	7.4	106	96.3	100	90.9
Bungalow	97	6.5	96	98.9	83	85.5
One story ell	58	3.9	53	91.4	55	94.8
One story tee	63	4.2	58	92.1	60	95.2
Ranch	3	.2	3	100.0	1	33.3
Unclassified	70	4.7	70	100.0	61	87.1

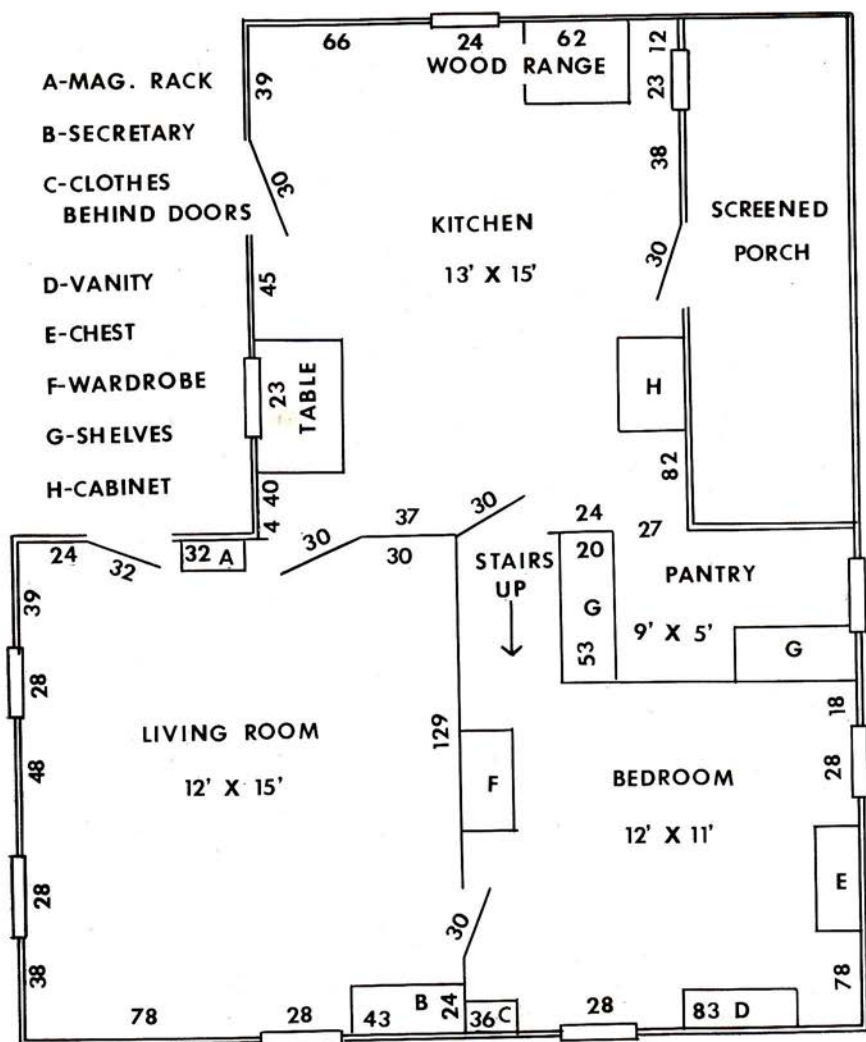


Figure 1. Sample house plan, first floor.

of the survey without appreciable contribution to its accuracy.

The master sampling plan developed by the Bureau of Census was used as the basis for choosing the sample.

In this plan the entire state was divided into Master Sample Sampling Units (MSSUs) consisting of from three to five households.

These MSSUs were numbered within each county. The counties included in this study were numbered in serpentine manner and a cumulative list of the MSSUs was made, totaling 25,986.

To obtain sampling segments with the desired number of houses four contiguous MSSUs were required. Since approximately 100

- A-BUREAU
- B-DRESS RACK
- C-CHEST
- D-TRUNK
- E-BOXES
- F-VANITY
- G-ORANGE CRATES
& SHELVES
WITH CURTAINS

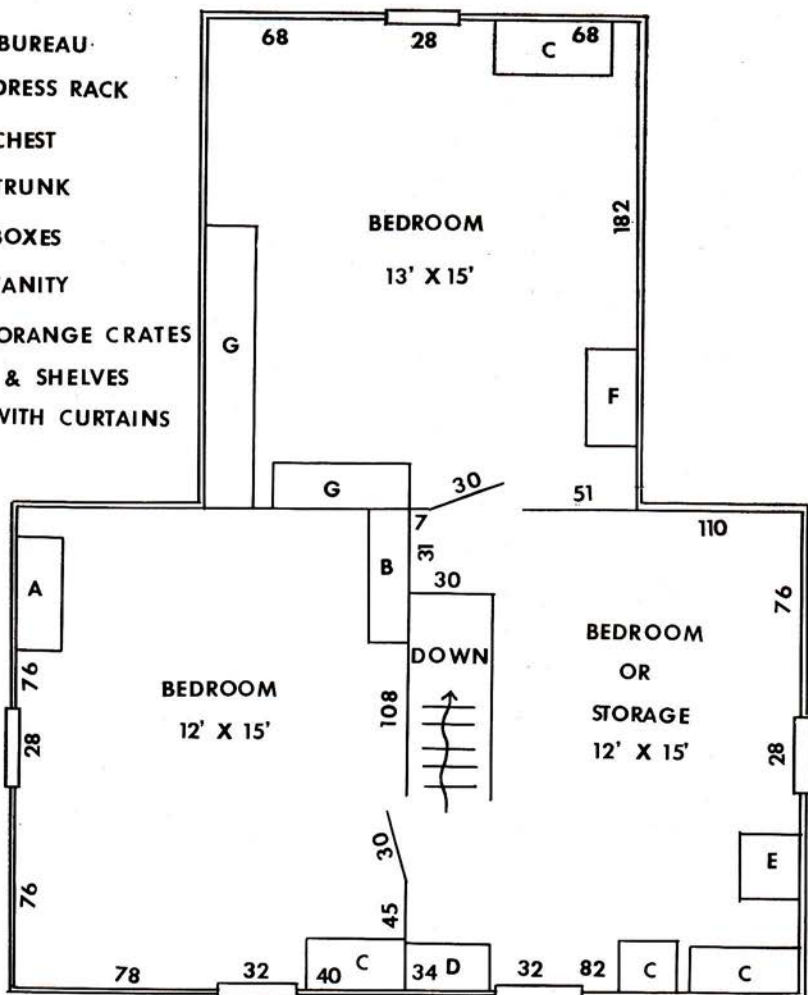


Figure 2. Sample house plan, second floor.

segments of 15 to 20 households each were needed in the sample, a number between one and 259 was chosen from a table of random figures to be the number from which to start. (The number was one.)

The MSSU chosen and the next three MSSUs were outlined on a county map as one sampling segment. The second segment was

designated by adding 259 to the starting number and combining it with the next three MSSUs. This was done through the entire 25,986 MSSUs. A total of 101 segments was outlined on appropriate maps (Figure 4).

Collection of the Data

Upon reaching a segment (a group of four MSSUs chosen as de-

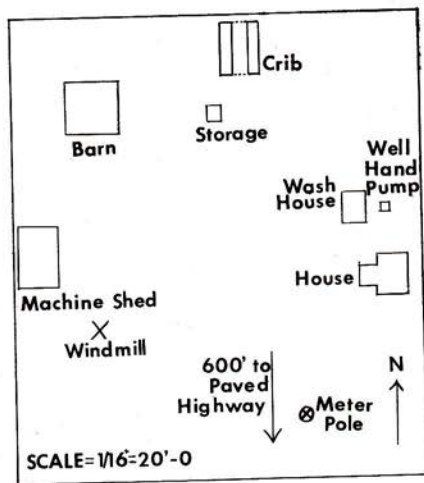


Figure 3. Sample farmstead.

scribed) each farmhouse within its boundary was classified as to type, state of occupancy, and date of construction.⁶ A resident of each occupied tee house of more than one story was interviewed by a home economist and an agricultural engineer.

The two questionnaires filled out by these interviewers included data on the structure and condition of the house, its conveniences, work and living areas, storage facilities, and certain characteristics of the family occupying the dwelling. The agricultural engineer drew a sketch of the placement of the farm buildings and the home economist sketched the floor plan and storage space within the house. From these sketches, scale drawings of the farm building site and the house plan were made.

The interviews took from an

⁶Ten years was chosen arbitrarily as the distinction between a new house and an old one. This age was estimated by viewing the house from the public road or driveway.

hour to an hour and a half depending upon the person interviewed, the size and modernization of the house, and the number of farm buildings. Observations by the interviewers were the basis for many answers.

If the occupant was not at home, subsequent visits were made. If the occupant was still not at home or if a refusal was given, a substitute house was found in the sections adjoining the segment. A sample size of 204 tee houses of more than one story was used in this study.

Summarization of the Data

Data collected were coded into numbers so that a punched card system of processing could be used. Six cards were needed to record data collected on each house. The data were summarized and tabulated. In most comparisons the mode was used as the basis for establishing trends of similarity in the houses surveyed.

CHARACTERISTICS OF THE TEE SHAPED FARMHOUSE OF MORE THAN ONE STORY

The Building Site

The location of the house in relation to the road and other farm buildings is an important consideration when remodeling. About 50 per cent of the Nebraska multi-story tee farmhouses surveyed were less than 100 feet from a public road (Table 2). The majority of the houses were located on public roads which were graveled, and less than one-fourth of the houses were on roads which had no surfacing (Table 3). The farmhouse was placed between the public road and the other farm buildings in about

70 per cent of the sampling (Table 4).

The front entrance was accessible from the driveway in only 33 per cent of the houses. An additional 50 per cent of the farmsteads could be so arranged that the family could use the front entrance if they

Table 2. Distance of the Farmhouse from the Public Road.

Distance	Number and percentage of houses a specified distance from road		
	Feet	Number	Percentage
Less than 100	102	50.0	
101-250	46	22.5	
251-400	13	6.4	
401-550	8	3.9	
551-700	13	6.4	
701-850	.....	.....
851-1000	2	1.0	
1001-1250	1	.5	
1251-5000	16	7.8	
More than 5000	.....	.....
No information	3	1.5	
Total	204	100.0	

Table 3. Type of Surface on Public Road Nearest the Farmhouse.

Type of surface on nearest public road	Number and percentage of houses on a specified type of road	
	Number	Percent
Earth	53	25.9
Gravel	138	67.6
Rock	3	1.5
Paved	4	2.0
Oil mat	2	1.0
Other	2	1.0
No information	2	1.0
Total	204	100.0

Table 4. Relation of Farmhouse to Farm Buildings and Public Road.

Description of Site	Number and percentage of houses with specified farmsite arrangement	
	Number	Percent
House between road and most farm buildings	148	72.5
Farm buildings between house and public road	12	5.9
House beside other buildings	10	4.9
Buildings closer to road than house (not between)	32	15.7
Other arrangement (too far from road to make a difference)	2	1.0
Total	204	100.0

so desired. In only 17 per cent of the farmsteads would the house or the driveway have to be changed before a front entrance would be accessible from the private drive.

