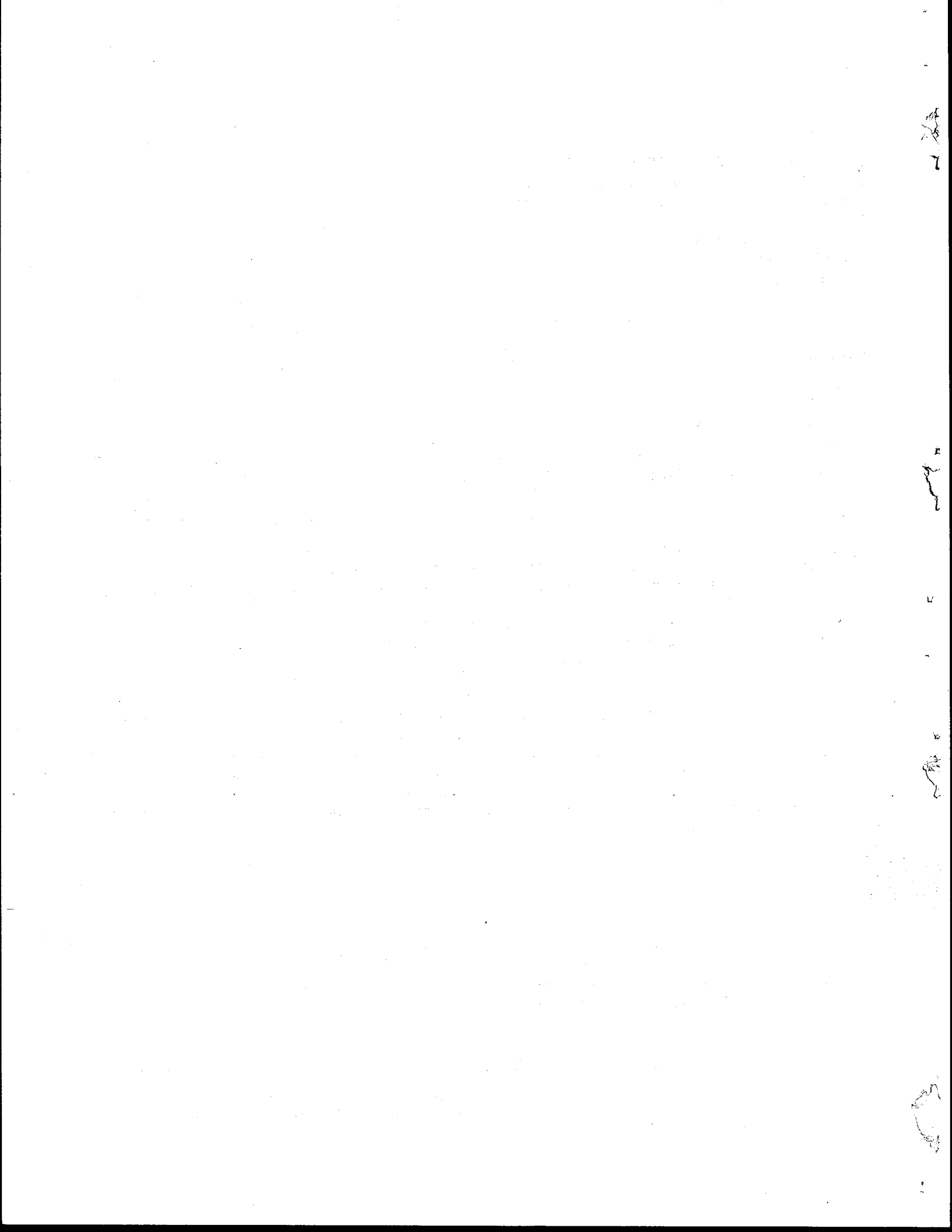


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TO URBAN RESIDENTS IN LOW VALUED HOUSING

by

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Research Report 148-3  
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in Highway Decision Making

Sponsored by  
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Texas Transportation Institute  
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## PREFACE

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The contents of this report reflect the views of the author who is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

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## ABSTRACT

This report presents the results of a survey conducted in Austin and Houston, Texas. The survey focuses upon the consequences of freeway displacement to low income residents relocated under Texas's 1968 and 1970 relocation assistance programs.

The analysis of the survey data centered around a study of the monetary costs experienced by relocatees and a comparison of these costs with the payments made under the relocation programs. The evaluation was primarily limited to a determination of the extent that relocatees (1) voluntarily and involuntarily upgraded their housing, (2) received payments that were adequate to cover all compensable costs, (3) were affected financially by the relocation costs, and (4) experienced different effects according to their individual characteristics. Other facts and opinions concerning the relocatees' displacement experiences were analyzed and presented according to the following topics: information and public participation relating to proposed freeway; selection of replacement dwelling, neighborhood and community; evaluation of relocation assistance programs; and attitudes toward freeway and displacement.

Key words: urban, freeways, relocation costs and payments, consequences, opinions, attitudes, low income residents.

## SUMMARY OF FINDINGS AND CONCLUSIONS

This study was designed to evaluate the effectiveness of Texas's relocation assistance programs in reducing the adverse effects of freeway displacement on urban residents. Such an evaluation necessitated a study of the monetary costs experienced by relocatees due to relocation and a comparison of these costs with the payments made under the relocation programs. The costs studied were as follows: (1) costs of paying for another home, (2) costs of home financing, (3) moving costs, (4) costs of seeking another home, (5) higher operating costs, (6) rental income losses, (7) reduced employment income, and (8) miscellaneous expenses directly connected with displacement. The first three costs were compensable under the relocation programs, but the amount reimbursed was limited by law or certain conditions required by law.

The evaluation of the consequences of the above mentioned costs was limited to a determination of the extent that relocatees (1) voluntarily and involuntarily upgraded their housing, (2) received payments that were adequate to cover all compensable costs, (3) were affected financially by the relocation costs, and (4) experienced different effects according to their individual characteristics. To accomplish these objectives, data were collected on a sample of 171 residents, 85 owners and 86 tenants, displaced by several freeway projects located in major urban areas of Texas. All the respondent residents were displaced from a dwelling or apartment unit valued at not more than \$15,000, and they were relocated under either the 1968 or 1970 relocation program.



Most of the relocatees lived in single-family houses of wood frame construction, of modest size and at least 25 years old. Most of the respondent heads of households were at least 48 years old, males, Anglos, and employed full time. The majority of the households consisted of at least three persons and had an annual income of about \$7,000.

The findings of the analyses are summarized below according to the relevant objectives established for this study.

Objective 1. According to the upgrading requirements specified, over two-thirds of the relocatees, regardless of tenure, upgraded their housing. About the same results were obtained from quantity, quality, and economic measures of upgrading. A few more owners than tenants upgraded their housing. Respondents who formerly lived in the lower valued housing tended to upgrade, and those who formerly lived in the higher valued housing tended not to upgrade. By the same token, most of those who failed to upgrade formerly lived in decent, safe, and sanitary (DS&S) dwellings and did so even more than those formerly living in non-DS&S dwellings. Exploring the relationship between the amount of upgrading and the original property value revealed a significant relationship only for original tenants. Negative correlation and regression coefficients confirmed the above finding which suggested that respondents, especially tenants, formerly living in higher valued housing tended not to upgrade.

Carrying the economic upgrading analysis a step further revealed that 75 percent of the respondents who upgraded did so voluntarily. Eighty-four percent of the owners and 64 percent of the tenants who upgraded did so voluntarily. One explanation for the difference may be that there is more

incentive for a relocatee to upgrade a considerable amount when he purchases rather than rents a dwelling. A higher percentage of those respondents formerly living in DS&S housing voluntarily upgraded compared to those formerly living in non-DS&S housing.

The relationship between the amount of upgrading and the difference in original and comparable replacement property values was explored and indicated that the amount of upgrading was not dependent upon the magnitude of the relocation housing payment.

In terms of mean dollar values, the amount of upgrading was considerable for both original owners and tenants. For those voluntarily upgrading, the increase was 73 percent for owners and 54 percent for tenants. For those involuntarily upgrading, the increase was 44 percent for owners and 32 percent for tenants. For those failing to upgrade, the decrease was 18 percent for owners and tenants.

Objective 2. With relocation payments based more or less on comparable market values and the compensable costs based on actual expenses, the differentials generated indicated that a majority of the respondents received rental and moving payments that were greater than their rental and moving costs. On the other hand, a majority of the respondents received housing and interest payments that were less than their additional housing and interest costs. In the case of downpayments, the majority of respondents broke even. In terms of mean dollar differentials, the amount of costs in excess of payments for housing and interest was considerable. The downpayment, rental, and moving differentials were insignificant compared to the housing and interest differentials.

Objective 3. About 46 percent of the respondents increased their mortgage debt. Also, 46 percent of the respondents increased their equity. About 57 percent of the owners decreased their equity, while only 14 percent decreased their mortgage debt. In average dollars, owners decreased their equity and increased their debt. Tenants increased both. About 83 percent of the respondents, 88 percent of tenants and 78 percent of owners, experienced an increase in monthly housing costs. Although the average dollar increase was about the same for both owners and tenants, the percentage increase was much greater for owners.

Original owners and tenants experienced other relocation costs of a noncompensable nature, such as repair and improvement expenses on replacement dwelling, looking expenses, and miscellaneous expenses. The average cost for 150 respondents was \$244--\$284 for 74 owners and \$232 for 76 tenants. Also, many of the respondents reported increased monthly transportation and utility expenses. The average dollar increase for each of these was about eight dollars for both owners and tenants.

Only eight respondents reported that they experienced a change in income due to relocation, while 132 experienced an increase in net worth due to the relocation payments. The average dollar increase in net worth was \$1,485--\$1,851 for owners and \$1,128 for tenants. Comparing total cash payments received with total cash expenses (excluding the monthly housing, transportation, and utility expenses), 123 (87 percent) of the 141 respondents for whom differentials could be determined received total cash payments greater than their total cash expenses. Fewer tenants than owners received cash payments greater than expenses. In dollars, the

average amount of payments over expenses was \$4,080--\$8,003 for owners and \$320 for tenants.

Sixty-five (38 percent) of the respondents expressed the opinion that they were financially worse off because of the move, and most of these indicated they were only somewhat worse off. Forty-two percent of the owners indicated a worsened financial position compared to 34 percent of the tenants. Respondents whose reported net worth decreased were also of the opinion that their overall financial position had worsened. On the other hand, respondents whose monthly costs decreased thought that their financial position had improved.

Very little relationship was found to exist between changes in net worth and monthly costs or between cash payment-expenditure changes and monthly costs, indicating that changes in net worth or cash balances may have had little influence on changes in monthly costs experienced by the respondents.

Most of those who failed to upgrade their housing also decreased their monthly costs, whereas most of those who upgraded, either voluntarily or involuntarily, increased their monthly costs. However, all three groups showed an average increase in monthly costs due to the relocation experience as follows: \$73 for those voluntarily upgrading, \$25 for those involuntarily upgrading, and \$12 for those not upgrading.

Objective 4. Most of the respondents who involuntarily upgraded or failed to upgrade their housing were at least 50 years old, non-Anglo, and had only one or two persons in the household.

Typically, households experiencing a decrease in net worth were those that had heads with a spouse, especially those couples who had no children

or no others living with them. The other cross-tabulations yielded no significant relationships between respondent characteristics and changes in net worth, changes in cash balances, or respondents' opinions of the overall financial effect of the relocation experience.

Other facts and opinions concerning the relocatees' displacement experiences are summarized briefly here. Most of the relocatees became aware of the freeway at some time after moving into the dwelling to be taken for right of way. The length of time of awareness before being informed that they must move averaged 2.2 years, 3.2 for owners and 1.1 for tenants. The relocatees became informed of the required move primarily through city, county or Texas Highway Department personnel; neighbors; and landlords. Very few of the relocatees participated in any action for or against the freeway.

For most relocatees, their first selection for a replacement dwelling was considered as a permanent choice. The replacement dwelling was chosen primarily because it was the best that could be found for the price. Most of the relocatees upgraded their neighborhoods. As a result, many had to change the location of certain activities, especially shopping.

After receiving notification of available relocation assistance, the relocatees remained in their original dwellings an average of 4.6 months. Their preferred moving time averaged 6.2 months. Most of the relocatees were satisfied with the information, services, and payments provided for under the relocation programs. As a result, 75 percent gave the programs a very good or good rating.

Nearly two-thirds of the relocatees, mainly tenants and those at least 50 years old, were upset upon receiving news of the required move. But

almost 50 percent of those who were upset at the time of receiving news of the move were pleased with their entire relocation experience.

The findings of this report tended to confirm the following conclusions:

- (1) The extent of upgrading of housing by relocatees caused a significant increase in housing costs to relocatees.
- (2) The extent of upgrading of housing caused replacement housing payments not to cover adequately the actual housing costs to relocatees.
- (3) The extent to which relocatees upgraded their housing varied significantly with selected characteristics of relocatee.
- (4) Most of the relocatees who lived originally in substandard housing subsequently moved into standard or above standard replacement housing.
- (5) The relocation programs were helpful in meeting the national goal of improving the standard of housing for persons in low-valued housing.
- (6) The relocation programs were helpful in reducing the amount of additional funds used in obtaining replacement housing, especially for those who involuntarily upgraded.
- (7) The relocation programs apparently encouraged tenants to become owners.
- (8) The relocation programs helped many relocatees who were upset at the beginning of the relocation process to be pleased with the whole relocation experience.

- (9) Informing relocatees as early as possible of the required move and the availability of relocation assistance should make the freeway and displacement more acceptable to them.
- (10) Increasing the length of time between the date of notification of available relocation assistance and the date required to vacate should help more of the relocatees to have a pleasant relocation experience.
- (11) The 1970 relocation assistance program would be more equitable to all relocatees if the statutory maximums on housing, rent, and downpayment supplements were removed to let only the comparable values control the level of these payments.

## IMPLEMENTATION STATEMENT

The findings of this study will enable state and federal agencies to make a critical evaluation of the uniform relocation assistance program as to its effectiveness in reducing the adverse effects of freeway displacement on urban residents. The conclusions presented in this report suggest that some changes should be made in the current relocation program.

The opinions, attitudes, and relocation costs of residential relocatees analyzed here provide valuable information from citizens who are directly affected by the planning and decision-making of highway building agencies. Those interviewed had the opportunity to communicate with the decision-makers and to help identify some of the positive and negative consequences of freeway displacement.

The results of this study can be used to keep the public informed concerning the effects of forced residential relocation. Also, such information would be especially useful for presentation at corridor hearings or community meetings called to discuss a proposed freeway.



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## CHAPTER I

### INTRODUCTION

Prior to the acceleration of the urban renewal and road building programs that took place during the late 1950's, relocatees were given very little relocation assistance. However, as early as the 1940's, governmental agencies showed concern for those forced to relocate [4]. Yet Cook indicated the historical governmental attitude toward displacement had been to pay the owner "fair market value" for his property and let him solve his own relocation problems [9, p. 2; 20, p. 45]. This meant that displaced renters did not receive any money, even through a property settlement, to help cover relocation costs. In recent years, the government has changed its attitude toward the relocation problem, as numerous persons, governmental and non-governmental, have noted that benefits are not necessarily received by the same people who bear the costs of a project [8, p. 1; 9, p. 2; 15, p. 23; 33, p. 12]. The traditional attitude has been tempered by concern for the general good of society and the protection of minorities [7, p. 10]. It has been pointed out that persons forced to relocate were shouldering an unequal share of the "social" costs of governmental programs, causing an unfair redistribution of wealth or of resources [3, p. 1].

Therefore, pressure has been put on the state and federal governments to provide supplementary payments over and above "just compensation" provided for under eminent domain law [3, p. 4; 10; 16]. As a result, the Congress passed the Federal-Aid Highway Act of 1962 that required certain relocation services be provided and authorized the payment of up to \$200

in moving expenses to each household displaced by federal-aid highway programs [18, p. 13; 26]. However, moving payments were made only in states that legally authorized them. The Congress and federal agencies, meanwhile, initiated several studies that dealt with various facets of the relocation problem [1, 3, 6, 11, 12, 29, 30, 31, 34].

The Congress perceived a need for other types of relocation payments in passing the Federal-Aid Highway Act of 1968. This Act required a payment for actual moving expenses or a combined schedule payment and dislocation allowance of up to \$300, a supplemental housing payment of up to \$5,000 for long-term owner-residents and \$1,500 for tenant-residents and short-term owner-residents, and a payment for miscellaneous expenses necessary to transfer the property to the governmental agency making the purchase [18, pp. 13-15; 27]. Also required by the 1968 Act were expanded relocation services that provided relocatees with current price and rental information on available replacement housing.

More recently the Congress passed the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 that expanded the scheduled moving payment and dislocation allowance up to \$500, supplemental housing payments up to \$15,000 for long-term owner-residents and \$4,000 for short-term owner-residents and tenant-residents [17]. Also, the 1970 Act required the payment for increased interest expenses resulting from a change in mortgages and payment for incidental expenses incurred in the purchase of a replacement home. Finally, the Act further expanded the required relocation services offered to all residents displaced by Federal-aid programs [28].



Both the 1968 and 1970 Acts required that residents relocate into "decent, safe, and sanitary" (DS&S) housing in order to qualify for the supplemental housing payments. The replacement house must meet certain size and quality standards. Also, both Acts required that the supplemental housing payment be based, in part, on the price or rent of property "comparable" to that taken from the relocatee. The Federal Highway Administration's definition of a comparable replacement dwelling contains nine requirements. They include size, quality, locational, availability, and financial considerations. Later in this study, the requirements for DS&S and comparable housing will be discussed in more detail.

Texas fully implemented the 1968 and 1970 Federal relocation programs on April 2, 1969 and August 30, 1971, respectively [25, p. 396]. However, in the case of the 1970 program, monetary payments were made effective for all persons displaced by a highway project on or after January 8, 1971 [25, p. 401]. The rules and regulations necessary to carry out the provisions of the Texas relocation program were formulated by the State Highway Commission and put into effect by the Texas Highway Department (THD). These rules and regulations were compiled in the Department's Right of Way Manual and several brochures available to affected persons [22, 23, 24, 25].

### Objectives

The overall purpose of this study is to assess the effectiveness of Texas's 1968 and 1970 relocation assistance programs which fully implemented federal programs in reducing the adverse effects caused by freeway construction. More specifically the objectives are as follows:

- (1) Determine the extent to which owner and tenant relocatees voluntarily and involuntarily upgraded their housing.
- (2) Determine the extent to which the payments received by relocatees were adequate to cover all compensable costs required to obtain replacement housing.
- (3) Determine the extent to which changes in housing costs affected the financial status of owner and tenant relocatees.
- (4) Determine the extent to which the different economic effects identified by the study varied by selected characteristics of relocatees.

Besides the fulfillment of the above objectives, the intent of this study was to gather all other facts and opinions concerning the relocatees' displacement experiences which might be helpful in evaluating the relocation programs.

Some of the specific hypotheses examined in this study are as follows: (1) The upgrading of housing by relocatees caused a significant increase in their housing costs. (2) The upgrading of housing caused replacement housing payments to cover inadequately the actual housing costs to relocatees. (3) The upgrading of housing and resulting higher housing costs varied significantly among relocatees by such characteristics as the age and race of the head of household and/or the size of the household. (4) Relocatees who lived in substandard housing subsequently moved into marginal or substandard replacement housing.