About 70 per cent of the houses had well kept yards and about the same percentage had windbreaks; 90 per cent had shade trees in the yard.

The driveway was visible from the kitchen in 70 per cent of the houses. Fifty per cent of the farm buildings were visible from the kitchen in the farmhouses surveyed. A view of both the farm buildings and the driveway from the kitchen was listed as desirable by Nebraska farm women in the "Nebraska Farm Family Needs and Preference Study."⁷

Age of the House

About one-third of the respondents knew the exact age of the houses they occupied. Estimates of the age of the remaining houses were obtained by observing the characteristics of the woodwork, the presence of wainscoting, the type of foundation material and other physical features typical of certain eras of building. From the

⁷ Trotter, op. cit.

Table 5. Age of the Two-Story Tee Farmhouses.

Age of house Years	Total houses reported		Number and percentage of houses with specified age			
	Number	Percent	Known age		Estimated age	
			Number	Percent	Number	Percent
Less than 50	15	7.4	11	16.9	4	3.1
51-60	89	43.6	20	30.8	69	53.1
61-75	74	36.3	27	41.5	47	36.1
Over 75	17	8.3	7	10.8	10	7.7
No information	9	4.4				
Total	204	100.0	65	100.0	130	100.0

comparison of the known age with the estimated age of these houses it may be assumed that the estimates on age were conservative (Table 5).

Exterior, Interior Structural Condition

The mode was determined for structural characteristics of the houses. Ninety-eight per cent of the Nebraska tee farmhouses surveyed were of frame construction. More than 95 per cent had gabled roofs, only two per cent had both hipped and gabled roofs.

The condition of the basic structure of the house should be a determining factor when considering remodeling. For this reason the condition of the foundation, siding and roofing are important. Brick, stone or a combination of materials were most frequently used for the foundation of the tee farmhouses surveyed (Table 7).

When the parts of the house had been built at different times or when the foundation had been repaired, a combination of materials in the foundation was encountered.

The foundation of more than half of the houses in the sampling was good. A sound foundation is necessary before extensive remodeling is practical. Since the rebuild-

ing of a foundation is one of the most expensive operations in remodeling, its condition merits particular attention.⁸

About 70 per cent of the Nebraska tee farmhouses had sound siding. Wood was the most prevalent siding material. The age of the house had little or no bearing on the soundness of the siding. About 80 per cent of the houses were found to have roofing materials in sound condition. Wooden shingles used on two-thirds, and composition roofing was used on about 15 per cent of the multistory tee farmhouses observed. The paint on the exterior of the house was classified good in only 46 per cent of the houses (Table 6).

Table 6. The Condition of the Exterior Paint of the Houses.

Condition of Paint	Number	Percent
Good	94	46.1
Faded	33	16.1
Peeling	20	9.8
Peeling and Faded	32	15.7
Cracked	2	1.0
Cracked and Faded	2	1.0
Siding Needs No Paint	8	3.9
No Paint	8	3.9
No Information	5	2.5
Total	204	100.0

⁸ Dean Carter and Keith R. Hinchcliff. Family Housing. New York. Wiley and Sons. p. 110.

Table 7. Condition of Foundation by Material of Foundation and Age of House.

Material of foundation	Total houses reported		Number and percentage of houses reported with specified condition of foundation																
	No. Pct.		Sound		Cracked		Settled		Cracked and Settled		Fair		Mortar Gone		Part Good Part Cracked		No information		
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	
Stone	40	19.6	22	55.0	3	7.5	4	10.0	7	17.5	1	2.5	1	2.5	1	2.5	2	5.0	
Brick	52	25.5	21	40.4	4	7.7	5	9.6	18	34.6	1	1.9	1	1.9	1	1.9	2	3.8	
Concrete Block	21	10.3	16	76.2	1	4.8	1	4.8	2	9.5	1	4.8	1	4.8	1	4.8	1	4.8	
Concrete	22	10.8	17	77.3	2	9.1	1	4.5	2	9.1	1	4.5	1	4.5	1	4.5	1	4.5	
Tile	3	1.5	3	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
Combination	59	28.9	25	42.4	13	22.0	3	5.1	11	18.6	1	1.7	4	6.8	2	3.4	4	6.8	
No information	7	3.4	3	42.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
Total	204	100.0	107	52.4	23	11.3	12	5.9	40	19.6	2	1.0	1	.5	8	3.9	11	5.4	
Age of house Years																			
Less than 50	15	7.4	11	73.3	0	0.0	1	6.7	2	13.3	0	0.0	0	0.0	1	6.7	0	0.0	
51-60	89	43.6	44	49.4	13	14.6	6	6.7	18	20.2	0	0.0	0	0.0	4	4.5	4	4.5	
61-75	74	36.3	36	48.6	7	9.5	4	5.4	16	21.6	2	2.7	1	1.4	2	2.7	6	8.1	
Over 75	17	8.3	10	58.8	3	17.6	1	5.9	2	11.8	0	0.0	0	0.0	1	5.9	1	5.9	
No information	9	4.4	6	66.7	0	0.0	1	11.1	2	22.2	0	0.0	0	0.0	0	0.0	0	0.0	
Total	204	100.0	107	52.4	23	11.3	12	5.9	40	19.6	2	1.0	1	.5	8	3.9	11	5.4	

Table 8. Condition of Siding by the Material of the Siding.

Siding Material	Number and percentage of houses reported with specified condition of siding																			
	Total houses reported		Sound		Loose		Weathered		Cracked		Cracked and Weathered		Loose Cracked and Weathered		Part Good Part Bad		Fair		No information	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Wood	162	117	72.2	1	.6	15	9.3	3	1.9	4	2.5	8	4.9	4	2.5	2	1.2	8	4.9	
Asbestos shingle	14	13	92.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	7.1
Asphalt roll	1	1	100.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Comp shingle	5	5	100.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stucco	2	2	100.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Combination	4	4	100.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
No information	16	9	56.3	2	12.5	1	6.2	3	1.5	1	6.2	..	..	..	..	..	..	3	18.8
Total	204	151	74.0	3	1.5	16	7.8	3	1.5	5	2.4	8	3.9	4	2.0	2	1.0	12	5.9	

Table 9. Condition of the Roofing by the Material of the Roofing.

Roofing material	Number and percentage of houses reported with specified condition of roofing																	
	Total houses reported		Sound		Weathered		Loose and Weathered		Warped		Weathered and Warped		Weathered Warped Loose		Other		No information	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Wood shingle	136	66.6	113	83.1	11	8.1	5	3.6	..	..	2	1.5	2	1.5	..	..	3	2.2
Composition	31	15.2	25	80.6	2	6.5	..	..	..	..	..	..	..	..	..	..	4	12.9
Combination	8	3.9	6	75.0	1	12.5	..	..	1	12.5	..	..	..	..	..	..	..	..
Asphalt shingle	14	6.9	12	85.7	1	7.1	..	..	..	..	..	..	..	..	1	7.1	..	..
Asphalt roll	4	2.0	2	50.0	1	25.0	1	25.0	..	..	..	..	..	..	..	..	..	..
Other	4	2.0	3	75.0	..	..	1	25.0	..	..	..	..	..	..	..	..	..	..
No information	7	3.4	1	14.3	..	..	..	..	..	..	..	..	..	..	..	..	6	85.7
Total	204	100.0	162	79.4	16	7.8	7	3.4	1	.5	2	1.0	2	1.0	1	.5	13	6.4

The interior state of repair of the house was judged by the condition of the plaster and floors. About 70 per cent of the houses had sound plaster, and about 65 per cent had good floors (Tables 10 and 11).

From the foregoing information (Tables 6 to 11) it is apparent that the age of the house is not the important factor in determining the apparent condition of the structure. Instead, each house must be judged on the basis of its present state of repair, and thus the practicability of remodeling established.

THE HOUSE PLAN

In order to determine whether or not patterns for remodeling tee houses would be possible a comparison of the size and arrangement of the rooms in the houses was necessary.

Room Arrangement in Cross of Tee

All of the houses had space for two rooms in the cross of the tee⁹ in both the first and second floor. Remodeling done before the interview was made had changed the division of the space in some of the houses (Table 12).

Room Arrangement in Stem of Tee

The room arrangement in the stem of the tee was more varied. More than two-thirds of the houses had only one room in the stem and

about half of these had a second story room on the stem of the tee (Table 13).

Size of Tee House

The tee houses of more than one story in this study fall into a pattern of sizes. Remodeling recommendations will be simplified if the trend is followed through the complete study. Although some variation in the overall dimensions of the houses was found, in about 95 per cent of the houses measured the width of the cross of the tee was within the range of 12 to 16 feet, with a width of 14 feet observed in about two-thirds of the houses. The length of the cross of the tee was in the range 22 to 30 feet in about 92 per cent of the houses, with a length of 24 to 26 feet most common.

The stem of the tee was generally about the same width as the cross, with 50 per cent of the stems 14 feet wide and 90 per cent in the range 12 to 16 feet. The most common length of the stem observed was 16 feet (over one-fourth of the houses), and about 70 per cent were within the range 14 to 20 feet. The measurements discussed are inside measurements.

About 50 per cent of the houses contained between 180 and 260 square feet in the stem. Forty per cent of the houses had between 320 and 370 square feet in the cross of the tee (Tables B-1 and B-2).

The distribution of square feet in the stem and in the cross does not vary to any great extent, but is concentrated close to the median (Table B-3). The mean of the size of the houses was also computed (Table B-4).

⁹ The cross of the tee refers to the major portion of the house, the stem to the wing which is perpendicular to it.

Table 10. The condition of the Plaster by the Age of the House.*

Age of house Years	Number and percentage of houses reported with specified condition of plaster															
	Total houses reported		Cracked		Loose		Sound		Cracked and Loose		Fair		Wall Board		No infor- mation	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Less than 50	15	7.4	..	..	..	..	15	100.0	..	..	..	..	..	..	..	..
51-60	89	43.6	8	9.0	13	14.6	58	65.2	5	5.6	3	3.4	1	1.1	1	1.1
61-75	74	36.3	1	1.3	13	17.6	50	67.6	3	4.1	2	2.7	..	..	5	6.7
Over 75	17	8.3	1	5.9	3	17.6	11	64.7	1	5.9	..	..	..	..	1	5.9
No information	9	4.4	..	..	1	11.1	7	77.8	..	..	..	..	..	..	1	11.1
Total	204	100.0	10	4.9	30	14.7	141	69.1	9	4.4	5	2.5	1	.5	8	3.9

* The writer assumed that the original plaster was in place.

Table 11. The Condition of the Wood Floors by the Age of the House.

Age of house Years	Number and percentage of houses reported with specified condition of floors																			
	Total houses reported		Not Level		Warped		One Thickness		Good		Warped, not level		Fair		Both Good & Bad		Good, not level		No infor- mation	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Less than 50	15	7.4	1	6.7	..	..	..	..	13	86.6	..	..	..	..	1	6.7	..	..	..	..
51-60	89	43.6	14	15.7	3	3.4	1	1.1	62	69.7	4	4.5	1	1.1	1	1.1	2	2.2	1	1.1
61-75	74	36.3	14	18.9	5	6.7	3	4.1	38	51.4	2	2.7	2	2.7	5	6.7	2	2.7	3	4.1
Over 75	17	8.3	3	17.6	1	5.9	..	..	7	41.1	..	..	2	11.8	1	5.9	2	11.8	1	5.9
No information	9	4.4	2	22.2	..	..	..	..	6	66.7	..	..	..	..	..	..	..	..	1	11.1
Total	204	100.0	34	16.7	9	4.4	4	2.0	126	61.8	6	2.9	5	2.4	8	4.0	6	2.9	6	2.9

Table 12. Room Divisions in the Cross of the Tee.

Rooms on First Floor	Rooms on Second Floor	Number and percentage of houses reported as having specified room divisions	
		Number	Percent
One room	Two rooms	2	1.0
One room	Three rooms	....	....
One room	Four rooms	....	....
Two rooms	One room	4	2.0
Two rooms	Two rooms	168	82.3
Two rooms	Three rooms	15	7.3
Two rooms	Four rooms	1	.5
Three rooms	One room	....	....
Three rooms	Two rooms	9	4.4
Three rooms	Three rooms	3	1.5
Three rooms	Four rooms	....	....
Four rooms	One room	....	....
Four rooms	Two rooms	1	.5
Four rooms	Three rooms	....	....
Four rooms	Four rooms	1	.5
Total		204	100.0

Openings in Tee House

The number of openings in each room depended upon room placement with respect to the rest of the original tee rather than upon the room use. Seventy-five per cent of the houses with only one room in the stem had seven, eight, or nine openings. Two or three of these openings were windows, one or two outside doors, and three, four, or five inside doors. Most of the houses had about two openings on each wall except the wall where the stem of the tee joined the cross.

On this wall there were frequently more than two openings.

Fewer openings were found in the rooms in the cross of the tee. Four, five, or six openings were found most frequently; of these two or three were window, two or three inside doors and not more than one outside door. One or two openings were found on each wall of most of these rooms.

Hallways and Stairways

Hallways on the first floor were found in only 29 per cent of the

Table 13. Room Divisions in the Stem of the Tee.

Rooms on First Floor	Rooms on Second Floor	Number and percentage of houses reported as having specified room division	
		Number	Percent
One room	No room	68	33.3
Two rooms	No room	31	15.2
One room	One room	71	34.8
Two rooms	Two rooms	24	11.7
Two rooms	One room	5	2.5
One room	Two rooms	3	1.5
Three rooms	Three rooms	1	.5
One room	Three rooms	1	.5
Total		204	100.0

Table 14. Placement of Downstairs Hallways.

Placement of Halls	Number and Percentage of Houses Reported	
	Number	Percent
None	144	70.6
From front entrance to stairs	12	5.9
From dining room to bath	...	....
From living room to stairs	5	2.4
From back door to kitchen	10	4.9
From front entrance to stairs and bath	2	1.0
From kitchen to stairs	10	4.9
Central hallway	12	5.9
Other	9	4.4
Total	204	100.0

houses (Table 14). About 70 per cent of the houses had stairs that opened onto a second floor hallway. The stairway opened directly into a bedroom or storage room in about 30 per cent of the houses.

About half of the stairways were located between the two rooms in the cross of the tee. The entrance to the stairway of the mode house was in the stem of the tee (Table 15).

The height of stair risers did not vary between the first and second floor of most of the houses surveyed. Almost 75 per cent of these stairways had no landings or turns (Table 16). Forty-five per cent of the stairs had seven feet of headroom (Table 17). About half of the steps were from 29 to 32 inches wide, had an eight inch rise and a nine or ten inch tread (Table 18 and 19).

Minimum measurements for stairways of six feet eight inches headroom and of 36 inch width have been established. It is important that all steps have the same riser height. The recommended measurements for steps between first and second floor are a seven inch rise and a ten inch tread.¹⁰

¹⁰ Carter and Hinchcliff. op. cit. p. 166.

Second Floor of Tee House

The second floor of most of the multistory tee houses had two or three rooms (Table 20). Two-thirds of these had sloping ceilings, the mode having a forty-five degree slope (Table 21). In about half of the houses the slope of the second story ceiling began so low on the wall that it interfered with furniture placement and use of the floor space (Table 22).

Basements

Basements were found in 70 per cent of the houses surveyed. Only 11 per cent of the sample had full basements. Most of the basements had finished walls but had no method of drainage (Tables 23 and 24). Very few of the basement stairs in this sample met the specifications recommended by Carter and Hinchcliff¹¹ (Tables B-7 to B-10).

Forty per cent of the families used the basement for storage while 30 per cent did not specify that the basement space was used at all (Table 25).

Kitchens and Bathrooms

The kitchen of each multistory tee house was classified as to the

¹¹ Ibid.

Table 16. Description of the Stairway to Second Floor by the Characteristics of the Risers.

Description of stairway	Total houses reported	Number and percentage of houses having specified features					
		Risers same height		Risers different heights		No information	
	Number	No.	Pct.	No.	Pct.	No.	Pct.
Straight	148	137	92.6	8	5.4	3	2.0
Wind	37	34	91.9	1	2.7	2	5.4
Landing	3	3	100.0	...	...	...	...
Landing and Wind	8	3	37.5	2	25.0	3	37.5
No information	8	2	25.0	...	...	6	75.0
Total	204	179	87.7	11	5.4	14	6.9

Table 17. Headroom Dimensions of Stairway to Second Story.

Headroom		Number and percentage of stairways with specified dimensions	
Feet	Inches	Number	Percent
5	0	1	.5
5	6	11	5.4
6	0	32	15.7
6	6	9	4.4
7	0	93	45.6
7	6	6	2.9
8	0	17	8.3
No information		35	17.2
Total		204	100.0

Table 18. Width of Steps of Stairways to Second Story.

Width of step Inches	Number and percentage of stairways with specified dimensions	
	Number	Percent
25-28	10	4.9
29-32	93	45.6
33-36	54	26.5
37 or more	14	6.8
No information	33	16.2
Total	204	100.0

Table 19. Dimensions of Risers and Treads of Stairways to Second Story.

Dimensions Inches	Number and percentage of stairways with specified dimensions			
	Height of riser		Width of tread	
	No.	Pct.	No.	Pct.
7	29	14.2	2	1.0
8	119	58.3	10	4.9
9	36	17.6	34	16.6
10	3	1.5	20	9.8
11	1	.5	2	1.0
No information	16	7.8	136	66.7
Total	204	99.9	204	100.0

Table 20. Number of Rooms on Second Floor.

Number of rooms	Number and percentage of houses with specified number of rooms	
	Number	Percent
2	90	44.1
3	81	39.7
4	24	11.8
5	8	3.9
6	1	.5
Total	204	100.0

Table 21. Angle of Slope in Ceilings of Second Story Rooms.

Angle of slope	Number and percentage of ceilings with specified degree of slope	
	Number	Percent
None	20	9.8
33°	20	9.8
45°	98	48.1
Slope but degree not known	37	18.1
No information	29	14.2
Total	204	100.0

Table 22. Height of Beginning of the Slope in Second Story Rooms.

Height of wall before slope begins	Number and percentage of walls of specified height	
	Number	Percent
Less than 4	18	8.8
4-less than 5	21	10.3
5-less than 6	35	17.2
6-less than 7	7	3.4
7-more	2	1.0
Slope but height of wall not known	72	35.3
No slope	20	9.8
No information	29	14.2
Total	204	100.0

Table 23. Material in Basement Walls.

Material	Number and percentage of houses with specified feature		Percentage of houses with basements with specified feature
	Number	Percent	Percent
Stone	32	15.7	22.1
Brick	32	15.7	22.1
Concrete block	15	7.3	10.3
Concrete	24	11.8	16.6
Tile	5	2.5	3.4
Dirt	7	3.4	4.8
No basement	59	28.9	.....
Combination	17	8.3	11.7
No information	13	6.4	9.0
Total	204	100.0	100.0

Table 24. Drainage of Basement.

Method of drainage	Number and percentage of houses with specified feature		Percentage of houses with basements with specified feature
	Number	Percent	Percent
Floor drain	13	6.4	9.0
Pump	2	1.0	1.4
No basement	59	28.9	.....
Other	3	1.5	2.0
None	113	55.4	77.9
No information	14	6.8	9.7
Total	204	100.0	100.0

Table 25. Use of Basement.

Use	Number and percentage of families reporting specified use		Percentage of houses with basements where families reported specified use
	Number	Percent	Percent
Storage	82	40.2	56.6
Water heater	37	18.1	25.5
Pump	30	14.7	20.7
Washer	15	7.4	10.3
Bath	5	2.5	3.4
Dairy equipment	6	2.9	4.1
Freezer	3	1.5	2.1
Water softener	1	.5	.7
Water storage	1	.5	.7
No use specified	45	22.1	31.0
No basement	59	28.9	.....

shape of the existing work area, U, L, two wall, single wall, or no planned arrangement. The amount of storage and work space was studied in relationship to the arrangement of the kitchen, in order to ascertain whether the work areas in kitchens of any one specified shape had more space than did those of any other. More than half of the work centers could not be classified into any specified shape (Tables B-11 to B-16). Many of those with some semblance of arrangement still had little work and storage space.

One of the conditions noted in Nebraska tee farmhouses surveyed was the lack of kitchen sinks and

drains. About 20 per cent of the houses had no sink in the kitchen while ten per cent of the kitchens had sinks with no drains. Twenty per cent of the houses had sinks but the water had to be carried into the house.

About one-fifth of the houses had sinks that were not enclosed. An additional one-fifth of the sinks were enclosed, but were not part of a counter top.

Another remodeling problem presented in the tee houses studied was the bathroom. More than 50 percent of the houses had rooms the families designated as bathrooms. This room did not necessarily have a flush toilet, lavatory

Table 26. Bathrooms and Bathroom Facilities.

Bathroom facilities	Number and percentage of houses				Drain no water		Drain cold water		Drain hot and cold water	
	Without specified facilities		With specified facilities		No.	Pct.	No.	Pct.	No.	Pct.
	No.	Pct.	No.	Pct.						
Bathrooms	106	52.0	98	48.0	....	....	....	....	.....	.....
Flush toilet	121	59.3	79*	38.7	....	....	....	....	.....	.....
Shower bath	179	87.7	25	12.3	....	....	....	....	.....	.....
Lavatory	109	53.4	81**	39.7	5	2.5	8	3.9	82**	40.2
Bath tub	117	57.4	87	42.6	10	4.9	6	2.9	71***	34.8

* 4 had 2 flush toilets.

** 14 had 2 lavatories.

*** 1 had 2 tubs hot and cold water.

or bathtub with hot or cold water (Table 26). In the houses where this designated room had been built these facilities could usually be added at a minimum cost and inconvenience. In houses without this space the bathroom should be incorporated into the overall remodeling program.

Storage

Storage space was one of the most serious inadequacies observed in the multistory tee houses surveyed. Many homemakers used one or more of the available bedrooms for storage (Table 27).