## Procedure

To accomplish the above objectives, data were obtained from the THD records and from relocated residents through personal interviews. With the help of THD personnel, freeway projects in urban areas were canvassed to determine which would qualify for study. To qualify, a project was required to meet the following criteria: (1) to have residential relocatees that were relocated after April 1, 1969, (2) to have relocatees of a low socio-economic background, (3) to be located in a city with a population of over 200,000 people, and (4) to be in a city which had a considerable number of qualified residential relocatees.

As a result of the above canvass, several projects located in two Texas cities, Austin and Houston, were selected for study. The original design called for a random sample of 240 relocatees, 120 owner-residents and 120 tenant-residents. These relocatees had to meet the following qualifications: (1) to have vacated property taken for right of way after April 1, 1969, (2) to have occupied property taken for right of way at least 90 days prior to the first date of negotiation for property, (3) to have occupied a property that was a whole-taking, (4) to have occupied a dwelling or apartment unit valued by the THD at not more than \$15,000 in residential use, and (5) to have occupied a single family residence, if owner, or any type residence, if tenant. The resulting number of relocatees qualifying was considered too small to sample, thus all were included in the study.

Table 1 shows that the number qualifying for study consisted of 251 relocatees, 107 owners and 144 tenants. Of that number, 187 (75 percent)

Table 1. Sample of relocatees according to availability for interview, by the original tenure of relocatee

Availability for interview	<u>Original tenure of relocatee</u>		
	Owner	Tenant	Total
Available	----- number -----		
Interviewed	85	86	171
Rejects <sup>a</sup>	7	9	16
Not available			
Moved out of town <sup>b</sup>	10	20	30
Could not be located <sup>c</sup>	2	18	20
Not at home <sup>d</sup>	0	6	6
Refusals	2	2	4
Others	1	3	4
Total sample of relocatees	107	144	251

<sup>a</sup>Relocatees whose household composition changed in such a way as to make it almost impossible to make "before" and "after" comparisons, e.g., combined households, split households, etc.

<sup>b</sup>Relocatees who moved over fifty miles from their dwelling taken for right of way.

<sup>c</sup>Relocatees who had moved from replacement dwelling and could not be located by the aid of neighbors, telephone company, and city directory.

<sup>d</sup>Relocatees who could not be contacted at their dwelling during several attempts.

relocatees were available for interview. The other 64 (25 percent) were not available for interview for one of several reasons given in the above table. It is not known to what extent that the results were biased by the exclusion of those not available for interview. But it was assumed that this group of relocatees had characteristics and experiences very similar to the group interviewed.

Of those available for interview, 16 were rejected because their household composition had changed in such a way that it made "before and after" comparisons almost impossible. Therefore, the remaining 171 relocatees, 85 owners and 86 tenants, who availed themselves for interviews formed the basis for study from which sample statistics from an infinite population were generated and tested for significant differences and relationships [13, 21, 32]. Even though the qualifying criteria reduced the number of relocatees below 240, the reliability of the statistics generated therefrom is still considered high enough to be acceptable for this type of evaluation, i.e., to determine some of the consequences of residential displacement by urban freeways.

Because the level of relocation payments, qualifying times, and qualifying types of housing for owners were different from those for tenants, the data for the two types of relocatees were analyzed separately. However, comparisons were made between the two groups when their comparability was not too questionable. Also, because the level of payments depended upon the tenure of the relocatee after relocation, certain comparisons were made on a tenure change basis when deemed advisable. In other comparisons, tenure was ignored.

Comparisons were made between various "paired" arrays to reveal significant relationships and differences, as indicated by means, maximum and minimum values, medians, and in some cases, coefficients of regression and correlation. The Student's t statistic for paired and unpaired observations was used to determine whether the difference between means was due to more than chance variations. The probability levels used were .05 and .01.

Objective 1 called for a determination of the extent relocatees voluntarily or involuntarily upgraded their housing. To accomplish this objective, it was necessary to establish first whether each respondent relocatee had upgraded his housing. Economic, quantity, and quality measures were used to determine upgrading. The economic measure was based on the market value of the original and replacement dwellings. In the case of original tenants, monthly rents were used for the original and replacement dwelling value comparisons. For the quantity measure of upgrading, selected physical characteristics of the original and replacement dwellings were compared. For the quality measure of upgrading, the opinions of the relocatees were used. These three independent measures of upgrading were compared to determine the extent of disagreement among them.

The next task under Objective 1 was to establish whether a respondent relocatee who had upgraded his housing did so voluntarily or involuntarily. Since a relocatee was required to purchase or rent a replacement dwelling that met the DS&S standards in order to obtain relocation housing payments, he may have upgraded his housing involuntarily. Also, even though his

original dwelling was DS&S, the fact that the THD established a comparable replacement dwelling value higher than that set on the original dwelling would indicate that the relocatee may have upgraded his housing involuntarily. (For lists of the DS&S standards and the comparable replacement requirements of the relocation programs, see Appendix Tables 1 and 2.) For the above reasons, a relocatee who upgraded his housing, in economic terms, to the extent that the value of his replacement dwelling was higher than the value set on his original dwelling but not more than the value established on the comparable replacement dwelling was classified as one who involuntarily upgraded his housing. Then the data were aggregated into groups according to those who did not upgrade, those who voluntarily upgraded, and those who involuntarily upgraded to reveal significant differences and relationships between the original and replacement housing values.

Objective 2 required that a determination be made of how adequate relocation payments were to cover the compensable costs necessary to obtain replacement housing. To accomplish this objective, a comparison was made between the relocation payments received and the actual relocation costs incurred to obtain replacement housing. Arrays of particular types of payments and costs were generated to determine the differences for each type. The particular types of payments evaluated are those compensable under Texas's relocation assistance program. They are as follows:

- (1) Payment for replacement housing,
- (2) Payment for interest differential expenses,
- (3) Payment for moving and related expenses, and
- (4) Payment for incidental expenses.

The criteria used by the THD in determining the level of relocation payments are discussed fully in Chapter III. As for the relocation costs, they are estimates of incurred costs furnished by the respondent relocatees. The type of payment for replacement housing received by the relocatee determined the type of cost for replacement housing that was used for comparative purposes. This condition was required to handle cases of relocatees, at time of interview, who were of a different tenure than that used to compute their relocation payment. Also, to make the actual rental cost comparable to the lump sum rental payment, the former was made to represent the rental cost for the same period used to compute the rental payment. Individual relocation payment-cost differentials were generated by original replacement tenure of relocatees to reveal significant differences and relationships.

Aggregations of compensable payments were not attempted due to differences in the manner each was calculated. These are discussed further in Chapter III.

Objective 3 called for a determination of the extent changes in housing costs affected the financial status of relocatees. This objective was accomplished through a study of the changes that occurred in each respondent's housing costs and by showing how these changes affected the relocatee's financial position measured in terms of changes in mortgage debt, equity, net worth, monthly housing and operating costs, and monthly income. Also, the amount of payments received were compared with the amount of cash expenses. Before and after arrays or monthly change arrays of each financial indicator were developed for relocatees, according to their original tenure status. The overall change in monthly



housing costs was compared to the change in monthly income to indicate a change in the ability to pay additional housing costs. The opinion of each respondent relocatee was obtained, as an independent measure of the overall financial effects of the move.

Another comparison was made to reveal differences in the various financial effects of relocation on relocatees who voluntarily upgraded their housing versus those who involuntarily upgraded their housing. As a part of this analysis, the respondents' opinions of financial effects were cross-tabulated with the groups who voluntarily and involuntarily upgraded their housing.

Objective 4 required a determination of how much the different economic effects of relocation varied by selected characteristics of the relocatees. This objective was accomplished by comparing the findings of Objectives 1, 2, and 3 with the age and race or nationality background of the heads of household, the number of persons per household, and the type of persons in the household. Cross-tabulations of these characteristics were made with the following: (1) economic upgrading of housing, (2) changes in monthly costs, (3) payments received versus cash expenses, and (4) respondents' opinions of financial effect. The frequency distributions of respondents formed by the above cross-tabulations were tested for significant difference or degree of independence by the Chi-square statistic [13, pp. 73-75]. The Chi-square ( $\chi^2$ ) statistic was used to measure the extent of agreement between the observed values and the values that would have been obtained under the assumption (null hypothesis) that the observed relationship was brought about as a result of sampling variation. The probability levels used were .05 and .01.

The findings of all four objectives were interpreted and conclusions were made to indicate the following:

- (1) The effectiveness of the relocation program to meet a national goal of improving the standard of housing for persons of low socio-economic status;
- (2) The adequacy of each type of relocation payment to cover actual costs required to move and obtain replacement housing;
- (3) The extent respondents used additional funds in obtaining replacement housing;
- (4) The change in the ability of respondents to pay additional housing costs;
- (5) Whether respondents were left in better or worse position due to displacement; and
- (6) Whether certain effects and impacts were significantly different with respect to selected characteristics of the respondents.

Pertinent questions were asked the relocatees to obtain other facts and opinions concerning information and public participation relating to proposed freeway; selection of replacement dwelling, neighborhood, and community; evaluation of relocation assistance programs; and attitudes toward freeway and displacement.

In evaluating the costs, the following assumptions were made:

- (1) The values set by the THD on the original property and the comparable replacement property represented actual market values had the properties sold at that time; (2) All costs of the respondent relocatees were established in a competitive market of willing buyers and sellers;

(3) Reported costs were actual costs; (4) There was no recording or measurement bias in the cost and payment data; and (5) There were no differences between costs and payments due to time.

#### Characteristics of Sample

From Table 2, it can be seen that a majority (56 percent) of the respondent relocatees were located in Houston. Also, most (75 percent) were relocated under the 1968 program. Too, those relocated under the 1968 program were fairly evenly proportioned between original owners and tenants in each city. The number of those relocated under the 1970 program varied considerably with location and original tenure of respondent.

All of the respondents had lived in their dwellings long enough to qualify for relocation payments on replacement housing as well as for moving expense payments (Table 3). As would be expected, the length of occupancy of the original tenants was much shorter than that of the original owners. A large majority of the owners had lived in their dwelling at least 10 years before the date of notice of availability of relocation assistance, while a large majority of the tenants had lived in their dwelling less than five years. Thus, the indications are that the residential probability of tenants was greater than that of owners. Had the relocatees not been forced to move, the residential mobility would have been less for both owners and tenants.

The mean and median age of all the respondent heads of household was 49 years at the time of interview (Table 4). The owners were

Table 2. Respondent relocatees interviewed in Houston and Austin, by original tenure of respondent and type of relocation program

Location and type of relocation program	<u>Original tenure of respondent</u>		
	Owner	Tenant	Total
	-----number-----		
Houston			
1968 program	25	39	64
1970 program	25	6	31
Total	50	45	95
Austin			
1968 program	30	34	64
1970 program	5	7	12
Total	35	41	76
All respondents	85	86	171

Table 3. Length of occupancy in original dwelling prior to receiving notice of available relocation assistance, by original tenure of respondent

Length of occupancy <sup>a</sup>	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Less than 1 year <sup>b</sup>	0	16	16
1 to 5 years	7	52	59
5 to 10 years	9	11	20
10 to 20 years	31	5	36
20 years or over	36	1	37
Unknown	2	1	3
All respondents	85	86	171

<sup>a</sup>The date of notice of available relocation assistance was substituted for the date of initiation of negotiations for the original dwelling because the latter date was not obtained from the THD records.

<sup>b</sup>But not less than 90 days.

Table 4. Characteristics of respondent heads of household at time of interview, by original tenure of respondent

Characteristic of head of household	Original tenure of respondent		
	Owner	Tenant	Total
	----- number -----		
<b>Age</b>			
Less than 30 years	3	16	19
30-39	4	29	33
40-49	20	14	34
50-59	22	20	42
60 or more years	36	7	43
Mean	57	42	49
Minimum	22	22	22
Maximum	86	84	86
Median	57	38	49
<b>Sex</b>			
Male	57	58	115
Female	28	28	56
<b>Race or nationality</b>			
Anglo	63	32	95
Black	18	38	56
Mexican-American or other <sup>a</sup>	4	16	20
<b>Employment status</b>			
Full-time	54	71	125
Part-time	5	3	8
Not employed or retired	6	9	15
Retired	20	3	23
All respondents	85	86	171

<sup>a</sup>Other refers to one Indian and one Japanese.

considerably older than the tenants, the groups having median ages of 57 and 38, respectively. About one-third were females, regardless of tenure. A slight majority (56 percent) of all heads of household were Anglos, while most of the others were Black. On the other hand, non-Anglos made up the majority (63 percent) of all tenants. Among owners, non-Anglos comprised 26 percent. Over three-fourths (78 percent) of them had full-time or part-time jobs. Nearly one-fourth (24 percent) of the owners were retired.

The mean size of all respondent households was slightly over three persons, with the tenant households having, on the average, about one more person (Table 5). One-third of the tenant households were composed of five or more persons, whereas nearly two-thirds of the owner households were composed of no more than two persons. The makeup of these households consisted primarily of those where the head of household (1) lived alone, (2) lived with spouse alone, or (3) lived with spouse and children. Owner households made up the majority of the first two groups, and tenant households made up a majority of the last group. The median annual income was in the \$6,000 - \$7,999 class, with owner households having slightly higher annual incomes than tenant households.

In summary, the relocatees were more likely those who (1) relocated under 1968 program; (2) lived in their original houses at least five years; (3) had heads of households at least 48 years old who were males, Anglos, and employed full-time; and (4) had households with at least three persons and had an annual income of about \$7,000. The primary differences between owner respondents and tenant respondents were that the former (1) had lived in their dwellings longer; (2) had heads of household

Table 5. Characteristics of respondent households at time of interview, by original tenure of respondent

Characteristic of household	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Number of persons per household			
1	19	12	31
2	34	16	50
3	15	21	36
4	9	8	17
5 or more	8	29	37
Highest number	9	11	11
Mean	2.6	3.8	3.2
Persons in household			
Head of house, <u>no spouse</u> alone	17	12	29
Others, but no children	7	6	13
With children, no others	3	7	10
With children and others	4	6	10
Head of house, <u>with spouse</u> alone	27	7	34
Others, but no children	4	1	5
With children, no others	17	36	53
With children and others	6	11	17
Annual household income			
Less than \$2,000	11	3	14
\$2,000 - \$3,999	9	19	28
\$4,000 - \$5,999	12	9	21
\$6,000 - \$7,999	12	14	26
\$8,000 - \$9,999	9	21	30
\$10,000 or more	29	17	46
Not obtained	3	3	6
All respondents	85	86	171



who were more likely to be older, Anglo, and retired; and (3) had households that were more likely to be childless and smaller. Since the respondents showed fairly wide differences in their characteristics, there was reason to expect that the economic consequences of displacement varied among groups categorized by selected characteristics. The analysis of these effects will be covered in Chapter V.

## CHAPTER II

### QUANTITY, QUALITY, AND ECONOMIC

#### UPGRADING OF HOUSING

This chapter presents the results of analyses that were performed to determine the existence, nature, and extent of upgrading of housing among the respondents. The analytical approach was to make the above determinations and then to determine the existence, nature, and extent of voluntary and involuntary upgrading. But before giving the results of these analyses, preliminary tabular data are presented that show the quantity characteristics of original and replacement housing; the opinions of respondents about the changes in quality of their housing; and the values or rents of the original, comparable, and replacement housing. In regard to the last, the measures of housing value for four tenure groups are explained.

Table 6 shows 12 selected quantity characteristics of the original and replacement housing of original owner and tenant respondents. The typical original dwelling was (1) the single family type; (2) a wood frame construction; (3) 25 years old or older; (4) about 1,000 square feet of heated area, or five rooms in size; (5) a one-unit building; (6) heated with space heaters; (7) cooled with refrigerated window units; (8) equipped with a single car garage or carport and a concrete or an asphalt driveway; (9) located on a paved and curbed street; and (10) located on a 7,000 square foot lot, if a single family residence. The primary differences between the original housing of owners and tenants were that more of the latter group's dwellings were in duplexes or apartment houses, of brick construction, in older buildings, somewhat smaller,

Table 6. Selected quantity characteristics of the original and replacement dwelling, by original tenure of respondent<sup>a</sup>

Quantity characteristic	Original owner		Original tenant	
	Original	Replm't.	Original	Replm't.
	-----number-----			
Type of dwelling				
Single family	85	75	51	64
Duplexes	0	1	10	6
Mobile homes	0	3	0	2
Other apartments	0	6	25	14
Type of construction				
Brick or masonry	5	43	17	34
Other permanent siding	20	19	12	13
Other siding	60	23	57	39
Age of dwelling				
New	0	17	0	9
1-5 years	0	12	1	10
6-10	0	4	10	8
11-20	38	30	12	21
21 or over	45	22	60	38
Not determined	2	0	3	0
Mean age, years	27.3	14.5	29.3	20.4
Number	83	85	83	86
Size of dwelling (sq. ft.)				
Mean	1,032	1,245	908	1,152
Minimum	438	360	322	360
Maximum	1,846	2,400	2,286	2,350
Median	990	1,200	832	1,104
Mean number of rooms				
All	5.25	5.45	4.53	5.12
Bedrooms	2.51	2.64	1.99	2.40
Bathrooms	1.12	1.42	1.13	1.22
Number of units in bldg.				
1 unit	85	78	60	68
2	0	0	10	8
3	0	1	2	0
4 or more units	0	6	14	10

Table 6. (Continued)

Quantity characteristic	Original owner		Original tenant	
	Original	Replm't.	Original	Replm't.
-----number-----				
Type of heating system				
Central	8	48	11	36
Wall or floor	35	26	22	18
Space heaters	42	11	53	32
Type of cooling system				
Central refrigeration	3	34	3	26
Other refrigeration	54	42	43	45
Water cooler	5	2	5	4
None	23	7	35	11
Automobile storage				
Double garage	6	35	10	10
Single garage	53	18	32	30
Double carport	4	1	0	2
Single carport	10	20	19	16
None	12	11	25	28
Driveway material				
Concrete	52	50	38	49
Asphalt	1	8	8	8
Not paved	29	25	30	20
None	3	2	10	9
Street on which dwelling fronts				
Paved with curb	54	66	48	64
Paved without curb	8	13	18	17
Not paved	23	6	20	5
Size of lot (sq. ft.)				
Number (S.F. dwellings)	85	78	55	60
Mean	6,896	12,042	6,901	8,423
Minimum	3,000	1,800	2,500	1,440
Maximum	11,350	76,230	13,271	43,560
Median	6,720	7,500	7,050	6,675
All respondents	85	85	86	86

<sup>a</sup>The total number of respondents for each characteristic is the same as that at bottom of table, unless otherwise indicated.

heated with space heaters, not cooled, and not equipped with a garage or driveway. The typical replacement dwelling was (1) the single family type; (2) brick, masonry, or other permanent construction; (3) less than 20 years old; (4) about 1,200 square feet of heated area, or five to six rooms in size; (5) a one-unit building; (6) heated with central, wall, or floor furnace; (7) cooled with central or window refrigeration; (8) equipped with a single or double garage and a concrete driveway; (9) fronted on a paved and curbed street; (10) and located on a 7,000 square foot lot, if a single family residence.

Replacement dwellings of owners differed from those of tenants in that more of the former were single family type, of brick or masonry construction, newer, somewhat larger, heated and cooled by central units, and equipped with double garages. Consequently, Table 6 shows some marked changes in the physical characteristics of housing for owners and tenants.