The amount of storage space provided in closets and storage furniture was measured and totaled in square feet of floor space. In addition, each homemaker was asked if her storage space was adequate. Those women who did not believe they had adequate storage were asked in which rooms they would like more. Although a number of women expressed doubts that enough storage could ever be provided, indications from the tabulated results are that women with greater amounts of storage space

tend to be more satisfied with their storage than the women with lesser amounts.

MODERNIZATION

The multistory tee houses in this sample had more modern conveniences than was shown in the 1940 census for all Nebraska farm families.¹² Ninety-eight per cent of the sample surveyed had electricity at least for lighting (Table 28).

Water was piped into about 50 per cent of the houses, and about 45 per cent had a sewage disposal system. More than 40 per cent had water heaters, but only three per cent had water softener units (Table 29). Central heat was found in less than 20 per cent of the houses, and not all of these could heat all of the rooms (Table 30).

Mechanical refrigerators and power washers were found in nearly all houses. About three-fourths of the families had electric or gas ranges, about half had electric pumps, about one-third had electric milk separators, and almost one-fourth had freezers (Table 31).

¹² U. S. Bureau of Census, op. cit.

Table 27. Number of Bedrooms in the House and Number Used for Storage.

Number of bedrooms	Number and percentage of houses with specified number of bedrooms		Number and percentage of families using specified number of bedrooms for storage	
	Number	Percent	Number	Percent
0	....	....	99	48.5
1	.....	.....	54	26.5
2	2	1.0	37	18.1
3	75	36.8	11	5.4
4	87	42.5	2	1.0
5	31	15.2	....	....
6	6	2.9	....	....
7	1	.5	....	....
8	1	.5	....	....
No information	1	.5	1	.5
Total	204	100.0	204	100.0

Table 28. Number and Types of Electrical Circuits.

Number of circuits	Number and percentage of houses with specified types of circuits					
	Lighting*		Power		Convenience	
	No.	Pct.	No.	Pct.	No.	Pct.
0	1	.5	24	11.8	39	19.1
1	7	3.4	48	23.5	20	9.8
2	41	20.1	16	7.8	14	6.8
3	21	10.3	....	....	1	.5
4	29	14.2	1	.5	1	.5
5	12	5.9	..	..	....	....
6	2	1.0	1	.5	....	....
No electricity	4	2.0	4	2.0	4	2.0
No information	87	42.6	110	53.9	125	61.3
Total	204	100.0	204	100.0	204	100.0

* The number and types of circuits were not known by the occupants of many of the houses. The distinction between lighting and convenience circuits was not easily discernible even when the enumerator looked into the fuse box. Consequently, some lighting circuits may be classed as convenience circuits and some convenience circuits as lighting circuits.

Table 29. Water and Sewage Disposal Facilities.

Type of Facility	Number and percentage of houses having specified facilities	
	Number	Percent
Water system		
Type		
Pressure	79	38.7
Gravity	26	12.7
Pitcher pump	14	6.9
Other	1	.5
None	72	35.3
No information	12	5.9
Total	204	100.0
Sewage disposal system		
Type		
Septic tank	46	22.5
Cesspool	24	11.8
Open line	10	4.9
Combination	6	2.9
Other	6	2.9
None	108	52.9
No information	4	2.0
Total	204	100.0
Hot water heater		
Type		
Electric	64	31.4
Gas	16	7.8
Oil	7	3.4
Type not known	2	1.0
Other (range or furnace heated)	2	1.0
None	109	53.4
No information	4	2.0
Total	204	100.0
Water softener unit		
Have one	6	2.9
None	164	80.4
No information	34	16.7
Total	204	100.0

No clothes driers or garbage disposal units were owned by the families included in this study.

REMODELING

Some modernization and remodeling had been done in many of the houses. In addition to modernization, one or more additions had been built onto three-fourths of the houses surveyed. These additions were most frequently built into the right angle formed by the juncture of the stem and the cross of the tee. In most houses a room or two had been added in this fashion, but no plan for improved circulation or improved use of space was apparent (Table 32).

CHARACTERISTICS OF THE FAMILY

No study of family housing would be of value without a knowledge of the types of families occupying the dwellings. Characteristics of the family influence the space and equipment needed in a house. For this reason all unoccupied houses in this study were automatically eliminated.

The Family Members

Ninety-five per cent of the households surveyed included a husband and wife. There were children living at home in over two-thirds of the houses (Table 33). Occupants other than the immediate members of the family were found in only ten per cent of the cases, of which eight per cent were related to the family.¹³

In households where the interviews were held, the total number of persons ranged from one to nine and did not exceed four in about 75 per cent of the houses. Most of the houses met the requirement of one room per person,¹⁴ but some families did not use the recommended number of rooms even though they were available (Table 34) and (B-17). This sampling showed no apparent relationship between the number of rooms in the house and the number of people living in it.

In assessing housing needs not only the number of members in a household is important but also the age of the members and composition of the family. In 45 per cent of the households surveyed both the husband and wife were 40 years of age or under. Thirty-five per cent of them were between the ages of 40 and 60. In about ten per cent of the families both husband and wife were over 60 years old. Over half of the farm couples in this study were 40 years of age or over (Table 35).

A division of households according to the age of all members of the family including the husband and wife has been made. The largest number of families fall into the stage of the family cycle where the women have a peak load of work (one couple with children). Many families in this study having peak loads did not have modern conveniences (Table 36). Careful planning and increased modernization when remodeling would save these

¹³ Most of the households are identical with the family group and the words are used interchangeably in this study.

¹⁴ American Public Health Association, *Housing for Health*, the Science Printing Company, Lancaster, 1941.

Table 30. Kind of Fuel Used by Type of Heating Plant.

Type of heating plant	Number and percentage of heating plants using specified fuel												Combination No. Pct.		No information No. Pct.				
	Total houses reported		Oil		Coal		Wood		Coal & Wood		Propane						Gas		
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.					No.	Pct.	
Steam	1	.5	...	...	...	...	...	...	...	...	...	...	...	...	1	100.0	...	...
Hot water	2	1.0	...	...	1	50.0	...	1	50.0	...	...	...	...	...	...	...	...	...
Forced air	22	10.7	13	59.1	3	13.6	...	1	4.5	4	18.2	1	4.5	...	...	...	...	...
Pipeless	4	2.0	1	25.0	1	25.0	...	2	50.0	...	...	...	...	...	...	...	...	...
Floor furnace	2	1.0	1	50.0	...	...	...	...	...	1	50.0	...	...	...	...	...	...	...
Gravity	10	4.9	2	20.0	5	50.0	2	20.0	...	1	10.0	...	...	...	...	...	...	...
Space heater	132	64.7	78	59.1	4	3.0	6	4.5	11	8.3	5	3.8	...	...	26	19.7	2	1.5
Central heat
No central heat	3	1.5	2	66.7	...	...	...	...	...	...	...	...	...	...	1	33.3	...	...
Combination	28	13.7	5	17.8	4	14.3	...	...	...	2	7.1	1	3.6	...	1	3.6	15	53.6
No information	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	204	100.0	102	50.0	18	8.8	8	3.9	15	7.4	13	6.4	2	1.0	29	14.2	17	8.3	

Table 31. Types and Kinds of Equipment Used.

Type of equipment	Number and percentage of families with specified kind of equipment												Other		None		No information No. Pct.						
	Electric		Gas		Hand		Combination		Wood		Electric & Wood								Gas & Wood		Wood & Kerosene		
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.							No.	Pct.	No.	Pct.	
Range	54	26.5	53	26.0	...	...	13	6.4	32	15.7	16	7.8	15	7.3	4	2.0	7	3.4	2	1.0	8	3.9
Refrigerator	178	87.3	12	5.9	...	...	...	...	...	...	...	...	...	...	...	...	2	1.0	6	2.9	6	2.9
Washer
Conventional	180	88.2	3	1.5	...	...	...	...	...	...	...	...	...	...	...	...	2	1.0	5	2.5	8	3.9
Automatic	6	2.9
Ironers	6	2.9	190	93.1	8	3.9
Freezer	49	24.0	147	72.1	11	5.4
Milk separator	71	34.8	32	15.7	90	44.1	11	5.4
Electric No.	105	51.5	1	.5	3	1.5	2	1.0	27	13.2	14	6.9	13	6.3	30	14.7	9	4.4	...	...	...	...

Table 32. Number and Types of Additions Built.

Type of addition	Number and percentage of houses with specified addition	
	Number	Percent
Addition to one side of the stem	90	44.1
Addition to both sides of the stem	24	11.8
Other additions	8	3.9
More than one addition	25	12.3
Addition to end of the stem	6	2.9
No addition	51	25.0
Total	204	100.0

Table 33. Children Living at Home.

Number of children	Number and percentage of households with specified number of children	
	Number	Percent
0	58	28.4
1	38	18.6
2	57	28.0
3	28	13.7
4	7	3.4
5	11	5.4
6	2	1.0
7	3	1.5
Total	204	100.0

homemakers much time and energy.

Income

The high cost of improvements, and low and variable farm incomes are often assumed to be causes of inadequate farm housing. To spot check the validity of this assumption and to serve as an indication

of the amount that might be spent for remodeling an estimate of net income for the preceding year was asked from each respondent.

Almost one-third of the people interviewed did not know and did not choose to estimate their incomes of the previous year. The distribution of the extent of modernization according to the income reported was tabulated with data available (Table 37). Increased income apparently has little relationship to the increased amount of central heating and electricity. Running water, hot water heater, and sewage disposal systems; however, do vary proportionately with the income.

Tenure

Tenure is often assumed to be another important factor when con-

Table 34. Number of Rooms in the House by the Number of Persons in the Household.

Number of persons in household	Total households reported		Number and percentage of houses with specified number of rooms											
			5		6		7		8		9		10	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
1	4	2.0	....	....	2	50.0	2	50.0	....	....	....	....	....	....
2	50	24.5	3	6.0	20	40.0	14	28.0	9	18.0	4	8.0	....	....
3	42	20.6	11	26.2	11	26.2	12	28.5	6	14.3	1	2.4	1	2.4
4	53	26.0	10	18.9	19	35.8	8	15.1	10	18.9	5	9.4	1	1.9
5	32	15.6	5	15.6	13	40.6	8	25.0	2	6.3	2	6.3	2	6.3
6	6	2.9	2	33.3	1	16.7	2	33.3	1	16.7	....	....	....	....
7	11	5.4	1	9.1	2	18.2	6	54.5	2	18.2	....	....	....	....
8	2	1.0	....	....	2	100.0	....	....	....	....	....	....	....	....
9	4	2.0	....	....	1	25.0	2	50.0	1	25.0	....	....	....	....
Total	204	100.0	32	15.7	71	34.8	54	26.4	31	15.2	12	5.9	4	2.0

Table 36. Extent of Modernization by Family Type.

Item of modernization	Number and percentage of each family type with specified facilities																			
	Single Persons	One couple families				Families with children				Adult families		Grandparents and Grandchildren								
		Couple and other adults		Children under 18 years		Children under 8 years		Children up thru 18 years		Two bed-rooms	More than two bedrooms									
		No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.				No.	Pct.						
Central heat—	1	10.0	2	28.6	8	21.1	11	20.8	13	19.7	1	20.0	2	33.3	1	10.0	2	25.0	1	100.0
Have no central heat	9	90.0	5	71.4	30	78.9	42	79.2	52	78.8	4	80.0	4	66.7	9	90.0	6	75.0	6	100.0
No information	...	...	...	...	...	...	...	...	1	1.5	...	...	...	...	...	...	...	...	...	...
Running water—	2	20.0	...	...	4	10.5	3	5.7	3	4.5	1	20.0	...	...	...	...	1	12.5	...	...
Pitcher pump	2	20.0	3	42.9	13	34.2	23	43.4	30	45.5	2	40.0	4	66.7	1	10.0	1	12.5	...	...
Pressure system	1	10.0	3	42.9	2	5.3	7	13.2	6	9.1	...	...	1	16.7	3	30.0	3	37.5	...	...
Gravity system	...	...	...	...	1	2.6	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other	4	40.0	1	14.2	15	39.5	19	35.8	23	34.8	1	20.0	1	16.7	5	50.0	2	25.0	1	100.0
None	1	10.0	...	...	3	7.9	1	1.9	4	6.1	1	20.0	...	...	1	10.0	1	12.5	...	...
No information	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hot water heater—	2	20.0	3	42.9	16	42.1	25	47.2	32	48.5	3	60.0	4	66.7	2	20.0	4	50.0	...	...
Have heater	8	80.0	4	57.1	21	55.3	25	47.2	34	51.5	2	40.0	2	33.3	8	80.0	4	50.0	...	...
Have no heater	...	...	...	...	1	2.6	3	5.6	...	...	...	...	...	...	...	...	...	...	...	...
No information	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sewage disposal system	1	10.0	2	28.6	15	39.5	28	52.8	35	53.0	2	40.0	4	66.7	2	20.0	3	37.5	...	...
Have sewage disposal	9	90.0	5	71.4	22	57.9	22	41.5	31	47.0	3	60.0	2	33.3	8	80.0	5	62.5	1	100.0
Have no sewage disposal	...	...	...	...	1	2.6	3	5.7	...	...	...	...	...	...	...	...	...	...	...	...
No information	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Electricity	1	10.0	...	...	1	2.6	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lighting only	6	60.0	2	28.6	16	42.1	22	41.5	27	40.9	2	40.0	2	33.3	6	60.0	4	50.0	...	...
Lighting and power	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
House lights and running water	...	...	...	...	...	...	...	...	1	1.5	...	...	...	...	...	...	...	...	...	...
House lights, power, and running water	3	30.0	5	71.4	18	47.4	30	56.6	36	54.5	3	60.0	4	66.7	2	20.0	4	50.0	...	...
None	...	...	...	...	2	5.3	1	1.9	...	...	...	...	...	...	2	20.0	...	...	...	...
No information	...	...	...	...	1	2.6	...	...	2	3.0	...	...	...	...	...	...	...	...	...	...
Total	10	4.9	7	3.4	38	18.6	53	26.0	66	32.4	5	2.5	6	2.9	10	4.9	8	3.9	1	.5

sidering farmhouse improvement (Table 38). In this sampling owner-occupied multistory tee farmhouses had more modernization than rented houses.

SPACE STANDARDS

The advantages of these modernization features are many when viewed in the light of comforts and conveniences in daily living. However, modernization will not necessarily cause a house to meet the family needs and requirements.

Adequacy

Adequate space for the activities of the members of the family must also be provided. The number of square feet in the tee houses was compared with the space recommended by the American Public Health Association.¹⁵ Recommendations by the committee on healthful housing were made in terms of activities carried on in the house rather than upon partitioned rooms. The committee analyzed the space for activities in terms of three requirements: (1) space necessary for furniture and equipment essential to the activity, (2) space adjacent to the furniture or equipment essential to the performance of the activity, and (3) space necessary for storage of materials and equipment essential to the activity.

While the space allotments do not represent specific rooms, these standards are the best known to date. For this study it was not deemed advisable to ask questions on activity placement, because of the length of the questionnaire. A comparison was made, however, of

the size of the rooms in which the furniture and equipment essential for the given activity were usually found and the space recommendations listed by the American Public Health Association. If any houses were consistently limited in the space allotments, such shortcomings would show up in the total number of square feet of the house when compared with the total recommended square footage. These standards were developed according to the number of people in the household. The published recommendations are for households of from one to six people. Households with greater numbers of people were included in this study, and the recommendations were estimated at a proportional rate of increase.

When compared with the American Public Health Association standards about 45 per cent of the measured multistory tee houses had inadequate living space (Table 39).

Storage

The lack of sufficient storage space in these multistory tee houses was very conspicuous. About 90 per cent of the families did not have the recommended minimum storage space within the total living area (Table 40). Almost this number of homemakers expressed a desire for additional storage space.

Family Activities

From a comparison of the recommended space with the actual space available for family activities, an indication of adequacy was obtained. The space in the bedrooms of most of the houses was ample to

¹⁵ American Public Health, op. cit.

Table 37. Extent of Modernization by Income.

Item of modernization	Number and percentage of families with specified facilities																Don't know				
	Lost money		\$0-599		\$600-1499		\$1500-2999		\$3000-4999		\$5000-7499		\$7500-9999		\$10,000- & over		No information		No. Pct.		
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	
Central heat—																					
Have central heat	1	33.3	1	5.9	4	10.3	4	10.3	10	28.3	10	45.5	3	37.5	1	20.0	8	14.3	3	33.3	
Have no central heat	2	100.0	15	88.2	35	89.7	35	89.7	33	76.7	12	54.5	5	62.5	4	80.0	48	85.7	6	66.7	
No information																					
Running water—																					
Pitcher pump			2	11.8	4	10.8	4	10.8	2	4.7	2	9.1	1	12.5			2	3.6	1	11.1	
Pressure system	1	50.0	4	23.5	13	33.3	13	33.3	20	46.5	12	54.5	4	50.0	3	60.0	18	32.1	4	44.4	
Gravity system			1	33.3	1	5.9	3	7.7	8	18.6	3	13.6	1	12.5	1	20.0	7	12.5	1	11.1	
Other									1	2.3											
None	1	50.0	1	33.3	10	58.8	15	38.4	11	25.6	3	13.6			1	20.0	27	48.2	3	33.3	
No information			1	33.3			4	10.3	1	2.3	2	9.1	2	25.0			2	3.6			
Hot water heater—																					
Have heater	1	50.0	1	33.3	4	23.5	16	41.0	21	48.8	14	63.6	6	75.0	4	80.0	19	33.9	5	55.6	
Have no heater	1	50.0	2	66.7	13	76.5	23	59.0	21	48.8	6	27.3	2	25.0	1	20.0	36	64.3	4	44.4	
No information									1	2.3	2	9.1						1	1.8		
Sewage disposal system																					
Have sewage disposal	1	50.0			5	29.4	15	38.4	22	51.2	15	68.2	6	75.0	4	80.0	20	35.7	4	44.4	
Have no sewage disposal	1	50.0	3	100.0	12	70.6	24	61.5	20	46.5	5	22.7	2	25.0	1	20.0	35	62.5	5	55.6	
No information									1	2.3	2	9.1					1	1.8			
Electricity																					
Lighting only																					
Lights and power	1	50.0	2	66.7	12	70.6	20	51.3	17	39.5	5	22.7	1	12.5	1	20.0	25	44.6	4	44.4	
House lights and running water																					
House lights, power and running water	1	50.0	1	33.3	5	29.4	17	43.5	26	60.5	16	72.7	7	87.5	4	80.0	24	42.9	4	44.4	
None									1	2.6							4	7.1			
No information									1	2.6							1	1.8			
Total	2	1.0	3	1.5	17	8.3	39	19.1	43	21.0	22	10.8	8	3.9	5	2.5	56	27.5	9	4.4	

Table 38. Extent of Modernization by Tenure.

Item	Number and percentage of families with specified facilities					
	Own		Rent		No information	
	No.	Pct.	No.	Pct.	No.	Pct.
Central heat						
Have central heat	27	26.2	13	13.1	1	50.0
Have no central heat	75	72.8	86	86.9	1	50.0
No information	1	1.0	....	....	....	....
Running water—pitcher pump	3	2.9	11	11.1	....	....
Pressure system	49	47.6	29	29.3	1	50.0
Gravity system	13	12.6	13	13.1	....	....
Other	....	....	1	1.0	....	....
None	31	30.1	40	40.4	1	50.0
No information	7	6.8	5	5.1	....	....
Hot water heater						
Have heater	57	55.3	33	33.3	1	50.0
Have no heater	44	42.7	64	64.6	1	50.0
No information	2	1.9	2	2.0	....	....
Sewage disposal system						
Have sewage disposal	56	54.4	35	35.4	1	50.0
Have no sewage disposal	45	43.7	62	62.6	1	50.0
No information	2	1.9	2	2.0	....	....
Electricity						
Lighting only	1	1.0	1	1.0	....	....
Lights and power	36	35.0	51	51.5	1	50.0
House lights and running water	1	1.0	....	....	....	....
House lights, power, and running water	61	59.2	43	43.4	1	50.0
None	2	1.9	3	3.0	....	....
No information	2	1.9	1	1.0	....	....
Total	103	50.5	99	48.5	2	1.0

meet the requirements suggested for sleeping and dressing. Additional activities could be carried on in the bedrooms in most of the houses without crowding (Table B-18). Although the bedrooms were of adequate size in most of the tee houses, the space used for closets and storage furniture did not meet the minimum recommendation in 45 per cent of the houses (Table B-19).

Personal

Comparison was also made of the space recommended for personal cleanliness and sanitation with the space in the room designated by the family as the bathroom. Since many houses had no bathroom, all of these houses were classed as inadequate

in this space allowance. In some additional houses the space used for the bathroom was not large enough to meet the standard for the number of people in the household (Table B-20).

In houses with no bathroom, equipment for personal cleanliness and sanitation located within the house would probably be in the kitchen and bedrooms. Storage space within the bathroom frequently occupies little or no floor space, since cabinets built in the wall are sufficient to hold many of the items used in this room. Because of this no standards for minimum storage were recommended by the American Public Health Association.

Table 39. Total Living Space Available by Number of Persons in the Household.

Number of square feet	Number and percentage of persons in houses with specified space available																			
	1		2		3		4		5		6		7		8		9			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.		
Less than 400	9	4.4	...	...	3	33.3	1	11.1	3	33.3	1	11.1	1	11.1	...	...	...	...
400-749	46	22.5	...	...	11	*23.9	13	28.3	7	15.2	1	2.2	...	...	2	4.3	...	...
750-999	53	26.0	1	1.9	15	28.3	9	*17.0	13	24.5	9	17.0	2	3.8	2	3.8	2	3.8		
1000-1149	60	29.4	1	1.7	17	28.3	12	20.0	17	*28.3	6	10.0	2	3.8	5	8.3	...	...
1150-1399	23	11.3	1	4.3	...	...	6	26.1	6	26.1	2	*8.7	3	13.0	...	...	...	...
1400-1549	11	5.4	...	...	2	18.2	1	9.1	3	27.3	4	36.3	...	...	...	...	1	9.1
1550-1699	1	.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	100.0
1700-1849	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1850-1999	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2000-2149	1	.5	...	...	...	...	...	...	...	...	1	100.0	...	...	...	...	...	...
2150 and over	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	204	100.0	4	2.0	50	24.5	42	20.5	53	26.0	32	15.7	6	2.9	11	5.4	2	1.0	4	2.0

* Recommended space for specified number of persons in household.