An overall indication of change in housing came from the opinions of respondent relocatees themselves, as shown in Table 7. Each respondent was asked to compare his original and replacement dwelling and to select one of the answers, as listed in the above table, that best described the change in quality of his housing. About 85 percent of the respondents, especially original owners, thought that the quality of their replacement housing was equal to or better than their original housing. Only 15 percent of all respondents thought that the quality of their housing had worsened. These answers were grouped for the upgrading analysis presented in the next section.

Although the primary analytical divisions of the study were made by the original tenure of respondents, a further classification into

Table 7. Opinions of respondents as to the change in quality of housing, by original tenure of respondent

Change in quality of housing	Original tenure of respondent		
	Owner	Tenant	Total
Much improved	37	29	66
Somewhat improved	24	26	50
About same	13	16	29
Somewhat worsened	9	8	17
Much worsened	2	7	9
All respondents	85	86	171

four original/replacement tenure groups was necessary, in some cases, to reveal the economic effects of the relocation programs. This is especially true in the case of economic upgrading determination. Table 8, showing the number of relocatees in the four tenure groups by relocation program, reveals that very few of the original owners became tenants, especially those relocated under the 1968 program. On the other hand, many of the original tenants became owners, especially those relocated under the 1970 program. The 1968 program may have been more effective in preventing owners from becoming tenants, and the 1970 program may have been more effective in influencing tenants to become owners.

In order to study the housing values or changes in housing value for original owners and tenants, the first two tenure groups were combined and the last two groups were combined (Table 8). (Appendix Table 3 summarizes the economic measures of housing value for each tenure group.) Since nine owners became tenants, the purchase prices of the replacement dwellings had to be estimated before being combined with those of the other 76 original owners who purchased replacement housing. The reverse was true for the 43 original tenants who became owners of replacement housing. The purchase prices were used to estimate the monthly rental value of the replacement dwellings before being combined with those of the other 43 original tenants. The above estimated purchase prices or rents of replacement dwellings were generated by gross rent multipliers. It seems appropriate to use gross rent multipliers to give a rough estimate of the market value of residential property, especially those in the low range of value [19, pp. 48-49]. General rule of thumb multipliers have been developed over the years. A multiplier of 9.5 times the gross

Table 8. Respondents relocated under the 1968 and 1970 relocation programs, by original/replacement tenure of respondent

Original/replacement tenure of respondent	Relocation program		
	1968	1970	Total
	-----number-----		
Owner to owner	51	25	76
Owner to tenant	4	5	9
Tenant to tenant	41	2	43
Tenant to owner	33	10	43
All respondents	129	42	171



annual income appears to be acceptable for single family residences and 7.5 for duplexes or apartments [5, pp. 990-991].

Aggregated values of the original, DS&S comparable, and replacement housing are shown in Table 9 according to the original/replacement tenure of respondents. For the combined two original owner groups, the mean dwelling values were \$10,162 for originals, \$11,787 for DS&S comparables, and \$15,276 for replacements. For the combined two original tenant groups, the mean dwelling rents were \$91 for originals, \$114 for DS&S comparables, and \$112 for replacements. These values, as well as those for the four tenure groups, vary considerably from each other. There is a strong indication of economic upgrading of housing, which will be explored in the next two sections. Also, the range of maximum and minimum values indicates that some respondents may have downgraded economically.

#### Existence of Quantity, Quality, and Economic Upgrading

The tabular data already presented indicates that significant quantity, quality, and economic changes in housing were made by the respondents. However, the overall results do not reveal how many respondents actually upgraded or how many failed to upgrade their housing. Previous studies indicate that not all relocatees upgrade their housing [2, 14].

The existence of quantity upgrading is indicated in Table 10. If a respondent upgraded more of the selected individual characteristics of his dwelling than he downgraded, he was considered one who had upgraded his housing. Therefore, on the basis of the combined characteristics,

Table 9. Value of original, comparable, and replacement housing by original/replacement tenure of respondent

Original/replacement tenure of respondent <sup>a</sup>	Value of housing		
	Original	Comparable	Replm't.
-----dollars-----			
<b>Original owners</b>			
Owner to owner			
Mean	9,938	11,706	14,985
Minimum	3,587	7,425	3,790
Maximum	14,900	18,150	33,000
Median	10,793	11,658	13,500
Owner to tenant			
Mean	12,056	12,463	17,733
Minimum	10,500	10,183	5,700
Maximum	14,925	16,100	34,200
Median	11,700	11,650	17,670
<b>All original owners</b>			
Mean	10,162	11,787	15,276
Minimum	3,587	7,425	3,790
Maximum	14,925	18,150	34,200
Median	10,925	11,650	13,750
<b>Original tenant<sup>b</sup></b>			
Tenant to tenant			
Mean	93	118	102
Minimum	25	78	40
Maximum	175	180	185
Median	97	117	100
Tenant to owner			
Mean	89	110	123
Minimum	38	78	70
Maximum	160	180	220
Median	80	105	114
<b>All original tenants</b>			
Mean	91	114	112
Minimum	25	78	40
Maximum	175	180	220
Median	90	113	105

<sup>a</sup>Values based on number of respondents shown in Table 8.

<sup>b</sup>For tenant dwellings, the rent is measured on a monthly basis.

Table 10. Quantity changes in housing based on selected characteristics of original and replacement dwellings, by original tenure of respondent

Quantity changes in housing	Original owner <sup>a</sup>			Original tenant <sup>a</sup>		
	Up- graded	Down- graded	Even	Up- graded	Down- graded	Even
Specific characteristic <sup>b</sup>	----- number -----					
Type of construction	51	6	28	33	10	43
Age of dwelling	63	13	9	53	22	11
Size of dwelling	60	24	1	66	20	0
Number of rooms	36	30	19	46	18	22
Number of bedrooms	27	17	41	38	13	35
Number of bathrooms	37	7	41	18	10	58
Type of heating	58	4	23	43	7	36
Type of cooling	48	2	35	47	3	36
Automobile storage	42	20	23	29	35	22
Driveway material	20	20	45	27	14	45
Type of street	29	16	40	28	4	54
Size of lot	52	31	2	36	27	23
Combined characteristics <sup>c</sup>	64	16	5	61	20	5

<sup>a</sup>The number of original owners or tenants for each characteristic is 85 for owners and 86 for tenants.

<sup>b</sup>Those who moved into a newer, larger, etc. dwelling upgraded their housing. Those who moved into an older smaller, etc. dwelling downgraded. Those who moved into a dwelling the same age, size, etc. or original dwelling remained even.

<sup>c</sup>If respondent upgraded more characteristics than he downgraded, he was placed in the "Upgraded" group. If reversed, he was placed in "Downgraded" group. All others were placed in the "Even" group.

75 percent of the original owners and 71 percent of the original tenants upgraded their housing. More of the respondents upgraded the age of dwelling, the size of dwelling, and the type of cooling system than they upgraded any of the other characteristics.

The existence of quality upgrading as evaluated by the opinions of respondents themselves is indicated in Table 11. About 72 percent of the owners and 64 percent of the tenants concluded that the quality of their housing was upgraded. There were fewer of the tenants than owners that came to this conclusion, but the difference was not statistically significant.

The existence of economic upgrading is indicated in Table 12. If a respondent purchased or rented a replacement dwelling with a purchase price or rent greater than the residential value or rent of the original dwelling, it was assumed that he had upgraded his housing economically. Nearly 79 percent of the owners and 69 percent of the tenants accomplished this type of upgrading.

An overall comparison of the data presented in the last three tables, indicates general agreement among the three measures as to the existence of upgrading. The overall percentages of respondents upgrading by the three measures were as follows: (1) 73 percent for the quantity measure, (2) 68 percent for the quality measure, and (3) 74 percent for the economic measure. Table 13, showing cross-tabulated comparison of the economic measure with both the quantity and quality measures, indicates how much the economic measure agreed with the other two measures as to which respondents really upgraded their housing. The economic measure agreed with the quantity measure that 107 (63 percent) respondents had upgraded

Table 11. Quality change in housing based on opinions of respondents, by original tenure of respondent

Quality change in housing	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Upgraded <sup>a</sup>	61	55	116
Other <sup>b</sup>	24	31	55
All respondents	85	86	171

<sup>a</sup> Those who thought that the quality of their housing was much or somewhat improved.

<sup>b</sup> Those who thought that the quality of their housing was about the same, somewhat worsened, or much worsened.

Table 12. Economic change in housing , by original tenure of respondent

Economic change in housing	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Upgraded <sup>a</sup>	67	59	126
Other <sup>b</sup>	18	27	45
All respondents	85	86	171

<sup>a</sup> Those who purchased or rented a replacement dwelling in which the purchase price or rent was greater than the residential value or rent placed on the original dwelling by the THD.

<sup>b</sup> Those who purchased or rented a replacement dwelling in which the purchase price or rent was equal to or less than the residential value or rent placed on the original dwelling by the THD.

Table 13. Comparison of economic, quantity, and quality changes in housing, by original tenure of respondent

Type of change in housing	Economic change in housing			
	Original owner		Original tenant	
	Upgraded	Other	Upgraded	Other
	----- number -----			
Quantity				
Upgraded	57	7	50	11
Other	10	11	9	16
Quality change				
Upgraded	54	7	43	12
Other	13	11	16	15
All respondents	67	18	59	27

their housing. The economic and quality measures were in agreement that 97 (57 percent) respondents had upgraded.

Since the three measures agreed that such a high percentage of the respondents had upgraded their housing, only the economic measure was used to determine the nature and extent of upgrading presented in the next section.

#### Nature and Extent of Economic Upgrading

The nature and extent of economic upgrading was determined by such statistics as means, minimum and maximum values, medians, and coefficients of correlation and regression. Table 14 shows some of these measures in the form of housing value differentials by type of economic change in housing. Owners who upgraded their housing did so by a mean differential value of \$6,998, representing a 70 percent increase in the value of resources committed to housing. In contrast, the other owners downgraded by a mean differential value of \$1,898, representing an 18 percent decrease in the value of resources committed to housing. Together, the two groups upgraded by a mean differential of \$5,114, a difference that is statistically significant. Original tenants who upgraded their housing did so by a mean differential rent of \$40, representing a 48 percent increase over the original rental value. The other tenants downgraded by a mean differential rent of \$19, representing an 18 percent decrease from the original rental value. But original tenants as a whole, upgraded their housing by a mean differential rent of \$22, a difference that is also statistically significant. Therefore, original owner respondents upgraded more than did tenants.



Table 14. Housing value differentials according to economic change in housing, by original tenure of respondent

Economic change in housing/original tenure <sup>a</sup>	Value of housing		
	Original	Replacement	Difference
-----dollars-----			
Original owner			
Upgraded			
Mean	9,986	16,984	6,998
Minimum	3,587	5,900	712
Maximum	14,925	34,200	22,125
Median	10,875	16,000	5,552
Other			
Mean	10,817	8,919	-1,898
Minimum	4,785	3,790	-6,000
Maximum	14,900	13,000	0
Median	11,113	10,000	-1,070
All original owners			
Mean	10,162	15,276	5,114 <sup>b</sup>
Minimum	3,587	3,790	-6,000
Maximum	14,925	34,200	22,125
Median	10,925	13,750	3,749
Original tenants <sup>c</sup>			
Upgraded			
Mean	84	124	40
Minimum	25	45	3
Maximum	160	220	159
Median	80	118	35
Other			
Mean	106	87	- 19
Minimum	50	40	- 75
Maximum	175	128	0
Median	113	87	- 10
All original tenants			
Mean	91	112	22 <sup>d</sup>
Minimum	25	40	- 75
Maximum	175	220	159
Median	90	105	20

<sup>a</sup>The number of respondents upon which the housing values are based was presented in Table 12.

<sup>b</sup>For tenant dwellings, the figures are monthly rent.

<sup>c</sup> $t = 8.01^{**}$ ;  $t_{.01} = 2.58$ ; 84 d.f.

<sup>d</sup> $t = 5.20^{**}$ ;  $t_{.01} = 2.58$ ; 85 d.f.

An interesting fact is that both the original owners and tenants who failed to upgrade formerly lived in original housing of higher values than those who upgraded (Table 14). However, the mean differential value for owners is not statistically significant. This finding suggests that respondents who lived in the lower valued housing tended to upgrade, and those who lived in the higher valued housing tended to downgrade. According to Appendix Tables 5-7, most of those who failed to upgrade their housing formerly lived in DS&S dwellings. Also, they downgraded their housing values more than those formerly living in non-DS&S dwellings. (Appendix Table 4 shows the extent to which original and replacement housing passed the various DS&S standards. It also indicates the method used to determine whether original and replacement dwellings were DS&S.)

The relationship between the amount of upgrading and the original housing value was explored and measured. To do this, the following regression equation was used:

$$Y = a + bX \text{ where}$$

Y = amount of upgrading (difference between original and replacement dwelling values or rentals)

X = the original dwelling or rental value

a = intercept value or point where the regression crosses the Y axis

b = the regression coefficient which measures the slope of the regression line

There was very little relation ( $r = 0.109$ ) between the amount that original owners upgraded and the value of the original dwelling (Table 15).

Table 15. Relationship between the value of original and replacement housing according to economic change in housing, by original tenure of respondent

Measure of relationship/original tenure of respondent	Amount
<b>Original owner</b>	
Coefficient of correlation (r)	0.109
Coefficient of determination (r <sup>2</sup> )	0.012
Coefficient of regression (b)	\$ 0.235
Standard error of regression (σ <sub>u</sub> )	\$ 5887
Significance of regression (F-ratio)	1.002 <sup>a</sup>
Intercept value (a)	\$ 2722
<b>Original tenant<sup>b</sup></b>	
Coefficient of correlation (r)	-0.369
Coefficient of determination (r <sup>2</sup> )	0.136
Coefficient of regression (b)	\$ -0.425
Standard error of regression (σ <sub>u</sub> )	\$ 35.889
Significance of regression (F-ratio)	13.270** <sup>c</sup>
Intercept value (a)	\$ 60.149

<sup>a</sup> F<sub>.01</sub> = 5.36; 1, 83 d.f.

<sup>b</sup> Monthly rent was used for tenants.

<sup>c</sup> F<sub>.01</sub> = 6.99; 1, 84 d.f.

The regression line has a slight positive slope as indicated by the regression coefficient (\$0.235). But what little variation that the regression equation explained ( $r^2 = 0.012$  or 1.2 percent) could be due to chance, as indicated by the F-ratio. Also, the variations of the observations about the regression line is very large, as measured by the standard error of regression (\$5,887).

For original tenants, a significant relationship existed between the two variables (Table 15). But only 13.6 percent of the variation in Y was explained by X. Yet this negative regression line confirms the above finding which suggested that respondents who lived in higher valued housing tended to downgrade. Due to lack of goodness of fit, the above regression equations are not reliable for predicting the amount of upgrading that an individual relocatee might accomplish. The equation for tenants is good for gross measurements only.

#### Voluntary and Involuntary Economic Upgrading

Relocation housing payments were based on the differential between the value of an original dwelling and the value of a comparable replacement dwelling. The comparable dwelling had to be DS&S. Since the relocatees were required to purchase or rent a DS&S replacement dwelling to qualify for relocation housing payments and were required to use such payments in purchasing or renting a replacement dwelling, many of them may have involuntarily upgraded their housing to the comparable replacement value. However, if they entered the housing market and purchased or rented replacement housing at values higher than the comparable replacement values, upgrading was presumed to have been done more or less on a voluntary basis.

## Existence of Voluntary and Involuntary Upgrading

The existence of voluntary and involuntary upgrading was established by applying the above definitions to the relocatees' experiences. The footnotes of Table 16 state the complete definition for each type of upgrading. The results indicate that 55 percent of the respondents voluntarily upgraded, 19 percent involuntarily upgraded, and 26 percent failed to upgrade. The number of original owners in each group differed significantly from that of original tenants. For owners, 66 percent voluntarily upgraded, 13 percent involuntarily upgraded, and 21 percent failed to upgrade. In the case of tenants, 44 percent voluntarily upgraded, 25 percent involuntarily upgraded, and 31 percent failed to upgrade. One explanation for the difference may be that there is more incentive for a relocatee to upgrade a considerable amount when he purchases rather than when he rents a dwelling. Another reason is that those who purchased a replacement dwelling had to pay all of the relocation housing payment on it. No such restriction was placed on the 43 respondents remaining tenants in the use of the rental housing payment. At any rate, 56 percent of the tenants either failed to upgrade or involuntarily upgraded, compared to 34 percent of owners. But those who involuntarily upgraded formed the smallest group for both owners and tenants, leaving fairly large groups that either voluntarily failed to upgrade or voluntarily upgraded.

The number of original owners of each upgrade group that lived in DS&S original housing differed significantly from that of those who

Table 16. Voluntary and involuntary economic change in housing,  
by original tenure of respondent

Economic change in housing	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Voluntarily upgraded <sup>a</sup>	56	38	94
Involuntarily upgraded <sup>b</sup>	11	21	32
Other <sup>c</sup>	18	27	45
All respondents <sup>d</sup>	85	86	171

<sup>a</sup>The purchase price or rent of replacement dwelling was greater than both the purchase value or rent of DS&S comparable replacement dwelling and the value or rent of original dwelling.

<sup>b</sup>The purchase price or rent of replacement dwelling was less than or equal to the purchase price or rent of DS&S comparable replacement dwelling. However, the purchase price or rent of replacement dwelling was greater than the value or rent of original dwelling.

<sup>c</sup>The purchase price or rent of replacement dwelling was less than or equal to the value or rent of original dwelling.

<sup>d</sup> $\chi^2 = 8.37^*$ ;  $\chi^2_{.05} = 5.99$ ; 2 d.f.

formerly lived in non-DS&S housing (Appendix Table 7). Forty-four percent of those formerly living in non-DS&S housing involuntarily upgraded, whereas only six percent of those formerly living in DS&S housing involuntarily upgraded. Although not statistically significant, a similar pattern of upgrading was accomplished by the original tenants.

#### Nature and Extent of Voluntary and Involuntary Upgrading

Housing value differentials were used to measure the extent that respondents (1) voluntarily upgraded, (2) involuntarily upgraded, or (3) failed to upgrade their housing. The mean differential values of the three groups varied widely for original owners and tenants (Table 17). This was partly due to defining them into separate groups, depending on the relationship between the replacement value and the comparable or original value. But there was no reason why the original values should have varied significantly from group to group. In fact, the mean values of the voluntarily upgraded group and the other group were about the same. Yet, the mean differential values for each group were extremely different. On the other hand, the replacement mean value of the involuntary upgraded group and that of the other group were nearly the same. Yet, the mean value of the original dwellings for the involuntary upgrade group was significantly lower than that of the other group.