Table 40. Total Storage Space Available by Number of Persons in the Household.

Number of square feet	Number and percentage of persons in houses with specified storage space available																			
	1		2		3		4		5		6		7		8		9			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.		
Less than 44	27	13.2	2	7.4	9	33.3	4	14.8	4	14.8	5	18.5	...	...	2	7.4	1	3.7
44-106	115	56.4	2	*1.7	23	20.0	23	20.0	33	28.7	21	18.3	5	4.3	1	.9	2	1.7		
107-156	48	23.5	...	...	15	*31.3	13	27.1	9	18.7	4	8.3	1	2.1	4	8.3	...	...
157-188	8	3.9	...	...	3	37.5	1	*12.5	4	50.0	...	...	...	...	...	...	...	...
189-232	3	1.5	...	...	...	...	...	2	*66.7	1	33.3	...	...	...	...	...	...	...
233-250	2	1.0	...	...	...	...	1	50.0	...	...	1	50.0	...	...	...	...	...	...
251-270	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
271-290	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
291-310	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
311-330	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
331 and more	1	.5	...	...	...	...	...	1	100.0	...	...	...	...	...	...	...	...	...
Total	204	100.0	4	2.0	50	24.5	42	20.5	53	26.0	32	15.7	6	2.9	11	5.4	2	1.0	4	2.0

* Recommended space.

Food Preparation and Preservation

Space for food preparation and preservation is found in the kitchens and pantries. Space for serving food and dining is also found in the kitchen, particularly in houses where there is no separate dining room.¹⁶ To obtain an approximation of the adequacy of this space three separate comparisons were made. The kitchen space found in the houses with dining rooms was compared with the space recommended for food preparation and preservation. Most of these houses were found to have adequate floor space, and less than half had adequate storage space in the kitchen and pantries (Tables B-21 and B-22).

A second comparison was made of the space recommended for serving food and dining with the space in dining room area. Half of these areas were of adequate size, but the storage again failed to meet the minimum standards in most of the houses (Tables B-23 and B-24).

For the third comparison the space requirements for food preparation and preservation and food serving and dining were totaled. This total was compared with the space in the kitchen and dining room if the house had both rooms or with the kitchen if there was no dining room. Most of the houses had sufficient space within these rooms for these activities, but the storage was very inadequate, since more than 90 per cent of the houses did not meet the minimum standard (Table B-26).

Living Space

The size of the living rooms was compared with the space recommendations for family recreation and self-improvement and extra-familial associations. In most of the houses the living room space alone was inadequate to meet the space requirements for these activities (Table B-27). Because of the nature of the activities an overlapping into the kitchen and dining areas, as well as into the bedrooms, would be expected. This overlapping would tend to make the inadequacy less critical. According to the recommended minimum standards storage again was inadequate in this area (Table B-28).

Housekeeping Activities

The American Public Health Association standards included space for what they called housekeeping activities. Few homemakers had special rooms that could be classified as being primarily for housekeeping activities. In the few homes where such rooms were found they were small and contained almost no storage space. Evidently most of the so-called "housekeeping activities" were carried on throughout other parts of the house (Tables B-29 and B-30).

Other

Space for other basic household activities was either non-existent or included in another area. For example, none of the houses had special space for the care of the infant or the ill. The space for the operation of utilities was included in other room measurements or in the basement areas.

¹⁶ Trotter, *op. cit.*

Circulation

Halls are necessary to keep traffic out of living areas and to aid in convenience. The halls and stairways were compared with the circulation standards set by the American Public Health Association. Almost 70 per cent of the houses had the space necessary to keep major traffic routes out of the living area

of the house (Table B-31).

The data collected in this study provide evidence that many problems exist in the multistory tee house and suggest that some of these may be alleviated by remodeling. The sampling indicates that special attention should be given to the grave inadequacy of storage space.

APPENDIX A

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APPENDIX B

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Table B-1. Dimensions of the Cross of the Tee.

Length Feet	Number and percentage of houses of specified width Feet*											Total No. Pct.					
	Less than 10 No. Pct.	10-11 No. Pct.	12-13 No. Pct.	14-15 No. Pct.	16-17 No. Pct.	18-19 No. Pct.	20-21 No. Pct.	More than 21 No. Pct.									
Less than 21	1	20.0	3	60.0	1	20.0	...	...	...	...	...	...	5	2.4	
21-22	...	2	6.4	11	35.5	15	48.4	3	9.7	...	...	...	...	31	15.2
23-24	7	13.7	38	74.5	5	9.8	1	2.0	51	25.0	
25-26	7	15.5	31	68.9	7	15.5	...	...	...	...	45	22.1		
27-28	4	11.1	23	63.9	7	19.4	1	2.8	...	1	2.8	36	17.6	
29-30	2	8.3	16	66.7	4	16.6	1	4.2	...	1	4.2	24	11.8	
31-32	7	87.5	1	12.5	...	...	...	...	8	3.9		
33-34	1	50.0	1	50.0	...	...	...	...	2	1.0		
35-36	1	50.0	1	50.0	...	...	...	...	2	1.0		
Total	1	.5	2	1.0	34	16.6	133	65.2	29	14.2	2	1.0	...	3	1.5	204	100.0

* These represent inside measurements.

Table B-2. Dimensions of the Stem of the Tee.

Length Feet	Number and percentage of houses of specified width Feet*											Total No. Pct.								
	Less than 10 No. Pct.	9-10 No. Pct.	11-12 No. Pct.	13-14 No. Pct.	15-16 No. Pct.	17-18 No. Pct.	19-20 No. Pct.	21-22 No. Pct.	23-24 No. Pct.											
Less than 11	1	50.0	1	50.0	2	1.0	
11-12	...	1	20.0	2	40.0	1	20.0	1	20.0	5	2.4	
13-14	...	2	6.9	10	34.5	12	41.4	3	10.3	...	...	1	3.4	...	...	...	29	14.2
15-16	...	1	1.7	7	11.9	39	66.1	12	20.3	...	...	...	...	...	...	...	59	28.9
17-18	2	6.5	17	54.8	9	29.0	3	9.7	...	...	...	...	...	31	15.2		
19-20	4	16.0	11	44.0	9	36.0	1	4.0	...	...	...	...	...	25	12.3		
21-22	1	9.1	6	54.5	4	36.4	...	...	...	...	...	...	...	11	5.4		
23-24	2	8.0	8	32.0	10	40.0	2	8.0	1	4.0	1	4.0	1	4.0	25	12.3	
25-26	4	57.1	2	28.6	...	...	...	1	14.3	...	...	7	3.4		
27-28	4	66.7	2	33.3	...	...	...	...	...	...	...	6	2.9		
29-30	1	100.0	...	...	...	...	...	...	...	...	...	1	.5		
Over 30	1	33.3	...	...	1	33.3	...	...	...	...	...	3	1.5		
Total	1	.5	4	2.0	30	14.7	103	50.4	52	25.5	7	3.4	2	1.0	4	2.0	1	.5	204	100.0

* These represent inside measurements.

Table B-3. Square Feet in the House.

Square Feet*	Number and percentage of houses of specified size			
	Stem		Cross	
	No.	Pct.	No.	Pct.
Less than 140	6	2.9	1	.5
140-159	11	5.4	.....	.....
160-179	17	8.3	.....	.....
180-199	27	13.2	.....	.....
200-219	21	10.3	.....	.....
220-239	29	14.2	.....	.....
240-259	20	9.8	3	1.5
260-279	11	5.4	7	3.4
280-299	11	5.4	12	5.9
300-319	14	6.9	3	1.5
320-339	9	4.4	25	12.2
340-359	8	3.9	22	10.8
360-379	7	3.4	40	19.6
380-399	3	1.5	15	7.3
400-419	3	1.5	21	10.3
420-439	2	1.0	22	10.8
440-459	1	.5	11	5.4
460-479	.....	.....	6	2.9
480-499	1	.5	2	1.0
500-519	.....	.....	6	2.9
520-539	1	.5	2	1.0
540-559	.....	.....	3	1.5
560-579	2	1.0	.....	.....
580-599	.....	.....	2	1.0
600-619	.....	.....	.....	.....
Over 619	.....	.....	1	.5
Total	204	100.0	204	100.0

* These represent inside measurements.

Table B-4. Average Inside Dimensions of Multistory Tee Houses.

<i>Average</i>	<i>Average</i>
Length of cross (29, 30, 31)	25.4 feet
Width of cross (32, 33, 34)	14.9 feet
Square feet in cross (35, 36, 37)	381.9 square feet
Length of stem (38, 39, 40)	17.95 feet
Width of stem (41, 42, 43)	13.7 feet
Square feet in stem (44, 45, 46)	248.8 square feet
Length of living room (47, 48)	14.9 feet
Width of living room (49, 50)	12.98 feet
Square feet in living room (51, 52, 53)	198.9 square feet
Length of dining room (54, 55)	14.6 feet
Width of dining room (56, 57)	12.3 feet
Square feet in dining room (58, 59, 60)	186.9 square feet
Length of kitchen (61, 62)	11.9 feet
Width of kitchen (63, 64)	9.4 feet
Square feet in kitchen (65, 66, 67)	141.8 square feet
Length of bedroom (68, 69)	13.3 feet
Width of bedroom (70, 71)	10.1 feet
Square feet in bedroom (72, 73, 74)	138.2 square feet

Table B-5. Description of the Height of the Ceilings.

Height	Basement		First Floor		Second Floor	
	No.	Pct.	No.	Pct.	No.	Pct.
6 ft or less	6	2.9	0	.....	2	1.0
6½ ft or less	2	1.0	0	.....	6	2.9
7 ft or less	54	26.5	3	1.5	25	12.3
7½ ft or less	6	2.9	13	6.4	32	15.7
8 ft or less	35	17.2	61	29.9	69	33.8
8½ ft or less	0	.....	46	22.6	15	7.4
9 ft or less	5	2.5	53	26.0	8	3.9
9½ ft or less	3	1.5	8	3.9	1	.5
10 ft or less	0	.....	3	1.5	1	.5
No information	24	11.8	17	8.3	44	21.6
Not applicable	69	33.8	00	.....	1	.5
Total	204	100.0	204	100.0	204	100.0

Table B-6. Description of the Placement of the House on the Farmstead.

Placement	Number	Percent
Cross of tee parallel to public road and in front	85	41.7
Stem of tee parallel to public road	98	48.0
Stem of tee perpendicular to public road and in front	17	8.3
Not applicable	4	2.0
Total	204	100.0

Table B-7. Description of the Stairway to Basement by the Characteristics of the Risers.