Original owners of the two upgraded groups upgraded more, in relative terms, than the original tenants, but both owners and tenants who downgraded did so by about the same amount. Also, both owners and tenants of the voluntary upgraded group accomplished a greater percentage of upgrading than did those of the involuntary upgraded group, although the

Table 17. Housing value differentials according to voluntary and involuntary economic change in housing, by original tenure of respondent

Economic change in housing/original tenure <sup>a</sup>	Value of housing		
	Original	Replacement	Difference
	-----dollars-----		
Original owner			
Voluntarily upgraded			
Mean	10,709	18,534	7,825
Minimum	5,641	9,000	1,500
Maximum	14,925	34,200	22,125
Median	11,000	17,585	6,820
Involuntarily upgraded			
Mean	6,304	9,093	2,789
Minimum	3,587	5,900	712
Maximum	10,441	12,000	4,913
Median	6,000	8,750	2,879
Other			
Mean	10,817	8,919	-1,898
Minimum	4,785	3,790	-6,000
Maximum	14,900	13,000	0
Median	11,113	10,000	-1,070
Original tenant <sup>b</sup>			
Voluntarily upgraded			
Mean	94	145	51
Minimum	40	79	15
Maximum	160	220	159
Median	90	148	45
Involuntarily upgraded			
Mean	65	86	21
Minimum	25	45	3
Maximum	125	148	50
Median	60	81	15
Other			
Mean	106	87	-19
Minimum	50	40	-75
Maximum	175	128	0
Median	113	87	-10

<sup>a</sup>The number of respondents upon which the housing values are based was presented in Table 16.

<sup>b</sup>For tenant dwellings, the figures are monthly rent.



latter group lived in much lower valued original dwellings. (According to Appendix Table 7, those who lived in non-DS&S original dwellings upgraded more or downgraded less, in absolute and relative terms, than those in DS&S original dwellings, except for original owners who involuntarily upgraded.)

The relationship between the amount of upgrading and the value of comparable replacement was explored and measured by the use of a linear regression equation, as presented earlier in this chapter. The results were highly similar to those presented in Table 15.

The relationship between the amount of upgrading and the differential value of comparable replacement and original properties was explored. A scatter diagram revealed only a random relationship. The above differential was used to indicate whether the amount of upgrading, voluntary or involuntary, was dependent upon the magnitude of the relocation housing payment.

The financial effects of voluntary and involuntary upgrading are to be covered in Chapter IV. The effects of both types of upgrading on respondents of different characteristics will be covered in Chapter V.

Perhaps there are several reasons why so many relocatees voluntarily upgraded above the value of a comparable dwelling. There were those who thought that the comparable values were established on dwellings inferior to their original dwellings or on dwellings located in neighborhoods inferior to their original neighborhoods. Others felt that they needed more room than dwellings comparable to their original dwellings provided. Still others wanted replacement dwellings which were newer and in better condition than their original dwellings, or they wanted replacement

dwellings located in newer neighborhoods than their original neighborhoods. The results already presented indicate that many of the replacement dwellings were of higher value, higher quality, and/or larger size than the original dwellings. Some of these relocatees changed their tastes and preferences between the time they moved into their original dwellings and the time they were displaced. Consequently, they were looking for a good opportunity to move.

## CHAPTER III

### COMPENSABLE RELOCATION COSTS AND PAYMENTS

This section presents the results of the analysis that determined the adequacy of relocation payments to cover compensable relocation costs. The term "compensable" is used only to identify a type of cost reimbursable under the 1968 or 1970 relocation program.

#### Measuring Costs and Payments

According to Table 18, Texas's 1968 and 1970 relocation programs provided the relocatees' supplement payments for moving and replacement housing costs up to a certain amount. Since both programs did not make reimbursements for incidental costs incurred by the sale of the original property to the State or by the purchase of the replacement property, such costs were not included in this analysis. Data on 16 respondents did show an average relocation payment of \$81.50 for incidental expenses on replacement dwelling. In all likelihood, these payments closely reflect the actual costs.

Under both relocation programs, very short-term occupants (those occupying original dwelling less than 90 days prior to first date of negotiation for property by acquiring agency) received payment for moving expenses only. Under the 1968 program, short-term occupants (90 to 365 days) were eligible, by time requirement, to receive a rent or downpayment supplement on a DS&S replacement dwelling. Under the 1970 program, this time requirement was shortened to cover 90 to 180 days. Under the 1968

Table 18. Maximum relocation payments to eligible residential relocatees, by relocation program and type of payment

Type of payment	Relocation program	
	1968	1970
<b>Replacement housing payments</b>		
Housing supplement <sup>a</sup>	\$ 5,000	} \$15,000
Increased interest <sup>a</sup>	No paym't.	
Incidental exp. on replm't.	No paym't.	} \$ 4,000 <sup>b</sup>
Downpayment	\$ 1,500	
Incidental exp. on orig.	No limit	No paym't.
Rent supplement	\$ 1,500	\$ 4,000
<b>Moving payment</b>		
Actual cost <sup>c</sup>	No limit	No limit
Schedule cost Dislocation allowance	} \$ 300	\$ 500

<sup>a</sup>To qualify for these payments under the 1968 program, original owners must have occupied their original dwelling at least one year prior to the date of first offer in negotiation for acquisition of the property. Under the 1970 program, it was reduced to 180 days. To qualify for all other payments, original owners or renters must have occupied their original dwelling at least 90 days prior to the first offer in negotiation.

<sup>b</sup>For all over \$2,000, relocatee must pay 50 percent.

<sup>c</sup>Pays moving expenses (storage, meals, lodging, and transportation) up to 50 miles from the original dwelling.

Sources: [22, 23, 24, 25, 27, 28].

program, long-term owners (occupants at least one year) were eligible to receive a housing or rent supplement. Under the 1970 program, the time requirement for long-term owners was reduced to a minimum occupancy of 180 days, and they also qualified for the increased interest payment. As shown previously in Table 3, all the original owner respondents were long-term occupants under both programs, and none of the tenants were very short-term occupants.

The essential difference between the relocation payment and relocation cost measures of value used in this analysis is that the payments were based more or less on comparable values, whereas the costs were based on actual expenses. (The economic measures of value used to generate differentials between costs and payments are presented in Appendix Tables 8 and 9.) In other words, the payments were constrained not only by the maximums established by law but also by maximums set by comparable values. However, the moving and increased interest payments were not limited by comparable values, but by other criteria. Relocates were given two alternatives in claiming moving expenses. They could claim actual expenses up to 50 miles from their original dwelling, or they could accept payment under a scheduled payment based on room count, plus a dislocation allowance of \$100 under the 1968 program or \$200 under the 1970 program. The scheduled costs reflect the amount that a commercial mover would have charged to move so many rooms of furniture.

The interest payment was based on the lesser size and the shorter term of the remaining mortgage loans on the original and replacement dwellings [25, pp. 502-503]. Also, the interest rate of the replacement loan had to be greater than that of the original loan. To

determine payments, the difference in the series of monthly payments between the original and replacement loans was determined. Such a difference was due only to a higher interest rate. Then the present worth of that series of differential monthly payments was obtained by discounting it at the rate of interest paid on savings accounts by commercial banks in the area. The 4.5 percent discount rate was used by the THD in all of these computations involving eligible respondent relocatees who had original and replacement loans.

The interest cost to respondents who had a mortgage on both their original and replacement dwellings was determined by obtaining the present worth of the difference between the monthly payments of the original mortgage at the actual interest rate, versus a 4.5 percent alternative investment rate, and by obtaining the present worth of the difference between the monthly payments of the replacement mortgage at the actual rate, versus the 4.5 percent alternative rate. TTI researchers considered the difference between these two present worth values as the actual interest cost or saving. (Standard formulas were used to determine the monthly payments and the present worth of the increased or decreased interest payments.) This value could be positive or negative, which meant that it was possible to save interest in the process of changing mortgages. The interest costs or savings were also computed for respondents who had only an original mortgage and also for those who had only a replacement mortgage. Of course, these two groups of respondents did not receive an interest payment.

The housing supplement, downpayment, and rent supplement were payments made to relocatees to help purchase or rent a replacement dwelling. Since

all the original owner respondents were long-term occupants, they were not eligible for the downpayment supplement. Also, the original tenants, short-term and long-term, were not eligible for the housing supplement. But both original owners and tenants were eligible for the rent supplement. All three of these supplements were established by using the asking prices or rents and customary downpayments of available comparable replacement property.

The THD could have discounted the rent supplement as was the interest differential, because it was meant to cover the extra rental expenses over a two-year period under the 1968 program and a four-year period under the 1970 program. Under the 1970 program, the rent payment was made in four equal installments over the four-year period. Those who received lump sum payments could have invested it over the next two years and earned some interest to help pay future rent. Therefore, the original lump sum payment plus the interest could have yielded enough funds to rent replacement dwellings for more than the two-year period, assuming no change in the differential between original and comparable rents.

#### Magnitude of Costs versus Payments

##### Housing Supplement

Of 85 original owner respondents, 78 (92 percent) purchased replacement dwellings (Table 19). All but 14 of the 78 received a housing supplement to aid them in the purchase of a replacement dwelling. The 14 did not receive a housing supplement because the payment for the

Table 19. Level of relocation costs and payments to respondents, by type of relocation payment

Type of relocation payment	Level of cost versus payment			Total
	Cost less than paym't.	Cost more than paym't.	Cost equal to paym't.	
	-----number-----			
Housing supplement <sup>a</sup>	26	51	1	78
Interest payment <sup>b</sup>	5	78	7	90
Downpayment	0	13	17	30
Rent supplement <sup>c</sup>	40	23	0	63
Moving payment <sup>d</sup>	148	6	3	157

<sup>a</sup>Includes 14 respondents who received no housing supplement.

<sup>b</sup>Includes 78 respondents who received no increased interest payment, but does not include five whose interest cost was not determined.

<sup>c</sup>Includes six respondents who received no rent supplement.

<sup>d</sup>Does not include 14 respondents whose moving cost was not determined, but does include 11 who had no moving cost.



original dwelling was greater than the value of a comparable replacement dwelling. They were not eligible for a downpayment supplement. The supplement became more or less a downpayment and a capital expenditure. Of the 78 considered in the analysis, 26 (33 percent) received a supplemental payment which exceeded their cost. In other words, their payment was more than enough to cover the difference in the value of their original dwelling and the price of their replacement dwelling. A minus sign in Table 20 indicates a net cost to relocatees, and positive numbers indicate a net saving. Fifty-one others received a supplemental payment which was less than their cost. The relocation cost-payment differential (Table 20) for the 78 respondents who purchased replacement dwellings amounted to a net mean cost of \$3,406, which is statistically significant. However, the median differential was considerably lower. There were several large differentials which had a considerable influence on the mean. The mean differential for the 64 respondents who received a housing supplement was \$2,749, somewhat smaller than that for the 78 respondents.

Only five respondents who relocated under the 1968 program received the \$5,000 maximum housing supplement. None of those relocated under the 1970 program received as much as \$5,000 (even including the incidental and interest payments), although the maximum payment was increased to \$15,000.

The primary reason that housing costs increased for most respondents was that so many of them voluntarily upgraded their housing. In so doing, these relocatees improved their housing over and above what was necessary under program requirements.

Table 20. Relocation cost-payment differentials, by type of payment<sup>a</sup>

Type of relocation payment	Relocation cost versus payment <sup>b</sup>		
	Cost	Payment	Difference
-----dollars-----			
Housing supplement			
Mean	- 5,272	1,866	- 3,406 <sup>c</sup>
Minimum	-22,125	0	-22,125
Maximum	5,656	5,000	8,010
Median	- 3,770	1,774	- 1,826
Interest payment			
Mean	- 2,839	75	- 2,764 <sup>d</sup>
Minimum	-11,244	0	- 9,417
Maximum	445	2,315	445
Median	- 2,160	0	- 2,043
Downpayment			
Mean	- 1,971	1,665	- 306
Minimum	- 4,000	458	- 2,263
Maximum	- 100	3,000	1,600
Median	- 1,650	1,500	0
Rent supplement			
Mean	- 739	877	138
Minimum	- 4,560	0	- 4,560
Maximum	2,160	2,640	3,660
Median	- 672	840	240
Moving payment			
Mean	- 85	272	187 <sup>e</sup>
Minimum	- 444	115	- 75
Maximum	0	450	425
Median	- 59	250	195

<sup>a</sup>The number of respondents used to determine these differentials includes all of those shown in Table 19, except those where the cost was not determined.

<sup>b</sup>The minimum difference is the smallest value of any single observation in the array of differences. The maximum and median values also apply to single observations.

<sup>c</sup> $t = 4.79^{**}$ ;  $t_{.01} = 2.65$ ; 77 d.f.

<sup>d</sup> $t = 10.67^{**}$ ;  $t_{.01} = 2.64$ ; 89 d.f.

<sup>e</sup> $t = 24.23^{**}$ ;  $t_{.01} = 2.58$ ; 157 d.f.

## Interest Payment

Of the 95 respondents who had mortgage loans on one or both of their dwellings, the present worth of interest costs or savings was determined for 90 of them (Table 19). Only five respondents incurred an interest cost that was less than the interest payment or an interest saving above that which could have been earned on a savings account. All others incurred an interest cost that was equal to or more than the interest payment or the 4.5 percent alternative investment rate. Of 28 respondents who had mortgage loans on both their dwellings, 12 received an increased interest payment. All but two of the other 16 did not qualify for an interest payment because they were displaced under the 1968 program.

Table 20 shows the magnitude of the interest differentials for the 90 respondents who had at least one mortgage loan. The overall mean differential was a negative \$2,764 and statistically significant. The median differential was somewhat lower. The negative values indicate a net interest cost, and the positive values indicate a net interest savings. The range of the differentials was considerable, with the net interest cost being as much as \$9,417 and the net interest savings being as much as \$445.

For the 12 respondents who received an interest payment, the mean differential was a negative \$4,415. This differential was based on a mean interest cost of \$4,979, compared to a mean interest payment of \$563. Original owners who became tenants experienced an interest savings, whereas original owners or tenants who purchased a replacement dwelling experienced a net interest cost. (Appendix Table 10 shows the

level of interest cost versus payment by original/replacement tenure of respondents, and Appendix Table 11 shows the magnitude of the interest differentials for each of the tenure groups.)

Thus, many of the relocatees who purchased replacement dwellings assumed a greater interest cost than they had obligated themselves to pay before displacement. Much of the increased interest cost was necessary to finance voluntary upgrading that occurred after a sharp rise in mortgage interest rates. Many of the respondents could have held down their mortgage interest costs by investing into the replacement dwelling all the proceeds received from the original dwelling.

#### Downpayment

There were 30 tenants who made downpayments on their replacement dwellings and received the downpayment supplement. None of the owners qualified for the downpayment supplement. According to Table 19, 13 of these respondents made downpayments greater than their downpayment supplements. The other 17 made downpayments equal to their downpayment supplements. The law requires that all of a downpayment supplement be used as a downpayment on the replacement dwelling. Therefore, by definition there was no possibility of the supplement being more than the actual downpayment.

Table 20 shows that the mean differential downpayment was a negative \$306 for the 30 respondents, indicating a net downpayment cost of that much. However, this differential was not statistically significant.

The \$1,500 legal maximum payment prevented 16 respondents relocated under the 1968 program from obtaining a greater downpayment supplement

although the downpayment on comparable replacement property exceeded \$1,500. None of the respondents relocated under the 1970 program qualified for the maximum \$4,000 downpayment supplement. But six received a smaller downpayment supplement due to the requirement that relocatees must share 50 percent of the cost exceeding \$2,000. Most of the 30 respondents received a larger downpayment supplement than they otherwise would have if they had taken the optional rent supplement as a tenant. In the process of purchasing replacement housing, many of the 30 respondents invested funds that were in addition to the downpayment supplement. In some cases, the mortgage lender required a downpayment that was greater than the supplement.

#### Rent Supplement

There were 63 respondents who elected to remain or become tenants in replacement housing at the time of displacement (Table 19). Of this number, 57 received a rent supplement. After receiving a rental supplement and renting a replacement dwelling for a time, 13 of the 57 respondents purchased a dwelling. These received no additional payment in the form of a downpayment supplement due to the legal time limit or due to a voluntary waiver of that right.

Of the 57, there were 40 respondents whose extra rent cost was less than the rent supplement to cover the same period of time. The other 23 had rent cost that exceeded the rent supplement. There were six that failed to receive a supplement, because the THD determined that a comparable dwelling could be rented for less than that paid on the original dwelling.

The mean rental cost-payment differential was \$138 for the 63 respondents, but the median difference was considerably larger than the mean difference (Table 20). But a mean differential of this magnitude suggests that the rental payment was not significantly more than the rental cost.

Only eight respondents, relocated under the 1968 program, were paid the maximum \$1,500 rent supplement. None of those relocated under the 1970 program received the maximum \$4,000. In fact, only one was paid over \$1,500. To the extent that comparable values would have allowed a supplement greater than \$1,500 or \$4,000, the legal maximum actually prevented the distribution of enough funds to cover a legally compensable relocation cost.

The above results suggest that most of the 63 respondents managed to find replacement dwellings that could be rented for less money than that required to rent dwellings comparable to the original dwellings. No doubt some of them chose not to upgrade their housing as much as they could have. Others chose to downgrade, and in so doing, to lower their rental cost. Still others chose to upgrade considerably and pay extra rent beyond that received in the form of a supplement.

#### Moving Payment

Moving payments were made to all the respondents. None of the payments were made on the basis of actual cost, but through the use of the optional cost schedule. There were 11 respondents who indicated that they had no moving costs. All but 14 of the other 160 respondents furnished the interviewer an estimate of their actual moving cost.

Table 19 shows that 148 (94 percent) of the 157 respondents who gave a positive or zero moving cost estimate received moving payments that exceeded their moving costs. Only six received a payment that was less than their cost, and three broke even. From Table 20, it is seen that the mean differential between moving costs and payments was \$187 and statistically significant. The size of this differential indicates that the respondents, as a group, were paid more than enough to compensate them for their cash moving expenses. In most cases, the amount of the payment representing the dislocation allowance was not needed to cover these expenses. Some of the relocatees may have reduced their actual moving costs by selling some of their old furniture before moving. Also by moving themselves, as many did, they were able to reduce their moving costs a great deal more. Several of the relocatees indicated that they purchased some new furniture after the move.

Only two respondents, relocated under the 1968 program, had a moving cost that was over the \$300 maximum. None of those relocated under the 1970 program reached the \$500 maximum. Therefore, the present legal maximum was high enough to allow the distribution of sufficient funds to cover the legally compensable moving costs.

#### Adequacy of Compensable Payments

The above costs and their corresponding payments were not aggregated to determine an overall cost-payment differential. The difficulty lies in the fact that "stock" quantities cannot be combined with "flow" quantities. For example, a moving cost is a stock quantity, covering a single occurrence in time, whereas, a rental cost is a flow quantity that

covers a stream of costs over time. Also, as mentioned earlier, another difficulty is that the 1970 program rent supplements were paid in annual installments to cover a four-year period. Under the 1968 program, the rent supplement was paid in one lump sum to cover a two-year period. These payments were not discounted values as were the increased interest payments.

Even without aggregation, general conclusions can be made about the adequacy of relocation payments from the standpoint of covering actual relocation costs. A review of the results presented above indicates that the respondents, as a group, spent much more than they received. This was especially true for original owners. Most of this group upgraded their housing considerably in the process of relocation. In so doing, they incurred greater mortgage debt. This explains why the housing supplement and interest payment were not adequate to cover the increased principal and interest costs. However, these payments were not designed to cover that much upgrading.

Original owners who became tenants had interest savings, and their rental supplements were more than adequate to cover their increased rental costs. The same was true for their moving costs. Therefore, this group of owners received enough of each relocation payment to cover the corresponding cost. Original owners who purchased a replacement dwelling were the relocatees that spent more than they received in relocation payments.

Original tenants, as a group, had relocation expenditures that were greater than the payments. This was due to the fact that one-half of the tenants became owners; therefore, most of them assumed extra downpayment



and interest expenses. The tenants who remained tenants received rental and moving payments that more than offset their increased rental and moving expenditures.

Of the five types of relocation costs and payments analyzed, only the rental and moving payments, authorized under the 1968 and 1970 programs, adequately covered the expenditures made by the study respondents. If spread over a much longer period of time, the rental payments would become insufficient to cover the increased rental costs incurred by many tenants.

## CHAPTER IV

### FINANCIAL EFFECTS OF RELOCATION

In this chapter, the survey data have been assembled for analysis to determine the net financial effects of relocation upon the relocatees. Four indicators selected for analysis were (1) monthly cash flow changes, (2) changes in net worth, (3) changes in household balance sheet items, and (4) subjective opinions of respondents.

In addition to the net effects caused by changes in those items whose costs were compensable, the before mentioned non-compensable costs were examined.

#### Changes Due to Replacement Housing Costs

The financial effects of relocation due to changes in housing costs were measured by changes in (1) mortgage debt, (2) equity, and (3) gross monthly house payments. Other housing costs, such as repair and improvement expenses, are not reflected by these measures. These were presented separately.

Mortgage debt of owners was defined as the remaining balance of loan on the original dwelling at time of taking, or balance on the replacement property at time of purchase. The equity that owners had in original dwellings was defined as the difference in the value established for relocation purposes and the remaining loan balance. For replacement dwellings, equity was the difference in the price of the replacement dwelling and the remaining loan balance. For tenants, mortgage and equity were set at zero.

To make all gross monthly rental payments comparable, an estimated amount of rent on furniture and utility expenses was subtracted from those payments which included such expenses. A reduction of 12.5 percent was made if a dwelling was fully furnished and 7.5 percent for partially furnished dwelling. The same percentages were applied for dwellings that furnished all or part of utilities. To make all house payments comparable, owners who did not have a mortgage payment were charged an estimated amount for monthly taxes and insurance, based on the house payments of other owners. (The difference in the gross and net house payments was that attributable to taxes and insurance. So this difference was linearly regressed on the value of original and replacement dwellings. The resulting regression coefficient was \$.001495 and the constant value was \$8.58. These values were applied to the property values of owners who had no mortgage payment to estimate the taxes and insurance on original and/or replacement properties.)

In cases where a respondent's replacement tenure was different from his original tenure, the house and rental payments were analyzed together to determine the changes in monthly payments.

#### Mortgage Debt, Equity, and Monthly Payment

Changes in the level of mortgage debt were determined for original owners and original tenants (Table 21). In case of the latter, the 43 respondents who remained tenants had no mortgage debt. All of the others incurred a mortgage debt upon purchasing a replacement dwelling. Thirty-eight (45 percent) of the original owners increased their mortgage debt, but 42 (49 percent) remained free of mortgage debt or decreased it.

Table 21. Change in level of mortgage debt, equity, and monthly house payment, by original tenure of respondent

Measure and type of change	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Mortgage Debt			
Increased	38	42	80
Decreased	12	0	12
Same	3	0	3
No debt	30	43	73
Not determined	2	1	3
Equity			
Increased	33	42	75
Decreased	49	0	49
Same	1	0	1
No equity	0	43	43
Not determined	2	1	3
Monthly house payments <sup>a</sup>			
Increased	67	76	143
Decreased	14	8	22
Same	1	2	3
Not determined	3	0	3
All respondents	85	86	171

<sup>a</sup> Owners who had no payments were charged an estimated amount for taxes and insurance, based on the difference in gross and net payments of other owners regressed on the value of original and price of replacement. In cases where the monthly rent included a fully furnished quarters or all utilities paid, a 12.5 percent reduction was made. If it included partially furnished quarters or only part of utilities paid, a 7.5 percent reduction was made.

Table 22 shows the extent to which the mortgage debt of original owners changed. (Appendix Table 12 shows the extent of change in the mortgage debt of 74 original owners who remained owners. They had a mean increase of \$4,397.) Their mean increase in mortgage debt was \$3,593, which was statistically significant. Original tenants increased their mortgage debt more than original owners.

Forty-nine (58 percent) of the original owners decreased their equity positions (Table 21). On the other hand, nearly one-half of the original tenants attained equity positions, by purchasing a replacement dwelling. The mean decrease in equity for original owners was \$524, and the mean increase for original tenants was only \$873 (Table 22). In contrast, both groups increased their mortgage debt.

Changes in monthly house payments, resulting from relocation, occurred among a large number of both original owners and tenants (Table 21). But a higher percentage of tenants than owners experienced increased monthly housing costs. The overall dollar differentials for both groups were statistically significant and indicated increases of almost the same magnitude (Table 22). (Appendix Table 12 shows the amount of change in monthly housing payments for original owners and tenants who kept the same tenure status.) In percentages, tenants increased their monthly housing costs more than owners.

A majority of both owners and tenants were worse off in terms of monthly housing costs. However, part of the increase in housing costs to owners represents forced savings through home investment. Due to the shortness of rental contracts, the monthly housing cost differential may change much more readily for tenants than that for owners. Tenants who moved into rental housing that was beyond their financial capabilities may be inclined to move again into lower priced housing. Original owners

Table 22. Mortgage, equity and monthly house payment differentials, by original tenure of respondent

Financial measure/original tenure of respondent <sup>a</sup>	Amount		
	Original	Replacement	Difference
	----- dollars-----		
<b>Mortgage debt</b>			
Original owner			
Mean	1,926	5,519	3,593 <sup>b</sup>
Minimum	0	0	- 7,933
Maximum	11,191	31,600	20,409
Median	0	0	0
Original tenant			
Mean	0	5,902	5,902
Minimum	0	0	0
Maximum	0	22,500	22,500
Median	0	0	
<b>Equity</b>			
Original owner			
Mean	8,198	7,673	- 524
Minimum	855	0	- 13,025
Maximum	14,900	30,000	18,575
Median	8,148	6,000	- 685
Original tenant			
Mean	0	873	873
Minimum	0	0	0
Maximum	0	7,000	7,000
Median	0	0	0
<b>Monthly house (rent) payment</b>			
Original owner			
Mean	47	87	40 <sup>c</sup>
Minimum	14	14	- 41
Maximum	115	269	193
Median	29	83	27
Original tenant			
Mean	70	108	38 <sup>d</sup>
Minimum	0	40	- 38
Maximum	140	241	129
Median	69	100	35

<sup>a</sup> Values were based on all respondents in Table 21, except those whose debt, equity, or monthly payment was not determined.

<sup>b</sup>  $t = 5.29^{**}$ ;  $t_{.01} = 2.65$ ; 82 d.f.

<sup>c</sup>  $t = 7.27^{**}$ ;  $t_{.01} = 2.66$ ; 81 d.f.

<sup>d</sup>  $t = 10.38^{**}$ ;  $t_{.01} = 2.63$ ; 85 d.f.

and tenants who purchased dwellings which resulted in higher housing costs have absorbed these increased monthly costs for the time being, but some may be forced to sell later.

#### Repair and Improvement Expenses

Nine respondents indicated that they incurred repair or improvement expenses on their replacement dwellings (Table 23). Those respondents considered that these expenses were necessary to make the dwellings as livable as the original dwellings. For that reason, they thought they should have been reimbursed for these expenses.

Although original tenants reported these expenses almost as frequently as original owners, the dollar amounts were much smaller (Table 24). Tenants were not likely to spend as much on repairs and home improvements as were owner occupants.

#### Changes Due to Other Costs

Other relocation costs, besides those of housing, can have substantial financial effects on relocatees. Transportation and utility expenses, looking for replacement housing expenses, and miscellaneous expenses were some of the other costs for which rough estimates were obtained from the respondent relocatees.

#### Transportation and Utility Expenses

The respondents were asked about the changes that occurred in their monthly transportation and utility bills soon after relocation. The monthly transportation expenses increased for 82 (48 percent) of the respondents (Table 25), with slightly more original owners than tenants

Table 23. Other relocation costs, by original tenure of respondent

Type of relocation cost	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Looking for dwelling			
Incurred	71	73	144
Not incurred	4	3	7
Not determined	10	10	20
Repair or improvement of dwelling			
Incurred	5	4	9
Not incurred	80	82	162
Not determined	0	0	0
Miscellaneous Costs			
Incurred	14	9	23
Not incurred	70	77	147
Not determined	1	0	1
All respondents	85	86	171



Table 24. Magnitude of other relocation costs, by original tenure of respondent

Type of other cost/measure <sup>a</sup>	Original tenure of respondent		
	Owner	Tenant	Total
	----- dollars-----		
Looking for dwelling			
Mean	97	61	79
Minimum	0	0	0
Maximum	2,000	640	2,000
Median	25	11	20
Repair or improving dwelling			
Mean	91	39	65
Minimum	0	0	0
Maximum	5,000	1,500	5,000
Median	0	0	0
Miscellaneous costs			
Mean	87	112	88
Minimum	0	0	0
Maximum	2,000	3,500	3,500
Median	0	0	0
All other costs			
Mean	284	206	244
Minimum	0	0	0
Maximum	5,400	3,610	5,400
Median	50	15	25

<sup>a</sup>The number of respondents used to determine these statistics includes all of those shown in Table 23 except those where the cost was not determined.

Table 25. Change in level of monthly transportation and utility expenses, monthly income, and net worth, by original tenure of respondent

Type of expense and change <sup>a</sup>	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Transportation expense			
Increased	43	39	82
Decreased	9	6	15
No change	33	41	74
Utility expenses			
Increased	45	53	98
Decreased	9	10	19
No change	31	23	54
Income			
Increased	1	2	3
Decreased	2	3	5
No change	82	81	163
Net Worth <sup>b</sup>			
Increased	64	68	132
Decreased	6	4	10
Not determined	15	14	29
All respondents	85	86	171

<sup>a</sup>Changes due to relocation that occurred soon after the move.

<sup>b</sup>Total relocation payments less the following expenses: home repairs and improvement, looking for dwelling, moving, and miscellaneous.

reporting an increase. The amount of change in transportation expenses was a mean increase of eight dollars per month (Table 26). The increase was nine dollars for owners and seven dollars for tenants. These respondents had relocated farther from work and the central business district, increasing their gasoline expenses and bus or taxi fares.

The monthly utility expenses increased for 98 (57 percent) of the respondents, with more of the tenants than owners indicating an increase. The amount of change was a mean increase of seven dollars. Tenants reported an eight dollar increase and owners a six dollar increase. Those respondents who moved into larger dwellings had to pay more to keep the dwellings cooled and heated. They also had larger lawns to keep, which required more water.

The increased monthly operating costs along with the increased housing costs caused a considerable increase in cash flow expenses for a majority of original owners and tenants. The increase in these monthly cash flow expenses was due primarily to upgrading of housing.

#### Looking and Miscellaneous Expenses

There were 144 (84 percent) of the respondents who incurred expenses while looking for a replacement house (Table 23). These expenses were those incurred in the purchase of gasoline and meals, as well as those due to loss of job time. The mean expense was \$79 for the 151 respondents who determined the amount of their expense (Table 24). The mean expense of original owners was significantly higher than that of original tenants. But, one-half of the latter group remained tenants. Owners indicated that they spent many hours looking before deciding what dwelling to purchase.

Table 26. Change in amount of monthly transportation and utility expenses, monthly income, and net worth, by original tenure of respondent

Type of change and measure <sup>a</sup>	Original tenure of respondent		
	Owner	Tenant	Total
	-----dollars-----		
Transportation expenses			
Mean	9	7	8
Minimum	- 100	- 28	- 100
Maximum	220	50	220
Median	2	0	0
Utility expenses			
Mean	6	8	7
Minimum	- 50	- 76	- 76
Maximum	35	65	65
Median	3	8	5
Income			
Mean	2	2	4
Minimum	- 700	- 166	- 700
Maximum	1,000	80	1,000
Median	0	0	0
Net worth			
Mean	1,851	1,128	1,485
Minimum	-2,025	-1,945	-2,025
Maximum	5,190	2,660	5,190
Median	1,785	1,271	1,432

<sup>a</sup>The values were based on all respondents in Table 25, except those not determined for net worth.

## Changes in Net Worth and Income

Changes in net worth and income of the respondents were determined to give another possible indication of the financial effect of relocation on original owners and tenants. A change in net worth, as used here, was defined as the total relocation payments less the total expenses for home repairs and improvements, looking for a replacement dwelling, moving of furniture and personal property, and miscellaneous expenses directly related to the move. A change in monthly household income was due to a change in job or rental income resulting from relocation.

At least 132 (93 percent) of 142 respondents experiencing a change in net worth had an increase in net worth (Table 25). A few more tenants than owners experienced an increase. The net worth on 29 could not be determined. Translated into dollar amounts, the 142 respondents increased their net worth by an average of \$1,485 (Table 26). The net worth of owners was increased an average of \$723 more than that of tenants.

The 142 respondents received an average of \$1,831 in relocation payments and had expenditures, as defined above, averaging \$346. The remaining \$1,485 was available to help cover the increased housing and operating costs, at least for the short-run.

Only eight respondents reported that they experienced a change in household income due to relocation (Table 25). The amount of income loss was nil if spread out over all respondents (Table 26). Two of the eight had rental income changes, with one losing seven dollars per month and another gaining \$140 per month. Of the other six, two gained an average of \$60 per month, and four lost an average of \$492 per month. Two of the four who lost income worked at home.

As can be seen, the relocation experience had a very small negative or positive effect on the income or employment of respondents. Assuming practically no change in household income and a \$45 a month increase in housing and operating costs, many respondents chose to spend more on housing and related items and less on other items in the family budget. However, a majority of the respondents were better off in terms of net worth. The increase in net worth is directly attributable to the relocation payments. Therefore, Texas's relocation programs did help to reduce the negative impact on respondents in the short-run, but encouraged them to increase their housing costs, lasting for many years.

#### Payments Received versus Cash Expended

This section presents the results of an analysis using the cash balance sheet approach to indicate the financial effects of relocation on respondent relocatees. In other words, the differential between all cash payments received and all cash expenditures was determined. The payments consisted of all relocation payments and the payment for the original property, less any mortgage indebtedness. The cash expenditures were looking for replacement dwelling, downpayment on replacement dwelling, moving expenses, repairs and improvements on replacement dwelling, and miscellaneous expenses.

Of the 141 respondents whose differentials could be determined, 123 (87 percent) received total cash payments greater than their total cash expenses (Table 27). The other 18 (13 percent) received less in payments than the cash that they spent. There was not a significant difference between original owners and tenants, but fewer tenants received total payments greater than total expenses.

Table 27. Level of payments received versus cash expenditures, by original tenure of respondent

Level of payments versus cash expenditures <sup>a</sup>	Original tenure of respondent		
	Owner	Tenant	Total
	----- number -----		
Payments greater than cash expenditures	64	59	123
Payments less than cash expenditures	5	13	18
Not determined	16	14	30
All respondents	85	86	171

<sup>a</sup>The payments received were (1) value of original owner dwelling established for relocation payments less remaining mortgage balance and (2) sum of all relocation payments. The cash expenditures were for (1) looking for dwelling (2) downpayment on replacement dwelling, (3) moving expenses, (4) repair and improvement expenses on replacement dwelling, (5) and miscellaneous relocation expenses. In most cases, the value established for relocation payment base was the same as the gross payment before deductions of remaining indebtedness.

Original owners had an \$8,003 mean differential of payments over expenditures, and original tenants had a \$320 mean differential of payments over expenditures (Table 28). The mean difference was \$4,080 for the combined groups.

The above results indicate that most respondents, owners and tenants, reserved some of the money received in payments and did not spend it all on replacement housing. They may have invested the extra funds into savings accounts or other types of investments which yielded them an income stream that would help defray the difference in housing costs over time. However, others no doubt purchased furniture, automobiles, and similar durable goods. Still others spent the extra cash on consumption or nondurable goods. Regardless of how they spent their extra cash, they were better off in terms of cash balances. But most of these respondents incurred higher monthly costs over time. Therefore, they may not be better off in the long-run.

Those who received smaller payments than cash expenditures were principally tenants who became owners. This group had no equity in their original dwellings and chose to invest some of their own funds into replacement dwellings over and above what they received in relocation payments.

#### Opinions of Relocatees

Thus far, all the measures used to indicate the financial effect of relocation on respondent relocatees have been objective in nature. To supplement these indicators, a subjective evaluation based on opinion was obtained from 168 of the respondents. Each was asked to consider his



Table 28. Cash payment-expenditure differentials, by original tenure of respondent

Measure by original tenure of respondent <sup>a</sup>	Payment versus cash expense		
	Payment	Expense	Difference
	----- dollars -----		
Original owner			
Mean	10,625	2,622	8,003
Minimum	1,080	0	-5,739
Maximum	18,450	17,064	16,830
Median	10,542	435	8,580
Original tenant <sup>b</sup>			
Mean	1,395	1,075	320
Minimum	115	0	-6,370
Maximum	2,795	7,360	1,735
Median	1,508	521	549
All respondents			
Mean	5,912	1,832	4,080
Minimum	115	0	-6,370
Maximum	18,450	17,064	16,830
Median	2,586	450	1,502

<sup>a</sup>The values were based on all respondents in Table 27, except those in which certain expenses were not determined.

<sup>b</sup>For tenants who remained tenants, the mean differential was \$919.

savings in relation to his debts and to select the answer, listed on a card, that best described the effect of the move upon his financial position.

Sixty-five (38 percent) of the respondents expressed the opinion that they were financially worse off because of the move, most of them being only somewhat worse off (Table 29). Another 65 indicated that their financial position was about the same. Except for those that did not know, the remaining 46 (27 percent) indicated that they were better off financially.

The opinions of original owners and tenants were not significantly different. Yet, 42 percent of the owners indicated a worsened financial position compared to 34 percent of the tenants. Also, a larger number of tenants than owners thought that their financial position remained about the same. Perhaps one reason for this difference is that fewer tenants than owners purchased a dwelling, thus assuming a mortgage debt. Too, more tenants than owners failed to upgrade their housing.

#### Comparison of Measures of Financial Effects

The measures of financial effects of relocation were compared and the results are presented here. Table 30 shows the comparison of monthly cost, net worth, and cash payment-expenditure changes with respondent opinions of the financial effect. There was a significant relationship between respondent opinions and changes in net worth. Respondents whose net worth decreased also thought that their financial position had worsened.

The relationship was not significant between cash payment-expenditure changes and respondents' opinions. However, the results tended to be the

Table 29. Opinion of respondents as to the effect of relocation on their financial position, by original tenure of respondent

Change in financial position	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Much improved	4	4	8
Somewhat improved	16	14	30
About same	28	37	65
Somewhat worsened	29	22	51
Much worsened	7	7	14
Didn't know	1	2	3
All respondents	85	86	171

Table 30. Comparison of monthly cost, net worth, and cash payment-expenditure changes with respondent's opinion of financial effect

Measure of financial effect <sup>a</sup>	Respondent's opinion of financial effect				Total
	Improved	Same	Worse	Didn't know	
	----- number -----				
Changes in net worth <sup>b</sup>					
Increased	34	48	48	2	132
Decreased	0	2	8	0	10
Not determined	4	15	9	1	29
Payments versus expenses					
Payments greater than exp.	32	44	45	2	123
Payments less than exp.	2	6	10	0	18
Not determined	4	15	10	1	30
Change in monthly costs					
Increased	30	57	60	3	150
Decreased	7	8	3	0	18
Not determined	1	0	2	0	3
All respondents	38	65	65	3	171

<sup>a</sup> Those not determined and not knowing were excluded from  $\chi^2$  tests.