Description	Total houses reported No.	Number and percentage of houses having specified features							
		Steps all the same height		Steps not all the same height		Not applicable		No information	
		No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Stairway outside the house	37	.....	.....	.....	.....	1	2.7	36	97.3
Have landing	3	3	100	.....	.....	.....	.....	.....	.....
Wind	4	3	75	1	25	.....	.....	.....	.....
Straight (down)	66	49	74.2	7	10.6	.....	.....	10	15.2
No basement	69	.....	.....	.....	.....	69	100.	.....	.....
No information	26	1	3.8	1	3.8	.....	.....	24	92.3
Total	204	56	27.5	9	4.4	69	33.8	70	34.3

Table B-8. Headroom Dimensions of the Stairway to Basement.

Headroom		Number and percentage of stairways with specified dimensions	
Feet	Inches	Number	Percent
5	0	3	1.5
5	6	11	5.4
6	0	11	5.4
6	6	1	.5
7	0	20	9.8
7	6	6	2.9
8	0	1	.5
Not applicable		69	33.8
No information		82	40.2
Total		204	100.0

Table B-9. Width of Steps of Stairways to Basement.

Width of step Inches	Number and percentage of stairways with specified dimensions	
	Number	Percent
25-28	3	1.5
29-32	24	11.8
33-36	11	5.4
37 or more	11	5.4
Not applicable	69	33.8
No information	86	42.1
Total	204	100.0

Table B-10. Dimensions of Risers and Treads of Stairways to Basement.

Dimensions Inches	Number and percentage of stairways with specified dimensions			
	Height of riser		Width of tread	
	No.	Pct.	No.	Pct.
6	....	.....	2	1.0
7	10	4.9	1	.5
8	29	14.2	11	5.4
9	13	6.4	5	2.4
10	6	2.9	2	1.0
11	2	1.0	....	.....
12	....	.....	2	1.0
Not applicable	69	33.8	69	33.8
No information	75	36.8	112	54.9
Total	204	100.0	204	100.0

Table B-11. Amount of Counter Space in the Kitchen by the Shape of the Work Center.

Shape of work counter	Number and percentage of kitchens with specified amounts of counter space Inches														No. infor- mation No. Pct.					
	Total houses reported		Less than 30		31-60		61-90		91-110		111-140		141-170			171-230		*Not apply		
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.		No.	Pct.	No.	Pct.	
U	2	1.0	...	...	...	...	...	...	2	100.0	...	...	...	...	...	...	...	...	...
L	31	15.2	...	...	2	6.5	11	35.5	8	25.8	1	3.2	2	6.5	1	3.2	...	...	6	19.3
Broken U	17	8.3	...	...	5	29.4	4	23.5	2	11.8	2	11.8	2	11.8	1	5.9	...	...	1	5.9
Two wall	14	6.9	...	2	14.3	4	28.6	...	5	35.7	...	...	...	...	...	...	...	...	3	21.4
Single wall	13	6.4	...	...	5	38.5	5	38.5	9	74	8	6.6	2	1.7	1	.8	...	...	3	23.0
No arrangement	121	59.3	12	9.9	43	35.5	26	21.5	9	7.4	8	6.6	2	1.7	1	.8	...	...	1	15.7
No information	6	2.9	...	...	...	...	...	...	2	33.3	3	50.0	...	...	...	...	...	...	1	16.7
Total	204	100.0	14	6.9	59	28.9	46	22.5	28	13.7	14	6.9	6	2.9	3	1.5	1	.5	33	16.2

* All storage space in the pantry—No "work space" in kitchen.

Table B-14. Amount of Storage Space for Utensils in The Kitchen by the Shape of the Work Center.

Shape of work center	Number and percentage of kitchens with specified amounts of storage space Inches														No information No. Pct.			
	Total houses reported		Less than 15		16-30		31-45		46-60		61-75		91-105			Does not apply		
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.		No.	Pct.	
U	2	1.0	..	..	1	50.0	..	..	..	..	..	..	..	..	..	..	..
L	31	15.2	3	9.7	12	38.7	7	22.6	5	16.1	1	3.2	..	..	..	..	3	9.7
Broken U	17	8.3	3	17.6	6	35.3	2	11.8	1	5.9	3	17.6	..	..	..	..	2	11.8
Two wall	14	6.9	4	28.6	2	*14.3	..	..	..	..	..	..	..	..	..	..	4	28.6
Single wall	13	6.4	1	7.7	5	38.5	3	23.0	2	15.4	..	..	..	..	..	..	2	15.4
No arrangement	121	59.3	26	21.5	44	36.3	17	14.0	10	8.3	2	1.7	2	1.7	1	..	8	19
No information	6	2.9	..	..	3	50.0	..	..	1	16.7	1	16.7	1	16.7	..	..	..	15.7
Total	204	100.0	37	18.1	75	36.8	32	15.7	19	9.3	7	3.4	3	1.5	1	..	30	14.7

* For the sake of consistency for these 6 tables—using 14.3 instead of 14.2(8)
In this case it causes total of 100.1—but needed in other tables.

Table B-15. Amount of Storage Space for Dishes in the Kitchen by the Shape of the Work Center.

Shape of work center	Number and percentage of kitchens with specified amounts of dish storage space Inches														No information No. Pct.											
	Total houses reported		Less than 30		31-60		61-90		91-110		111-140		141-170			171-230		231-260		261-290		More than 291				
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.		No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.			
U	2	1.0	..	..	1	50.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
L	31	15.2	..	..	3	9.7	6	19.3	3	9.7	7	22.6	6	19.3	3	9.7	..	..	..	..	1	3.2	..		
Broken U	17	8.3	1	5.9	5	29.4	3	17.6	..	..	2	11.8	..	..	4	23.5	..	..	..	..	..	..	2	6.5	
Two wall	14	6.9	1	7.1	3	21.4	1	7.1	..	..	3	21.4	1	7.1	..	..	..	..	..	..	..	..	..	2	11.8
Single wall	13	6.4	..	..	1	7.7	2	15.4	2	15.4	..	..	1	7.7	4	30.7	1	7.7	..	..	..	..	..	4	28.6
No arrangement	121	59.3	7	5.8	21	17.4	28	23.1	11	9.1	11	9.1	11	9.1	14	11.6	2	1.7	1	..	..	..	..	1	7.7
No information	6	2.9	2	33.3	1	16.7	1	16.7	2	33.3	8	13
Total	204	100.0	9	4.4	34	16.7	42	20.5	18	8.8	21	10.3	21	10.3	28	13.7	3	1.5	2	1.0	3	1.5	1	..	22	10.8

* Totals 99.8—For sake of consistency—using same percent for certain numbers throughout the tables.

Table B-16. Amount of Storage Space for Linens in the Kitchen by the Shape of the Work Center.

Shape of work center	Number and percentage of kitchens with specified amounts of storage space																					
	Inches																					
	Total houses reported	Less than 15		16-30		31-45		46-60		61-75		76-90		91-105		More than 105		*Does not apply		No information		
No.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.		
U	2	1.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
L	31	15.2	3	9.7	14	45.1	4	12.9	2	6.5	1	3.2	1	3.2	..	..	..	..	..	..	..
Broken U	17	8.3	3	17.6	6	35.3	2	11.8	1	5.9	..	..	..	..	..	..	..	..	..	..	..
Two wall	14	6.9	4	28.6	3	21.4	2	14.3	..	..	..	..	..	..	..	..	..	..	..	..	..
Single wall	13	6.4	3	23.1	5	38.5	2	15.4	1	7.7	..	..	..	..	..	..	..	..	..	..	..
No arrangement	121	59.3	30	24.8	33	27.3	14	11.6	9	7.4	6	5.0	3	2.5	1	.8	..	..	..	..	..
No information	6	2.9	..	..	3	50.0	1	16.7	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	204	100.0	45	21.1	64	31.3	25	12.3	15	7.3	8	3.9	5	2.5	1	.5	1	.5	1	.5	1	20.1

* Linen storage other than kitchen-pantry.

Table B-17. Number of Rooms Used for Living by Number of Persons in Household

Number in household	Number and percentage of families using specified number of rooms																					
	Total households reported																					
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.												
1	4	2.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	50	24.5	1	2.0	5	10.0	3	6.0	15	30.0	1	25.0	1	25.0	13	26.0	3	6.0	1	2.0	..	..
3	42	20.6	..	..	2	4.8	5	11.9	10	23.8	17	40.5	7	16.7	1	2.4	..	..	..	..	..	..
4	53	26.0	..	..	3	5.7	3	5.7	14	26.4	16	30.2	8	15.1	7	13.2	2	3.7	..	..	..	..
5	32	15.6	..	..	..	..	4	12.5	8	25.0	11	34.4	6	18.8	..	..	..	..	..	..	..	..
6	6	2.9	..	..	1	16.7	..	..	1	16.7	2	33.3	1	16.7	1	16.7	..	..	..	..	..	..
7	11	5.4	..	..	..	..	..	..	3	27.3	4	36.3	3	27.3	1	9.1	..	..	..	..	..	..
8	2	1.0	..	..	..	..	..	..	1	50.0	1	50.0	1	25.0	1	25.0	..	..	..	..	..	..
9	4	2.0	..	..	..	..	..	..	1	25.0	1	25.0	1	25.0	1	25.0	..	..	..	..	..	..
Total	204	100.0	1	.5	11	5.4	15	7.3	55	26.9	62	30.4	40	19.6	14	6.9	4	2.0	2	1.0	..	..

Table B-18. Space for Sleeping and Dressing by Number of Persons in Household.

Number of square feet	Total families reported		Number and percentage of persons in houses with specified space available																	
	No.	Pct.	No.	1	2	3	4	5	6	7	8	9								
Less than 74																				
74-147	1	.5	*	1	*100.0															
148-221	2	1.0		1	50.0															
222-297	13	6.4		5	38.4	*														
298-369	20	9.8	1	5.0	15.4	2	15.4	2	15.4	1	7.7	1	7.7							
370-443	25	12.2		3	15.0	7	35.0	*4	20.0											
444-517	32	15.7	1	3.1	10	31.3	6	24.0	3	12.0	*1	4.0								
518-591	33	16.2	2	6.1	5	15.1	6	18.2	7	21.2	2	6.1	3	9.1						
592-665	30	14.7		11	36.7	5	16.7	9	30.0	3	10.0	1	3.3							
666-739	48	23.5		10	20.8	10	20.8	12	25.0	9	18.8	5	10.4							
Total	204	100.0	4	2.0	50	24.5	42	20.5	53	26.0	32	15.7	6	2.9	11	5.4	2	1.0	4	2.0

* Recommended space.

Table B-19. Storage in Sleeping and Dressing Area by Number of Persons in Household.

Number of square feet	Total families reported		Number and percentage of persons in houses with specified space available																	
	No.	Pct.	No.	1	2	3	4	5	6	7	8	9								
Less than 12	9	11.1	2	22.2	1	11.1			2	22.2		3	33.3							
12-23	27	33.3	4	14.8	8	29.6	4	14.8												
24-35	36	44.4	7	19.4	10	27.8	6	16.7												
36-47	32	39.5	5	15.6	11	34.4	8	25.0	4	12.5	3	9.4	47.3							
48-59	32	39.5	2	6.2	6-49.5	18.8	2-52.4	6.2	*10-49.2	31.3	9-48.2	28.1	1-55.7							
60-71	21	26.0	2	9.5	5	23.8	7	33.3	*2	9.5	1	4.8	1	4.8						
72-83	13	16.0	4	30.8	4	30.8	4	30.8												
84-95	13	16.0	5	38.5	5	38.5	2	15.4	1	7.6										
96-107	21	26.0	6	28.6	3	14.3	4	19.0	4	19.0	1	4.8	2	9.5						
108-119																				
120 or more																				
Total	204	100.0	4	2.0	50	24.5	42	20.5	53	26.0	32	15.7	6	2.9	11	5.4	2	1.0	4	2.0

* Recommended space.