<sup>b</sup>  $\chi^2 = 7.67^*$ ;  $\chi^2_{.05} = 5.99$ ; 2 d.f.

same as above. The relationship between changes in monthly costs and respondent opinions was not significant, but respondents whose monthly costs decreased also thought that their financial position had improved. It is reasonable for the latter relationship to be opposite that of the other two. The results indicate general agreement along the above measures of financial effects.

Table 31 shows the comparison of net worth and cash payment-expenditure changes with monthly cost changes. In both comparisons, the differences were not significant, using the Chi-square test of independence. Also, the simple correlation coefficients were rather small, indicating very little relationship between the above variables. (Changes in monthly costs compared with cash payment-expenditure changes yielded a correlation coefficient of 0.26, and the changes in monthly costs compared with net worth yielded a correlation coefficient of 0.13.) The results indicate that an increase in monthly costs was not necessarily dependent upon an increase in net worth or cash payment-expenditure. In other words, the amount of changes in net worth or payments versus expenditures had little influence on the size of the change in monthly costs that respondents experienced.

#### Effects of Economic Upgrading

The findings of Chapter II indicated that the majority of the respondent relocatees upgraded their housing economically (Table 12). Not all of these relocatees upgraded voluntarily (Table 16). Nevertheless, more of them voluntarily upgraded beyond the value of a comparable replacement dwelling than did so involuntarily.

Table 31. Comparison of net worth and cash payment-expenditure changes with change in monthly cost

Measure of financial effect	Change in monthly cost			
	Increased	Decreased	Not determined	Total
	----- number -----			
Change in net worth				
Increased	115	15	2	132
Decreased	9	1	0	10
Not determined	26	2	1	29
Payments versus expenses				
Payments greater than exp.	106	16	1	123
Payments less than exp.	18	0	0	18
Not determined	26	2	2	30
All respondents	150	18	3	171

The financial effects of economic upgrading, voluntary and involuntary, are presented in this chapter. The measures used were (1) change in monthly costs, (2) payments versus cash expenditures, and (3) opinions of the respondents. These measures were cross-tabulated with economic changes in housing.

Changes in monthly costs reflect, in part, the changes that respondent relocatees made in their housing debt. The other monthly costs reflect the changes in transportation and utility expenses. When cross-tabulated with economic change in housing, significant differences appeared for both original owners and tenants (Table 32). Such differences were primarily due to the fact that most of those who failed to upgrade decreased their monthly costs, whereas those who upgraded, either voluntarily or involuntarily, increased their monthly costs. Table 33 shows monthly cost differentials for each of these groups. The mean differentials for those who failed to upgrade or who involuntarily upgraded were considerably smaller than for those who voluntarily upgraded. However, all three groups showed an increase in monthly costs resulting from the relocation experience.

The cross-tabulations of economic change in housing with the other two measures, i.e., payments versus cash expenses and opinions of financial effect, failed to yield significant differences for either original owners or tenants. Table 32 shows the results of these cross-tabulations. Table 33 shows the dollar differential between payments received and cash expended for both original owners and tenants. Original owners who voluntarily upgraded had the smallest mean differential of the three upgraded groups. This group obviously banked less cash than the other two groups.

Table 32. Level of financial effect of relocation on original owner and tenant respondents, by type of economic change in housing

Type of financial effect/ original tenure of respondent <sup>a</sup>	Economic change in housing			Total
	Upgraded voluntarily	Upgraded involuntarily	Other	
	-----number-----			
<b>Original owner</b>				
Change in monthly costs <sup>b</sup>				
Increased	52	11	8	71
Decreased	2	0	9	11
Not determined	2	0	1	3
Payments vs. cash expenses				
Paym'ts. greater than exp.	38	9	17	64
Paym'ts. less than exp.	5	0	1	6
Not determined	13	2	0	15
Opinions of financial effect				
Improved	10	3	7	20
Worsened	28	3	5	36
About same	18	5	5	28
Didn't know	0	0	1	1
<b>All original owners</b>	56	11	18	85
<b>Original tenant</b>				
Change in monthly costs <sup>c</sup>				
Increased	36	21	21	78
Decreased	2	0	6	8
Payments vs. cash expenses				
Paym'ts. greater than exp.	23	14	22	59
Paym'ts. less than exp.	9	1	3	13
Not determined	6	6	2	14
Opinions of financial effect				
Improved	7	3	8	18
Worsened	11	6	12	29
About same	18	12	7	37
Not determined	2	0	0	2
<b>All original tenants</b>	38	21	27	86

<sup>a</sup>The  $\chi^2$  tests excluded the "Not determined" and "Didn't know" data cells.

<sup>b</sup> $\chi^2 = 28.96^{**}$ ;  $\chi^2_{.01} = 9.21$ ; 2 d.f.

<sup>c</sup> $\chi^2 = 8.23^*$ ;  $\chi^2_{.05} = 5.99$ ; 2 d.f.



Table 33. Monthly cost and cash payment-expenditure differentials, by type of economic change and original tenure of respondent

Measure of financial effect/ orig. tenure of respondent <sup>a</sup>	Economic change in housing			
	Upgraded voluntarily	Upgraded involuntarily	Other	Total
	-----dollars-----			
Original owner				
Change in monthly costs				
Mean	73	25	12	54
Minimum	- 37	1	- 19	- 37
Maximum	394	75	54	394
Median	61	22	4	43
Payments less cash expenses				
Mean	6,985	9,997	9,522	8,003
Minimum	- 5,739	7,479	1,533	-5,739
Maximum	15,105	12,713	16,830	16,830
Median	7,210	9,535	8,981	8,580
Original tenant				
Change in monthly costs				
Mean	76	51	21	53
Minimum	- 16	9	- 99	- 99
Maximum	188	127	110	188
Median	75	49	14	53
Payment less cash expenses				
Mean	- 185	946	591	320
Minimum	- 6,370	- 221	- 1,093	-6,370
Maximum	1,500	1,735	1,621	1,735
Median	292	940	673	549

<sup>a</sup>Values were based on all respondents in Table 32, except those not determined.

Original tenants who voluntarily upgraded actually spent more cash on the average than they received in relocation payments. The reverse was true for the other two groups of tenants.

## CHAPTER V

### ECONOMIC EFFECTS OF RELOCATION

#### BY TYPE OF RELOCATEE

This chapter brings together findings of the previous four chapters and relates them to selected characteristics of the respondent households and heads of household. It was expected that the amount of economic upgrading, change in monthly costs, change in net worth, amount of payments received versus cash expended, and respondent opinion of financial effects would vary according to the age and race or nationality of heads of household as well as the number and type of persons in the households. To determine if significant variations occurred, cross-tabulations were made between the frequency distributions of respondents by types of characteristic and those of respondents by types of relocation effect. The Chi-square ( $X^2$ ) statistic was used to determine whether the differences in these distributions were due to more than chance variations. (Because several of the distributions have cell values that are less than five, the Chi-square ( $X^2$ ) values for those distributions are of questionable value. Also, the "not determined" and "don't know" cells were excluded from the  $X^2$  calculations.) Combined distributions of original owners and tenants were tested for significant variations, because no differences were expected due to tenure. Also, the data in other chapters have been analyzed according to original tenure.

## Effects of Economic Upgrading

The financial effects of economic upgrading according to characteristics of the respondents are presented in Table 34. As shown, the respondents were divided into the three groups previously used to analyze the economic change in housing: (1) those who upgraded voluntarily, (2) those who upgraded involuntarily, and (3) those who did not upgrade.

The evidence indicates that the age distributions of the three levels of economic upgrading are independent of each other; i.e., the variations among them are statistically significant. Most of those who involuntarily upgraded or failed to upgrade their housing were at least 50 years old (Table 34). In contrast, most of those who voluntarily upgraded were under 50 years old. It may be that those over 50 had less need or incentive to upgrade their housing beyond the value of comparable replacement housing. Since their children were grown, many of them did not need a dwelling quite as large as that taken for right of way.

Cross-tabulations by race or nationality background indicate that the majority of those who involuntarily upgraded or failed to upgrade were non-Anglos (Table 34). Only 29 (38 percent) of the non-Anglos voluntarily upgraded beyond the comparable replacement value. On the other hand, 65 (68 percent) of the Anglos voluntarily upgraded. Apparently, the Anglos had more financial means or incurred more debt to upgrade voluntarily than did the non-Anglos. (See Appendix Tables 13 and 14 for cross-tabulations of age of head of household, with race or nationality of head of household, and also these two characteristics cross-tabulated with the number of persons per household as well as type of persons within household.)

Table 34. Economic change in housing, by selected characteristics of respondent

Characteristic of respondent	Economic change in housing			Total
	Upgraded voluntarily	Upgraded involuntarily	Other	
	number			
Age of head of household <sup>a</sup>				
Less than 40 years	33	11	8	52
40 - 49	22	2	10	34
50 or more years	39	19	27	85
Race or nationality of head <sup>b</sup>				
Anglo	65	13	17	95
Non-Anglo	29	19	28	76
Number of persons in household <sup>c</sup>				
1	10	11	10	31
2	29	4	16	49
3	27	5	5	37
4 or more	28	12	14	54
Persons in household <sup>d</sup>				
Head without spouse				
Alone	8	11	10	29
Children and/or others	16	6	11	33
Head with spouse				
Spouse only	22	2	10	34
Children and/or others	48	13	14	75
All respondents	94	32	45	171

<sup>a</sup> $\chi^2 = 17.73^{**}$ ;  $\chi^2_{.01} = 13.28$ ; 4 d.f.

<sup>b</sup> $\chi^2 = 17.15^{**}$ ;  $\chi^2_{.01} = 9.21$ ; 2 d.f.

<sup>c</sup> $\chi^2 = 25.82^{**}$ ;  $\chi^2_{.01} = 16.81$ ; 6 d.f.

<sup>d</sup> $\chi^2 = 25.56^{**}$ ;  $\chi^2_{.01} = 16.81$ ; 6 d.f.

Cross-tabulations according to the number of persons living in a household revealed that households with more than two persons voluntarily upgraded more readily than those with one or two persons (Table 34). Those with larger families needed larger dwellings, and the relocation assistance program encouraged them to obtain such housing.

Finally, cross-tabulations according to type of persons with household indicated that those households that had a head of house with a spouse, particularly those with children, were more likely to voluntarily upgrade than those households that had a head of house with no spouse, especially if he lived alone (Table 34). The latter group was less likely to have the financial means to voluntarily upgrade than the former group.

#### Changes in Monthly Costs

The changes in monthly costs that reflect changes in housing and operating costs were cross-tabulated with the before mentioned characteristics of households and heads of households (Table 35). No significant variations in the number frequencies were found. However, the results show that a higher percentage of the older or non-Anglos heads of house decreased their monthly costs than was the case for the younger or Anglo heads of house. The same was true for the smaller households or households with heads having no spouse.

From a monthly cash flow point of view, most relocatees of every characteristic analyzed were worse off financially.

Table 35. Change in monthly costs, by selected characteristics of respondent<sup>a</sup>

Characteristic of respondent	Change in monthly costs			Total
	Increased	Decrease or same	Not determined	
	number			
Age of head of household				
Less than 40 years	50	2	0	52
40 - 49	29	3	2	34
50 or more years	71	13	1	85
Race or nationality of head				
Anglo	84	8	3	95
Non-Anglo	66	10	0	76
Number of persons in household				
1	26	4	1	31
2	40	9	0	49
3	34	2	1	37
4 or more	50	3	1	54
Persons in household				
Head without spouse				
Alone	24	4	1	29
Children and/or others	30	2	1	33
Head with spouse				
Spouse only	28	6	0	34
Children and/or others	68	6	1	75
All respondents	150	18	3	171

<sup>a</sup>The monthly costs include house payments, utility expenses, and transportation expenses.

### Changes in Net Worth

The changes in net worth were defined as all relocation payments, not including original property payment, less expenses for home repairs and improvements, looking for a replacement dwelling, moving of furniture and personal property, and miscellaneous expenses directly related to the move. Changes in net worth were cross-tabulated with all of the above mentioned respondent characteristics (Table 36). The only cross-tabulation that revealed significant differences was that by type of persons in household. Households experiencing a decrease in net worth were those that had heads with a spouse, especially those couples who had no children or no others living with them.

In the case of the other cross-tabulations, those who had a decrease in net worth were usually 50 years or over, Anglos, and two living together. Most of these respondents received only moving payments, because their original dwellings were of higher values than that of comparable replacement dwellings.

### Payments Received versus Cash Expended

The cash balances were used to determine the extent to which respondents received more cash payments than they paid out in relocation expenses. The cash payments not only included relocation payments, but also the amount of equity that owners had in their original dwelling. The cash expenses included the downpayment on a replacement dwelling, looking and moving expenses, repair and improvement expenses, and miscellaneous expenses.



Table 36. Change in net worth, by selected characteristics of respondent

Characteristic of respondent	Change in net worth			Total
	Increase	Decrease	Not determined	
	-----number-----			
Age of head of household				
Less than 40 years	41	3	8	52
40 - 49	29	0	5	34
50 or more years	62	7	16	85
Race or nationality of head				
Anglo	68	9	18	95
Non-Anglo	64	1	11	76
Number of persons in household				
1	24	0	7	31
2	37	6	6	49
3	24	3	10	37
4 or more	47	1	6	54
Persons in household <sup>a</sup>				
Head without spouse				
Alone	22	0	7	29
Children and/or others	30	0	3	33
Head with spouse				
Spouse only	24	6	4	34
Children and/or others	56	4	15	75
All respondents	132	10	29	171

<sup>a</sup> $\chi^2 = 11.65^{**}$ ;  $\chi^2_{.01} = 11.35$ ; 3 d.f; excludes the "Not determined" data cells.

A cross-tabulation of the above number frequencies with those of the respondent characteristics yielded differences that were not statistically different (Table 37). Nevertheless, the tendency was that a greater percentage of the larger households, younger heads of house, or heads of house with a spouse experienced a reduction in cash balances than did the opposite types. But most of the groups showed only a small percentage of respondents who had negative cash balances as a result of relocation.

#### Respondents' Opinions of Financial Effects

The financial effects of relocation were measured in terms of the opinions expressed by respondents. Their opinions, cross-tabulated with selected characteristics revealed no significant differences (Table 38). Yet there was a tendency for a higher percentage of respondents with older or Anglo heads of house, with larger households, or with heads of house having a spouse to have the opinion that their relocation experience had a negative financial effect. But less than 50 percent of respondents in any of the groups indicated an overall negative financial effect. About the same number of each group indicated that the relocation experience had no financial impact on them. Less than one-third of those in each group thought that the relocation experience had improved their overall financial position.

Table 37. Level of payments received versus cash expenditures,  
by selected characteristics of respondent

Characteristic of respondent	Level of paym'ts. vs. cash expenses			Total
	Greater than exp.	Equal/less than exp.	Not determined	
	-----number-----			
Age of head of household				
Less than 40 years	35	9	8	52
40 - 49	26	2	6	34
50 or more years	62	7	16	85
Race or nationality of head				
Anglo	65	11	19	95
Non-Anglo	58	7	11	76
Number of persons in household				
1	23	1	7	31
2	38	5	6	49
3	20	6	11	37
4 or more	42	6	6	54
Persons in household				
Head without spouse				
Alone	21	1	7	29
Children and/or others	26	4	3	33
Head with spouse				
Spouse only	26	4	4	34
Children and/or others	50	9	16	75
All respondents	123	18	30	171

Table 38. Respondent opinions of overall financial effects, by selected characteristics of respondent

Characteristic of respondent	Opinion of financial effect				Total
	Improved	About same	Worse	determined	
	number				
<b>Age of head of household</b>					
Less than 40 years	11	23	16	2	52
40 - 49	9	10	15	0	34
50 or more years	18	32	34	1	85
<b>Race or nationality of head</b>					
Anglo	20	37	38	0	95
Non-Anglo	18	28	27	3	76
<b>Number of persons in household</b>					
1	12	9	9	1	31
2	9	22	18	0	49
3	8	14	14	1	37
4 or more	9	20	24	1	54
<b>Persons in household</b>					
Head without spouse					
Alone	11	8	9	1	29
Children and/or others	8	16	9	0	33
Head with spouse					
Spouse only	5	13	16	0	34
Children and/or others	14	28	31	2	75
All respondents	38	65	65	3	171

## CHAPTER VI

### OTHER FACTS AND OPINIONS CONCERNING DISPLACEMENT EXPERIENCES

This chapter of the report presents other facts and opinions of the relocatees concerning their displacement experiences. These findings are presented and discussed under the following headings:

- (1) Information and Public Participation Relating to Proposed Freeway;
- (2) Selection of Replacement Dwelling, Neighborhood, and Community;
- (3) Evaluation of Relocation Assistance Programs; and (4) Attitudes Toward Freeway and Displacement.

#### Information and Public Participation Relating to Proposed Freeway

Those responsible for planning and constructing freeways may be interested in how long the respondent relocatees were or could have been aware of the freeways that displaced them before being notified to move. The period between the date of corridor hearing (same date of design hearing for all but two projects) and the date of notification relocation assistance was used to indicate how long the relocatees could have known about the freeway. On the average, the length of this period was 3.0 years for owners and 4.1 years for tenants (Table 39). Owners indicated that they were aware of the proposed freeway an average of 3.2 years before being notified to move. Therefore, the length of the two periods were about the same length for owners, but such was not the case for tenants who indicated they had known about the freeway an average of only 1.1 years. In other words, they could have known about the freeway for a much longer period than they did. This was mainly due to the fact that they had not lived in

Table 39. Length of time that relocatees were or could have been aware of freeway before being notified to move, by original tenure of respondent

Time period	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Time between corridor hearing and notification of relocation assistance <sup>a</sup>			
Less than 1 year	0	0	0
1 to 3 years	53	41	94
3 to 5 years	19	9	28
5 or more years	13	36	49
Mean years	3.0	4.1	3.5
Median years	2.5	3.2	2.8
Minimum years	1.3	1.4	1.3
Maximum years	7.2	12.4	12.4
Time knew about freeway before notified to move <sup>b</sup>			
Less than 1 year	9	45	54
1 to 3 years	39	28	67
3 to 5 years	15	2	17
5 or more years	19	5	24
Didn't know	3	6	9
Mean years	3.2	1.1	2.2
Median years	2.0	.5	1.0
Minimum years	.1	.1	.1
Maximum years	14.0	8.0	14.0
All respondents	85	86	171

<sup>a</sup> $\chi^2 = 15.89^{**}$ ;  $\chi^2_{.01} = 9.21$ ; 2 d.f.; ignoring zero cells

<sup>b</sup> $\chi^2 = 44.91^{**}$ ;  $\chi^2_{.01} = 13.28$ ; 4 d.f.

their original dwellings very long (Table 3). In fact, most of them became aware of the freeway some time after moving into the dwellings to be taken for right of way. Had they known beforehand, they might not have moved into a dwelling designated for right of way.

The relocatees became informed of the required move in various ways (Table 40). The three primary sources of initial information were: (1) city, county, or THD personnel, (2) neighbors, and (3) landlords. The principal source of information was neighbors for owners and landlords for tenants. Very few of the relocatees were informed of the move through the news media, and only 30 percent were informed of the move through official sources.

Very few of the relocatees participated in any action for or against the freeway before or after receiving notification of relocation assistance, (Table 40). Only four attended public hearings or meetings. Five others took other actions. Most of these relocatees were owners. Nine relocatees, seven of which were tenants, indicated that they didn't know about the freeway in time to take any appropriate action. However, one might conclude that very few of the relocatees objected to the freeway enough to take official action to prevent its construction.

#### Selection of Replacement Dwelling, Neighborhood and Community

Most of the relocatees used more than one source of information in which to find available replacement housing. Newspapers, real estate agents, and individuals proved to be the most commonly used sources. Owners relied heavily upon real estate agents, and tenants relied heavily upon newspapers. Only about one-third of the relocatees indicated that

Table 40. Sources of information and actions concerning freeway that caused displacement, by original tenure of respondent

Information/actions concerning freeway	Original tenure of respondent		
	Owner	Tenant	Total
	----- number -----		
How first informed of required move <sup>a</sup>			
City, county, THD personnel	20	30	50
Neighbors	28	10	38
Landlord	0	32	32
Appraiser or surveyor	8	4	12
News media	6	2	8
Other	21	7	28
Didn't remember	2	1	3
Actions taken concerning freeway <sup>b</sup>			
Attended public hearings or meetings	3	1	4
Other actions	4	1	5
Didn't know in time	2	7	9
Took no action	76	77	153
All respondents	85	86	171

<sup>a</sup>  $\chi^2 = 53.19^{**}$ ;  $\chi^2_{.01} = 16.81$ ; 6 d.f.

<sup>b</sup> Before notification of relocation assistance. Between dates of notification and move, eight relocatees took some sort of action. All but one were owners.



they obtained replacement housing information from THD contacts, visits, or mailings. THD sources were used more by owners than by tenants.

Owners and tenants alike indicated that they spent many hours looking for a replacement dwelling. Over 70 percent visited six or more dwellings in the process of selecting a replacement dwelling (Table 41). Forty-six percent of the relocatees, mainly owners, revisited one or more dwellings. Therefore, many of them had a difficult time selecting their replacement dwelling.

Lingering on the minds of many of the relocatees were certain physical features of their original dwellings. Those features most commonly missed were as follows (Table 42): (1) more rooms or space; (2) indoor features such as a basement, stairs, fireplace, built-ins, or central heat or air; or (3) outdoor features such as a yard, trees, garden, orchard, or patio. Owners missed the floor plan and outdoor features much more than tenants.

Many of the relocatees were seeking to find a replacement dwelling with a similar floor area, floor plan, indoor features, or outdoor features as they had in the original dwelling. Many others were seeking a replacement dwelling which had various features that were not present in the original dwelling. The best liked features of the replacement dwelling were very similar to those of the original dwelling (Table 42). But the most commonly mentioned new features were built-ins, extra bathrooms, or a den. More owners than tenants mentioned features such as a better home, location, or neighborhood.

The relocatees gave various reasons, sometimes more than one, for choosing the replacement dwelling. The reasons mentioned most often were

Table 41. Replacement housing information sources and number of dwellings visited or revisited, by original tenure of respondent

Replm't. housing information sources/number visited	Original tenure of respondent		
	Owner	Tenant	Total
	----- number -----		
Information on available housing			
Newspapers	34	42	76
Real estate agents	44	31	75
Individuals	39	26	65
For sale signs	25	31	56
THD personnel visits	14	9	23
THD mailings	13	8	21
Contacted THD office	7	7	14
Advertising for dwelling	3	4	7
All responses	179	158	337
Number of dwellings visited			
None	1	2	3
1	7	11	18
2	6	3	9
3	4	1	5
4	2	4	6
5	2	4	6
6 or more	63	61	124
All respondents	85	86	171
Number of dwellings revisited			
None	20	26	46
1	22	24	46
2	17	15	32
3	10	9	19
4	3	3	6
5	2	2	4
6 or more	10	7	17
Didn't remember	1	0	1
All respondents	85	86	171

Table 42. Features of original dwelling missed most and features best liked, reasons for choice, and permanence of selection of replacement dwelling, by original tenure of respondent

Factors in selection of replacement dwelling	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Features of original dwelling missed most			
More rooms or space	13	19	32
Basement, stairs, fireplace, built-ins, or central air or heat	17	14	31
Yard, trees, garden, orchard, or patio	19	9	28
Floor plan	15	6	21
Better dwelling	12	8	20
Location, neighborhood, or privacy	8	10	18
Other features	6	3	9
Missed no part of it	12	19	31
All responses	102	88	190
Features of replm't dwelling best liked			
More rooms or space	21	18	39
Central air or heat, built-ins, extra bath, or den	20	15	35
Brick const., garage, shop, or larger lot	19	12	31
Better location or neighborhood	17	8	25
Better home	14	9	23
Floor plan	6	9	15
Other features	7	8	15
Like nothing about it	3	13	16
All responses	107	92	199
Reasons for choosing replm't dwelling			
Best could find for price	18	24	42
Good neighborhood	15	14	29
Best dwelling of those available	16	9	25
Convenient to work	15	9	24
Convenient to relatives or friends	11	5	16
Convenient to schools	6	8	14
Same neighborhood	7	6	13
Convenient to doctor, hospital, church or busline	6	6	12
To be rural area out of city	6	5	11
Convenient to shopping	7	3	10
Better quality dwelling or neighborhood	3	6	9

Table 42. (Continued)

Factors in selection of replacement dwelling	Original tenure of respondent		
	Owner	Tenant	Total
Reasons for choosing replm't dwelling (continued)			
Housing cost less	3	5	8
Like this area of town	3	3	6
Other reasons or didn't know	13	13	26
All responses	129	116	245
Moved directly into permanent housing <sup>a</sup>			
Yes	78	52	130
No, because:			
Not satisfied with dwelling or location	2	11	13
Bought later or looking for home to buy	1	13	14
Other reasons	3	7	10
No reason given	1	3	4
All respondents	85	86	171

<sup>a</sup> $\chi^2 = 24.31^{**}$ ;  $\chi_{.01} = 9.45$ ; 4 d.f.

as follows (Table 42): (1) best could find for price, (2) good neighborhood, (3) best dwelling of those available, (4) convenient to work, or (5) convenient to relatives or friends. The first reason was mentioned more often by tenants than by owners. The reverse was true for the other four reasons. All the locational reasons combined were very important to both owners and tenants.

Perhaps an indication of just how well the relocatees were satisfied with their replacement dwellings would be the number of them that moved directly into what they considered as permanent housing. According to Table 42, 76 percent answered affirmatively to such an inquiry. More of the owners (92 percent) than tenants (60 percent) moved into permanent housing. The most common reason that tenants gave for not moving into permanent housing was either that they were not satisfied with the replacement dwelling or location or that they bought later or were looking for one to buy.

Another indication of whether the relocatees were satisfied with the replacement dwelling or location was the number preferring the community services at the replacement location more than those at the original location (Table 43). Thirty-three percent preferred the replacement location, and 18 percent, especially owners, preferred the original location. More of the owners than tenants preferred the original location. But almost one-half of the relocatees, mainly tenants, indicated that the community services were about the same at both places. More of the tenants relocated near their original dwelling than did owners. The availability of churches, hospitals, schools, libraries, or parks was given, mainly by

Table 43. Preferred location and reasons with respect to community services available, by original tenure of respondent

Community services: preferred location and reasons	Original tenure of respondent		
	Owner	Tenant	Total
<b>Preferred location</b>			
Much prefer replm't. location	21	20	41
Somewhat prefer replm't location	9	7	16
About same at both locations	36	47	83
Somewhat prefer orig. location	6	6	12
Much prefer orig. location	12	6	18
Didn't know	1	0	1
All respondents	85	86	171
<b>Reasons preferred replm't. location</b>			
Churches, hospitals, schools, library, or parks	6	8	14
Shopping facilities	8	3	11
Bus service	3	8	11
Neighborhood or traffic conditions	7	4	11
Street condition, lighting, parking, or drainage	5	2	7
Fire or police protection	3	3	6
Other reasons	2	4	6
All responses	34	32	66
<b>Reasons preferred original location</b>			
Churches, hospitals, schools, library or parks	2	6	6
Street condition, lighting, parking, or drainage	4	2	6
Fire or police protection	3	3	6
Bus service	4	1	5
Shopping facilities	2	2	4
Neighborhood or traffic conditions	3	1	4
Utilities	4	0	4
Other reasons	1	2	3
All responses	23	15	38
All respondents	85	86	171

tenants, as the primary reason for preferring either location. The availability of shopping facilities, bus service, or neighborhood or traffic conditions were also important reasons given for preferring the replacement location. On the other hand, fire or police protection, street conditions, lighting, parking or drainage were important reasons given for preferring the original location.

Changing the location of dwelling caused many of the relocatees to also change the location of certain neighborhood or community activities (Appendix Table 15). This was especially true in the case of the shopping center most used. Sixty-three percent of the relocatees, mainly owners, changed shopping centers due to the move. One-fourth of them changed the location of their bank account and church membership.

Many of the relocatees who changed the location of certain neighborhood or community activities automatically changed the travel distance to facilities housing these activities (Appendix Table 16). The distance to facility was increased for some relocatees and decreased for others. The distance to the bank, church building, doctor's office, place of employment for head of house, parks most used, homes of relatives and friends, and bus stop was greater for more relocatees than the number that it was less for. On the other hand, the distance to shopping center, schools, and movie house most used was less for more relocatees than it was greater for. However, the number of relocatees having to travel greater distances to these facilities was fairly evenly matched by the number having to travel smaller distances to the same facilities.

Finally, many relocatees moved into different neighborhoods and experienced a change in various neighborhood conditions (Appendix Table 17).

Over one-half of the relocatees indicated that the condition of homes and other buildings and the condition of lawns and yards were better in the new neighborhood than the old neighborhood. About 45 percent thought that the replacement neighborhood streets were in better condition compared to 35 percent who thought they were in worse condition. Over 50 percent of the relocatees, mainly tenants, thought there was less undesirable business activity and less air pollution in the replacement neighborhood compared to the original neighborhood. The number of relocatees who thought that there were more traffic hazards and noise in the replacement neighborhood was greater than the number who thought otherwise.

In general, it might be concluded that the relocatees had a fairly difficult time choosing a replacement dwelling, neighborhood, and community to live that was best suited for them. But their first selection was considered a permanent choice for a large majority of them. Most of the relocatees upgraded neighborhoods, and many had to change the location of certain activities, especially shopping.

#### Evaluation of Relocation Assistance Programs

The relocation programs gave relocatees three months (90 days) from the date of notification of relocation assistance to find a replacement dwelling and vacate the property to be taken for right of way. At the discretion of the THD, relocatees could have a longer period in which to relocate. In the case of the study relocatees, 63 percent took three months or more to move (Table 44). The average length of time that owners took to move was twice that taken by tenants, 6.1 months compared to 3.0



Table 44. Actual versus preferred moving time after receiving official notification to move, by original tenure of respondent

Actual/preferred moving time	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Actual moving time <sup>a b</sup>			
Moved before notified	0	13	13
Less than 3 months	18	32	50
3 to 4 months	7	9	16
4 to 6 months	24	16	40
6 or more months	36	16	52
Mean months	6.1	3.0	4.6
Median months	4.5	2.8	4.2
Minimum months	.5	-9.7	-9.7
Maximum months	18.5	16.6	18.5
Preferred moving time			
Less than 3 months	5	17	22
3 to 4 months	38	31	69
4 to 6 months	14	11	25
6 or more months	26	25	51
Didn't know	2	2	4
Mean months	6.9	5.6	6.2
Median months	3.0	3.0	3.0
Minimum months	2.0	1.0	1.0
Maximum months	120.0	90.0	120.0
All respondents	85	86	171

<sup>a</sup>Time between date of notification of available relocation assistance and date of move.

<sup>b</sup> $\chi^2 = 26.46^{**}$ ;  $\chi^2_{.01} = 13.27$ ; 4 d.f.

months. Thirteen tenants moved before the date of official notification of available relocation assistance.

Most of the relocatees preferred to have a longer period of time to move than what they actually took. They used an average of 4.6 months to move, but preferred 6.2 months to move (Table 44). Tenants preferred to have almost twice the time they took to move.

The relocatees were asked to indicate the services of the THD that were the most helpful to them in getting relocated. Many of their responses were not very specific. For instance, 22 percent mentioned the general courtesy and helpfulness of the THD personnel (Table 45). On the other hand, 15 percent mentioned that the THD kept them informed or furnished lists of available replacement housing. Also, 12 percent mentioned that the THD helped them find a dwelling or arranged for a mover. Another 11 percent indicated that the THD was very helpful in explaining relocation benefits or answering questions. But many others either didn't know which of the services rendered were the most helpful or mentioned none.

As a follow-up question, the relocatees were asked to indicate what information or services should have been provided by the THD. Sixteen percent of the relocatees responded that they needed more detailed information pertaining to the relocation program (Table 45). Another 12 percent, mainly tenants, responded that they needed more assistance in finding housing or a mover. But the majority of them either indicated that no other services or information was needed or indicated that they didn't know what additional service or information should have been provided. The responses to the above question were similar for respondents of all ages and races or nationality backgrounds.

Table 45. Types of services most helpful, types of information or services that should have been provided, and contacts made by relocatees, by original tenure of respondent.

Types of information/ services/contacts	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Services most helpful			
Courtesy or helpfulness	16	21	37
Kept informed or furnished lists of housing	8	17	25
Helped find dwelling or arranged for mover	10	11	21
Explained benefits or answered questions	12	6	18
Others, didn't know, or none	49	45	94
All responses	95	100	195
Information or services that should have been provided			
More detailed information	12	15	27
More assistance in finding housing or mover	7	14	21
Others, didn't know, or none	68	62	130
All responses	87	91	178
Contacts made by relocatees			
Informed THD of replm't. selection	24	23	47
Requested information	16	18	34
Applied for hardship	12	9	21
Others or none	46	47	93
All responses	113	103	216
All respondents	85	86	171

The THD relocation offices kept a log of the contacts made by the relocatees which was reviewed by TTI researchers. The types of contacts made by relocatees are summarized in Table 45. Nearly one-third of their contacts were to inform the THD of that they had selected a dwelling and wanted it inspected to obtain relocation assistance payments. Twenty percent of their contacts were requests for certain information. Nine percent requested that their case be handled on a hardship basis, allowing them to settle with the THD and to receive their relocation money sooner than planned. Some of the relocatees hated to sit and wait their turn, after the first neighbor moved. They complained that the vacant houses caused undesirable activity within the neighborhood.

The respondent relocatees were asked to indicate what they thought were the main good points of the financial assistance given them under the relocation programs. About one-third mentioned the rent, housing, or downpayment supplement (Table 46). Fifteen percent mentioned the moving supplement. A response closely akin to the first was given by 15 percent of the respondents who indicated that the payments helped them purchase or replace a dwelling. Several mentioned the prompt and fair payment that they received. Others mentioned the whole program or the money received. A fairly large number either didn't know or indicated no good points of the financial program.

Following the prior question, the relocatees were asked to offer suggestions for improving the financial assistance program. Only about one-third gave a suggestion (Table 46). The others had no suggestions or didn't know enough about the program to offer any. But the three primary suggestions were as follows: (1) increase the housing or moving supplement,

Table 46. Evaluation of financial assistance program, by original tenure of respondent

Evaluation of financial assistance program	Original tenure of respondent		
	Owner	Tenant	Total
	----- number-----		
Main good points of program <sup>a</sup>			
Rent, housing, or downpaym't supplement	16	39	55
Moving supplement	18	7	25
Helped purchase or replace dwelling	11	13	24
Prompt and fair payment	10	6	16
Whole program	10	3	13
Money received	8	4	12
Others, none, or didn't know	29	25	54
All responses	102	97	199
Suggestions for improving program <sup>b</sup>			
Increase housing or moving supplement	11	7	18
More prompt payments	10	5	15
Pay more money for home	13	1	14
Others, none, or didn't know	59	73	132
All responses	93	86	179
All respondents	85	86	171

<sup>a</sup> $\chi^2 = 20.91^{**}$ ;  $\chi^2_{.01} = 16.80$ ; 6 d.f.

<sup>b</sup> $\chi^2 = 14.07^{**}$ ;  $\chi^2_{.01} = 11.30$ ; 3 d.f.

(2) make more prompt payments, and (3) pay more money for home. The last suggestion involves more than the relocation program, but these relocatees were dissatisfied enough to mention it anyway. The responses to the above question were about the same regardless of age and race or nationality of the respondent.

Another question was asked the respondents to obtain their evaluation of the overall relocation program. Seventy-five percent responded that they thought that it was a very good or good program (Table 47). Nineteen percent gave it a so-so rating. Only five percent labeled it a bad or very bad program. Such a response perhaps explains why so many had no suggestions for improving the program. The responses to the above question were the same regardless of tenure, age, or race or nationality of the respondent. Also, no significant differences in the responses were obtained when cross-tabulated with economic change in the relocatees' housing, level of payments less cash expenditures to relocatees, or the relocatees' opinions of financial effect of the relocation experience.

It might be concluded that most of the relocatees were satisfied with the information, services, and payments provided by the relocation programs. About 10 percent thought that the relocation payments should be increased. Most of the relocatees would have preferred more time, six months on the average, to relocate.

#### Attitudes Toward Freeway and Displacement

The respondent relocatees' attitudes toward the proposed freeway in relation to the relocation program were indicated by their responses to several questions asked them. Before the relocatees were notified that relocation assistance was available to them, 29 percent were in favor of the

Table 47. Overall evaluation of relocation program, by original tenure of respondent

Overall evaluation of relocation program	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Very good program	32	30	62
Good "	32	35	67
So-so "	16	16	32
Bad "	2	2	4
Very bad "	3	2	5
Didn't know	0	1	1
All respondents	85	86	171

freeway and 25 percent were against the freeway (Table 48). The other 46 percent were either indifferent toward it or didn't remember how they felt. After being notified that relocation assistance was available, 41 percent were in favor of the freeway and 19 percent were against the freeway (Table 48). Forty percent were indifferent or didn't remember how they felt. Therefore, the news that relocation assistance would be available to them changed their attitude to be in favor of the freeway instead of being against it. This change in attitude occurred more frequently among non-Anglos than it did among Anglos (Appendix Table 19). But the change was about the same regardless of age of relocatee (Appendix Table 20).

Several other questions revealed the relocatees attitudes toward being displaced by a freeway. Nearly two-thirds of the relocatees were either very upset or mildly upset upon receiving news that they would have to move (Table 49). The other one-third were very pleased, mildly pleased, filled with mixed emotions, or could not remember how they felt when they received the news of the impending move. More tenants than owners were upset. Those who were at least 50 years old were more likely to be upset than those who were under 50 years of age (Appendix Table 20). But the responses by race or nationality were not different (Appendix Table 19). The primary reasons for reacting as the relocatees did were as follows (Table 49): (1) didn't want to move, (2) had home paid for or was paying cheap rent, (3) liked home or neighbors, and (4) uncertainty and worry about finding another home.