- Average.

Table B-20. Space for Personal Cleanliness and Sanitation by Number of Persons in the Household.

Number of square feet	Total families reported Number	Number and percentage of persons in houses with specified space available			
		1-4		5 and more	
		Number	Percent	Number	Percent
Less than 35	9	9	100.0	.....	.....
35-69	74	51	* 68.9	23	31.1
70 or more	16	11	68.7	5	*31.3
Not applicable	101	75	74.3	26	25.7
No information	4	3	75.0	1	25.0
Total	204	149	73.0	55	27.0

* Recommended space.

Table B-23. Space for Serving Food and Dining by Number of Persons in the Household.

Number square feet	Total families reported		Number and percentage of persons in houses with specified space available																			
			1		2		3		4		5		6		7		8		9			
			No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.		
No separate space	95	46.6	2	2.1	20	21.1	23	24.2	23	24.2	17	17.9	4	4.2	5	5.3	..	..	..	..	1	1.0
53-69	1	.5	*	..	..	..	..	..	..	..	1	100.0	..	..	..	..	..	..	..	..	..	..
70-90	1	.5	..	..	..	..	..	..	..	..	1	100.0	..	..	..	..	..	..	..	..	..	..
91-104	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
105-118	2	1.0	1	50.0	..	..	..	1	50.0	..	..	..	..	..	..	..	..	..	..	..	..	..
119-145	7	3.4	..	..	1	14.3	..	..	4	57.1	..	..	1	14.3	..	..	..	..	..	..	..	..
146-159	6	2.9	..	..	1	16.7	..	..	3	50.0	..	..	1	16.7	..	..	..	..	..	..	..	..
160-173	13	6.4	..	..	4	30.8	..	..	4	30.8	..	..	2	15.4	..	..	..	..	..	..	..	..
174-193	15	7.3	..	..	5	33.3	..	..	5	33.3	..	..	2	13.3	..	..	..	..	..	..	..	..
194-207	10	4.9	..	..	4	40.0	..	..	1	10.0	..	..	2	20.0	..	..	..	..	..	..	..	..
208 or more	50	24.5	..	..	14	28.0	..	..	8	16.0	..	..	15	30.0	..	..	1	2.0	..	..	..	..
No information	4	2.0	..	..	1	25.0	..	..	1	25.0	..	..	1	25.0	..	..	..	..	..	..	..	..
Total	204	100.0	4	2.0	50	24.5	42	20.5	53	26.0	32	15.7	6	2.9	11	5.4	2	1.0	4	2.0	..	..

* Recommended space.

Table B-24. Storage in Serving Food and Dining Area by Number of Persons in the Household.

Number of square feet	Total families reported		Number and percentage of persons in houses with specified space available																			
			1		2		3		4		5		6		7		8		9			
			No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.		
No separate space	95	46.6	2	2.1	20	21.1	23	24.2	23	24.2	17	17.9	4	4.2	5	5.3	..	..	..	..	1	1.0
Less than 6	33	16.1	1	3.0	10	30.3	5	15.2	6	18.2	7	21.2	1	3.0	1	3.0	..	..	..	..	2	6.1
6-12	43	21.1	1*	2.3	10	23.3	7	16.3	16	37.2	5	11.6	1	2.3	3	7.0	..	..	..	..	..	..
13-14	7	3.4	..	..	2	28.5	1	14.3	1	14.3	1	14.3	..	..	1	14.3	..	..	..	..	..	..
15-16	6	2.9	..	..	1	16.7	1	16.7	2	33.3	2	33.3	..	..	..	..	..	..	..	..	..	..
17-18	3	1.5	..	..	1	33.3	1	33.3	1	33.3	..	..	..	..	..	..	..	..	..	..	..	..
18 or more	13	6.4	..	..	5	38.4	3	23.1	3	23.1	..	..	..	..	1	7.7	..	..	..	..	..	..
No information	4	2.0	..	..	1	25.0	1	25.0	1	25.0	..	..	..	..	..	..	..	..	..	..	..	..
Total	204	100.0	4	2.0	50	24.5	42	20.5	53	26.0	32	15.7	6	2.9	11	5.4	2	1.0	4	2.0	..	..

* Recommended space.

Table B-27. Space for Recreation, Self-Improvement, and Extra Familial Association by Number of Persons in the Household.

Number of square feet	Number and percentage of persons in houses with specified space available																					
	Total families reported		1		2		3		4		5		6		7		8		9			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.		
No separate space	7	3.4	1	14.3	1	14.3	3	42.8	1	14.3	3	42.8	2	28.6	2	28.6	..	..	..	..	..
Less than 142	5	2.5	1	20.0	2	40.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
142-180	46	22.5	1*	2.2	12	26.1	11	23.9	10	21.7	7	15.2	2	4.3	1	20.0	2	4.3	1	2.2	2	4.3
181-254	123	60.3	3	2.4	27	*21.9	27	21.6	36	29.3	17	13.8	4	3.3	7	5.7	..	..	2	1.6	2	1.6
255-319	20	9.8	..	..	9	45.0	2	*10.0	4	20.0	3	15.0	..	..	1	5.0	..	..	..	..	1	5.0
320-407	3	1.5	..	..	..	..	..	..	2	*66.7	1	33.3	..	..	..	..	..	..	..	..	..	..
408-433	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
434-480	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
481-510	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
511-557	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
558-588	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
589 or more	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	204	100.0	4	2.0	50	24.5	42	20.5	53	26.0	32	15.7	6	2.9	11	5.4	2	1.0	4	2.0	4	2.0

* Recommended space.

Table B-28. Storage in Recreation, Self-Improvement, and Extra Familial Association Areas by Number of Persons in the Household.

Number of square feet	Number and percentage of persons in houses with specified space available																					
	Total families reported		1		2		3		4		5		6		7		8		9			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.		
No separate space	8	3.9	2	25.0	1	12.5	3	37.5	1	12.5	3	37.5	2	25.0	2	25.0	..	..	..	..	..	..
Less than 6	116	56.9	3	2.6	34	29.3	21	18.1	30	25.9	15	12.9	4	3.4	5	4.3	2	1.7	2	1.7	2	1.7
6-8	33	16.1	1*	3.0	6	18.2	11	33.3	8	24.2	5	15.2	..	..	1	3.0	..	..	..	..	1	3.0
9-11	25	12.2	..	..	5	*20.0	5	20.0	7	28.0	4	16.0	1	4.0	2	8.0	..	..	..	..	1	4.0
12-14	4	2.0	..	..	1	25.0	1*	25.0	..	..	2	50.0	..	..	..	..	..	..	..	..	..	..
15-17	4	2.0	..	..	2	50.0	..	..	1	*25.0	..	..	..	..	1	25.0	..	..	..	..	..	..
18-20	5	2.4	..	..	1	20.0	2	40.0	2	40.0	..	..	..	..	..	..	..	..	..	..	..	..
21-23	4	2.0	..	..	1	25.0	..	..	1	25.0	1	25.0	1	*25.0	..	..	..	..	..	..	..	..
24-26	..	..	..	..	..	..	..	..	2	100.0	..	..	..	..	..	..	..	..	..	..	..	..
27-29	2	1.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
30-32	1	.5	..	..	..	..	..	..	1	100.0	..	..	..	..	..	..	..	..	..	..	..	..
33 or more	2	1.0	..	..	..	..	..	..	1	50.0	1	50.0	..	..	..	..	..	..	..	..	..	..
Total	204	100.0	4	2.0	50	24.5	42	20.5	53	26.0	32	15.7	6	2.9	11	5.4	2	1.0	4	2.0	4	2.0

* Recommended space.

Table B-29. Space for Housekeeping by Number of Persons in the Household.

Number of square feet	Total families reported		Number and percentage of persons in houses with specified space available																	
	No.	Pct.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
No separate space	140	68.6	3	2.1	32	22.9	33	23.6	36	25.7	21	15.0	4	2.9	7	5.0	1	.7	3	2.1
Less than 48	15	7.3	5	33.3	2	13.3	6	40.0	2	13.3	6	40.0	2	13.3	2	8.0	2	8.0	2	14.3
48-90	25	12.3	1	4.0	4	16.0	5	20.0	7	28.0	6	24.0	1	4.0	1	5.0	1	5.0	1	14.3
91-109	2	1.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
110-126	7	3.4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
127-145	3	1.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
146-148	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
149-164	3	1.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
165-179	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
180-194	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
195-209	1	.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
210 or more	2	1.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
No information	6	2.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	204	100.0	4	2.0	50	24.5	42	20.5	53	26.0	32	15.7	6	2.9	11	5.4	2	1.0	4	2.0

* Recommended space.

Table B-30. Storage in Housekeeping Area by Number of Persons in the Household.

Number of square feet	Total families reported		Number and percentage of persons in houses with specified space available																	
	No.	Pct.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
No separate space	141	69.1	3	2.1	33	23.4	33	23.4	36	25.5	21	14.9	4	2.8	7	5.0	1	.7	3	2.1
Less than 16	53	26.0	1	1.9	15	28.3	6	11.3	14	26.4	11	20.7	2	3.8	3	5.7	..	..	1	1.9
16-42	4	2.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
43-61	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
62-78	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
79-97	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
98-100	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
101-110	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
111-120	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
121-130	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
131 or more	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
No information	6	2.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	204	100.0	4	2.0	50	24.5	42	20.5	53	26.0	32	15.7	6	2.9	11	5.4	2	1.0	4	2.0

* Recommended space.

Table B-31. Space for Circulation Between Various Areas of the Dwelling by Number of Persons in the Household.

Number of square feet	Total families reported		Number and percentage of persons in houses with specified space available									
	No.	Pct.	1	2	3	4	5	6	7	8	9	
Less than 20												
20-66	81	39.7	2	19	20	19	10	5	2	2	2	2
			2.5	23.4	24.7	23.4	12.3	6.2	2.5	2.5	2.5	2.5
67-76	12	5.9	1	3	3	2	3	25.0				
			8.3	25.0	25.0	16.7	25.0					
77-86	17	8.3	1	8	2	4	2	*11.8				
			5.9	47.0	11.8	23.5	2	11.8				
87-97	13	6.4		3	2	5	2	15.4				
				23.1	15.4	38.4	2	15.4				
98 or more	80	39.2		17	14	23	15	18.7				
				21.3	17.5	28.8	15	18.7				
No information	1	.5			1							
					100.0							
Total	204	100.0	4	50	42	53	32	15.7	6	2.9	11	5.4
			2.0	24.5	20.5	26.0	32	15.7	6	2.9	11	5.4
							2	1.0	4	2.0	4	2.0

* Recommended space.