The relocatees' reactions to news of the required move varied significantly with the length of time that they knew about the freeway before notification of the move (Table 50). A higher proportion of the



Table 48. Attitude toward freeway before and after notification of relocation assistance, by original tenure of respondent

Attitude toward freeway	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Before notification of relocation assistance			
Favored freeway	30	20	50
Against freeway	22	21	43
Indifferent toward it	30	36	66
Didn't know	3	9	12
After notification of relocation assistance			
Favored freeway	39	31	70
Against freeway	17	15	32
Indifferent toward it	26	37	63
Didn't know	3	3	6
All respondents	85	86	171

Table 49. Reaction to news of required move with reasons and attitude toward entire relocation experience, by original tenure of respondent

Reaction/attitude of respondent	Original tenure of respondent		
	Owner	Tenant	Total
-----number-----			
Reaction to news of required move <sup>a</sup>			
Very upset	32	30	62
Mildly upset	16	34	50
Filled with mixed emotions	21	12	33
Mildly pleased	1	3	4
Very pleased	14	4	18
Didn't know	1	3	4
All respondents	85	86	171
Reasons			
Didn't want to move	30	24	54
Home paid for or cheap rent	23	12	35
Liked home or neighbors	10	24	34
Uncertainty and worry about finding another home	14	18	32
Wanted to move from deteriorating area	15	4	19
Others or none	25	21	46
All responses	117	103	220
Attitude toward entire relocation experience			
Very upset	6	8	14
Mildly upset	13	12	25
Had mixed emotions	13	19	32
Mildly pleased	19	15	34
Very pleased	33	31	64
Didn't know	1	1	2
All respondents	85	86	171

<sup>a</sup> $\chi^2 = 16.55^{**}$ ;  $\chi^2_{.01} = 15.09$ ; 5 d.f.

Table 50. Length of time relocatees knew about freeway, attitude toward freeway, and overall evaluation of relocation program, by reaction to news of move

Time/attitude/program evaluation	Reaction to news of move				Total
	Upset	Mixed emotions	Pleased	Didn't Know	
-----number-----					
Time knew about freeway <u>before</u> notification of move <sup>a</sup>					
Less than 1 year	41	8	5	0	54
1 to 3 years	40	16	9	2	67
3 to 5 years	9	7	1	0	17
5 or more years	16	2	6	0	24
Didn't know	6	0	1	2	9
Attitude toward freeway <u>before</u> notification of relocation assistance <sup>b</sup>					
Favored freeway	26	9	14	1	50
Against freeway	36	6	1	0	43
Indifferent toward freeway	40	17	7	2	66
Didn't know	10	1	0	1	12
Overall evaluation program					
Good program	19	10	8	1	38
So-so program	44	15	6	0	65
Bad program	47	8	8	2	65
Didn't know	2	0	0	1	3
All respondents	112	33	22	4	171

<sup>a</sup>  $\chi^2 = 11.96^*$ ;  $\chi^2_{.05} = 9.49$ ; 4 d.f.; ignoring "Didn't know" cells.

<sup>b</sup>  $\chi^2 = 75.79^{**}$ ;  $\chi^2_{.01} = 13.30$ ; 4 d.f.; ignoring "Didn't know" cells.

relocatees who knew about the freeway less than one year were upset than in the case of those who knew about the freeway five or more years. Also, the relocatees' reactions to news of the required move varied significantly with their attitudes toward the freeway before being notified of relocation assistance (Table 50). A higher proportion of the relocatees who favored the freeway were pleased to hear the news of the required move than in the case of those who were against the freeway. Finally, the relocatee's reactions to news of the required move were about the same regardless of how they rated the overall effectiveness of the relocation program (Table 50).

The relocatees were questioned about their entire relocation experience to reveal their attitude toward it. About 23 percent were either very upset or mildly upset by the experience (Table 49). Another 19 percent had mixed emotions. But 57 percent were either mildly pleased or very pleased by the experience. It is significant to note that 46 percent of those who were upset when receiving the news of required move were pleased with the entire relocation experience, indicating a considerable change in their attitude (Table 51). None of those who were pleased to hear that they would have to move were upset with their relocation experience. Also, at least one-half of relocatees who were against the freeway before and after being notified of relocation assistance were pleased with the relocation experience (Table 51). Almost one-half of those who gave the program a bad rating were pleased with the entire relocation experience (Table 51).

Cross-tabulations of relocatees' attitudes toward the entire relocation experience according to race or nationality background, opinion of financial effects of relocation, level of cash payments less cash expenses to relocatees,

Table 51. Reaction of relocatees to news of move, attitude toward freeway, and overall evaluation of relocation program, by attitude toward entire relocation experience

Reaction/attitude/ program evaluation	Attitude toward relocation experience				Total
	Upset	Mixed emotions	Pleased	Didn't know	
	----- number -----				
Reaction to news of move <sup>a</sup>					
Upset	37	23	51	1	112
Filled with mixed emotions	2	6	25	0	33
Pleased	0	3	19	0	22
Didn't know	0	0	3	2	4
Attitude toward freeway <u>before</u> notification of relocation assistance <sup>b</sup>					
Favored freeway	7	5	38	0	50
Against freeway	10	10	23	0	43
Indifferent toward freeway	19	15	30	2	66
Didn't know	3	2	7	0	12
Attitude toward freeway <u>after</u> notification of relocation assistance <sup>c</sup>					
Favored freeway	9	8	53	0	70
Against freeway	8	8	16	0	32
Indifferent toward freeway	20	15	26	2	63
Didn't know	2	1	3	0	6
Overall evaluation of program <sup>d</sup>					
Good program	4	5	29	0	38
So-so program	12	15	38	0	65
Bad program	22	12	29	2	65
Didn't know	1	0	2	0	3
All respondents	39	32	98	2	171

<sup>a</sup> $\chi^2 = 22.23^{**}$ ;  $\chi^2_{.01} = 13.30$ ; 4 d.f.; ignoring "Didn't know" cells.

<sup>b</sup> $\chi^2 = 10.51^*$ ;  $\chi^2_{.05} = 9.49$ ; 4 d.f.; ignoring "Didn't know" cells.

<sup>c</sup> $\chi^2 = 16.11^{**}$ ;  $\chi^2_{.01} = 13.30$ ; 4 d.f.; ignoring "Didn't know" cells.

<sup>d</sup> $\chi^2 = 12.07^*$ ;  $\chi^2_{.05} = 9.49$ ; 4 d.f.; ignoring "Didn't know" cells.

and economic change in housing revealed no significant differences in opinions or attitudes.

To summarize, nearly two-thirds of relocatees, mainly tenants and those at least 50 years old, were upset upon receiving news of the required move. The length of time in which the relocatees knew about the freeway before receiving notification of relocation assistance affected the proportion of relocatees who were upset at the time of receiving news of the move. Also, almost 50 percent of those who were upset upon receiving news of the move were pleased with their entire relocation experience, indicating a change in attitude toward the move.

Informing the relocatees of the availability of relocation assistance changed some of the relocatees' attitude toward the freeway. Also, at least 50 percent of those who were against the freeway were pleased with the entire relocation experience.

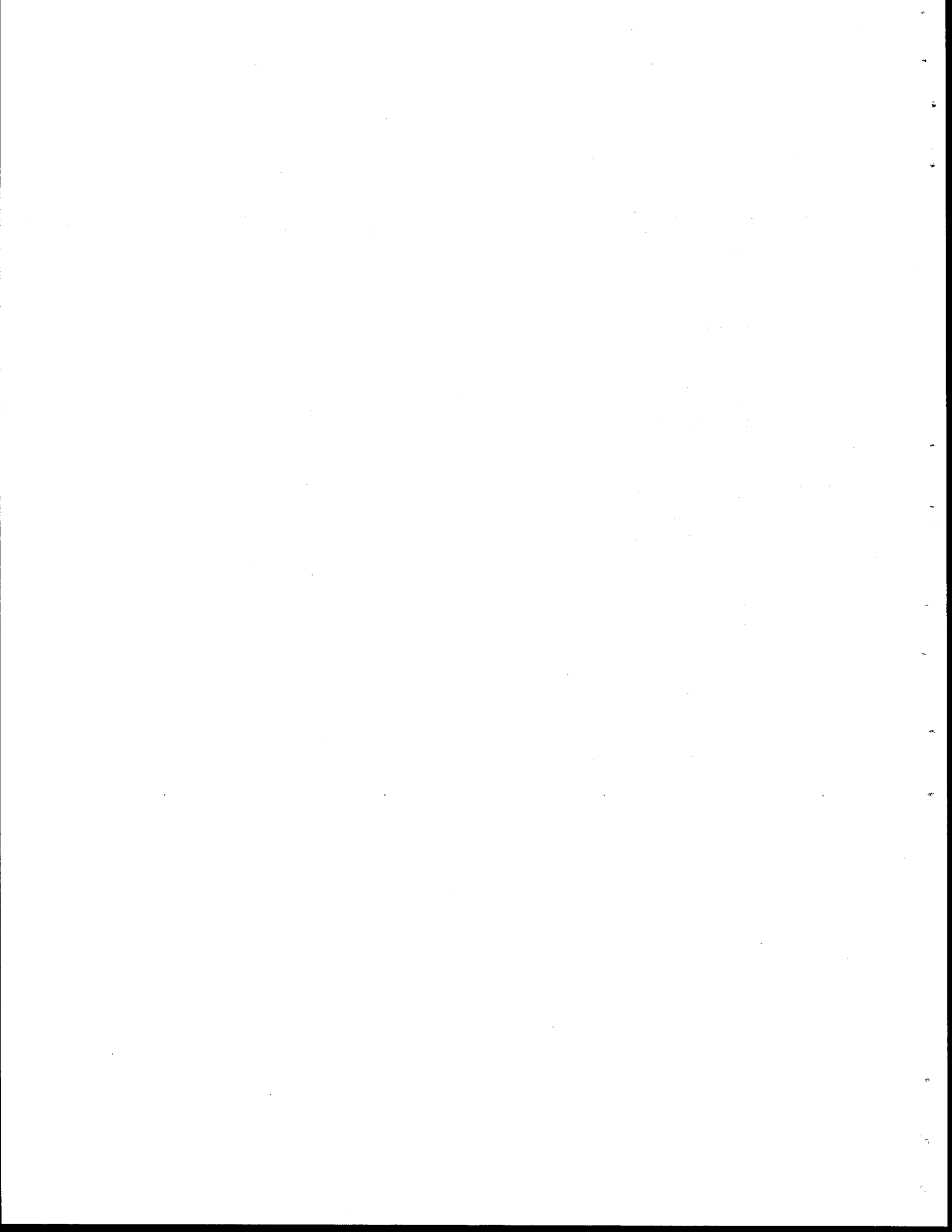
## References

- [1] ABT Associates Inc., Assessing the Residential Preferences on Highway Relocates, Vol. 1: Research Report, 55 Wheeler Street, Cambridge, Massachusetts, Dec. 1971.
- [2] Adkins, William G. and Eichman, Frank F., Jr., Consequences of Displacement by Right of Way to 100 Home Owners, Dallas, Texas, Bulletin No. 16, Texas Transportation Institute, A&M College of Texas, College Station, Texas, Sept. 1961.
- [3] Advisory Commission on Intergovernmental Relations, Relocation: Unequal Treatment of People and Businesses Displaced by Governments, A Commission Report, Washington, D. C., Jan. 1965.
- [4] Barnett, Joseph, Relocation of Tenants to Expedite Construction of Arterial Routes, Public Roads Administration, Federal Works Agency, Aug. 1947.
- [5] Boeckh, E. H., Boeckh's Manual of Appraisals, 6th Edition, Washington, D. C., E. H. Boeckh and Associates, Inc., 1963.
- [6] Besselman, Fred P., Newsom, Michael D., and Weaver, Clifford L., New Approaches to Compensation for Residential Takings, National Cooperative Highway Research Program Report 107, Highway Research Board, Washington, D. C., 1970.
- [7] Carey, W. N., Jr., "An Approach to the Relocation Problem," Relocation: Social and Economic Aspects, Special Report 110, Highway Research Board, Washington, D. C., 1970.
- [8] Christensen, Arthur G. and Jackson, Alvin N., "Problems of Relocation in a Major City: Activities and Achievements in Baltimore, Maryland," Community Values and Socioeconomic Impacts, Highway Research Record, No. 277, Highway Research Board, Washington, D. C., 1969.
- [9] Cook, Kenneth E., "Summary of Conference," Relocation: Social and Economic Aspects, Special Report 110, Highway Research Board, Washington, D. C., 1970.
- [10] Curtiss, Robert S., "Tenant Relocation for Public Improvement," Land Acquisition and Economic Impact Studies, Highway Research Board Bulletin, No. 189, Highway Research Board, Washington, D. C., 1958.
- [11] Federal Highway Administration, Economic and Social Effects of Highways, U. S. Dept. of Transportation, Washington, D. C., Feb. 1971.

- [12] Federal Highway Administration, Guide for Highway Impact Studies--1971, U. S. Dept. of Transportation, Washington, D. C., Jan. 1971.
- [13] Ferber, Robert and Vordoorn, P. J., Research Methods in Economics and Business, New York, The Macmillan Company, 1962.
- [14] Hartman, Chester, "The Housing of Relocated Families," Journal of the American Institute of Planners 30:266-286, Nov. 1964.
- [15] Hartman, George W., "Current Research Relating to Relocation of Families and Businesses," Relocation: Social and Economic Aspects, Special Report 110, Highway Research Board, Washington, D. C., 1970.
- [16] Hess, Rudolf, "Relocation of People and Homes from Freeway Right-of-Way-Community Effects," Land Acquisition--1962, Highway Research Board Bulletin, No. 343, Highway Research Board, Washington, D. C., 1962.
- [17] Highway Research Board, "Changes in Existing State Law Required by Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970," Research Results Digest, No. 32, June 1971.
- [18] Levin, David R., "Displacement and Relocation Needs for Present and Future Highway Programs," Relocation: Social and Economic Aspects, Special Report 110, Highway Research Board, Washington, D. C., 1970.
- [19] McMichael, Stanley L., McMichael's Appraising Manual, 4th Edition, Englewood Cliffs, N. J., Prentice-Hall, Inc., 1951.
- [20] Preston, J. Allyn, "Tenant Relocation and the Highway Program," Highway Law Revision Developments - 1962 and Reservation and Acquisition of Highway Rights-of-Way, Washington, D. C., 1963.
- [21] Steel, Robert G. D. and Torrie, James H., Principles and Procedures of Statistics, New York, McGraw-Hill Book Company, Inc., 1960.
- [22] Texas Highway Department, Relocation Assistance Program, File No. 15.636, Revised, Aug. 1969.
- [23] \_\_\_\_\_, Relocation Assistance Program, File No. 15.636, Revised, Aug. 1970.
- [24] \_\_\_\_\_, Relocation Assistance Program, File No. 15.636, Revised, Aug. 1971.
- [25] \_\_\_\_\_, Right of Way Manual, Revised, July 8, 1971.
- [26] U. S. Congress, Federal-Aid Highway Act of 1962, Public Law 87-866, 87th Congress, 2nd Session, Oct. 1962.



- [27] U. S. Congress, Federal-Aid Highway Act of 1968, Public Law 90-465, 90th Congress, 2nd Session, Aug. 1968.
- [28] U. S. Congress, Uniform Relocation Assistance and Land Acquisition Act of 1970, Public Law 91-646, 91st Congress, 1st Session, Jan. 1971.
- [29] \_\_\_\_\_, House, Uniform Relocation Assistance and Land Acquisition Policies--1970, 91st Congress, 1st and 2nd Sessions, Committee Print 91-30, U. S. Gov't Print. Office, 1970.
- [30] \_\_\_\_\_, House, Select Subcommittee on Real Property Acquisition, Committee on Public Works, Study of Compensation and Assistance for Persons Affected by Real Property Acquisition in Federal and Federally-Assisted Programs, 88th Congress, 2nd Session, Committee Print No. 31, U. S. Gov't Print. Office, 1965.
- [31] U. S. Housing and Home Finance Agency, "The Housing of Relocated Families: Summary of Census Bureau Survey of Families Recently Displaced from Urban Renewal Sites," in Urban Renewal: People, Politics, and Planning, ed. by Jewel Bellish and Murry Hausknecht, Garden City, New York, Doubleday and Company, Inc., pp. 354-360, 1967.
- [32] Weiss, Robert S., Statistics in Social Research: An Introduction, New York, John Wiley and Sons, Inc., 1968.
- [33] Wells, Flynn, "The Magnitude of Displacement," Relocation: Social and Economic Aspects, Special Report 110, Highway Research Board, Washington, D. C., 1970.
- [34] Winfrey, Robley and Zellner, Carl, Summary and Evaluation of Economic Consequences of Highway Improvements, National Cooperative Highway Research Program Report 122, Highway Research Board, 1971.



**APPENDIX**

Appendix Table 1. Standards for decent, safe, and sanitary replacement dwelling, under the 1968 and 1970 relocation programs<sup>a</sup>

Number/DS&S standard	Minimum requirement
1. Housing codes and ordinances	Conforms with all applicable provisions for existing structures that have been established under state and local building, plumbing, electrical, housing and occupancy codes and similar ordinances or regulations.
2. Water	Has a continuing and adequate supply of potable safe water.
3. Kitchen requirements	Has a kitchen or an area set aside for kitchen use which contains a sink in good working condition and connected to hot and cold water, and an adequate sewage system. A stove and refrigerator in good operating condition shall be provided when required by local codes, ordinances or custom. When these facilities are not so required by local codes, ordinances or custom, the kitchen area or area set aside for such use shall have utility service connecting and adequate space for the installation of such facilities.
4. Heating system	Has an adequate heating system in good working order which will maintain a minimum temperature of 70 degrees in the living area under local outdoor design temperature conditions. A heating system will be required in those geographical areas where such is not normally included in new housing. Bedrooms are not included in the "living area" as referred to in this paragraph.
5. Bathroom facilities	Has a bathroom, well lighted and ventilated and affording privacy to a person within it, containing a lavatory basin and a bathtub or stall shower, properly connected to an adequate supply of hot and cold running water, and a flush closet, all in good working order and properly connected to a sewage disposal system.

Appendix Table 1. (continued)

Number/DS&S standard	Minimum requirement
6. Electrical system	Has an adequate and safe wiring system and other electrical services. When the utility is not reasonably accessible and is not required by local codes, ordinances or custom, an exception may be approved by the Regional Federal Highway Administrator on a project basis.
7. Structurally sound	Is structurally sound, weathertight, in good repair and adequately maintained.
8. Egress	Each building used for dwelling purposes shall have a safe unobstructed means of egress leading to safe open space at ground level. Each dwelling unit in a multi-dwelling building must have access either directly or through a common corridor to a means of egress to open space at ground level. In multi-dwelling buildings of three stories or more, the common corridor on each story must have at least two means of egress.
9. Habitable floor space	Has 150 square feet of habitable floor space for the first occupant in a standard living unit and at least 100 square feet (70 square feet for mobile home) of habitable floor space for each additional occupant. The floor space is to be subdivided into sufficient rooms to be adequate for the family. All rooms must be adequately ventilated. Habitable floor space is defined as that space used for sleeping, living, cooking or dining purposes and excludes such enclosed places as closets, pantries, bath or toilet rooms, service rooms, connecting corridors, laundries and unfurnished attics, foyers, storage spaces, cellars, utility rooms and similar spaces.

<sup>a</sup>Source: [25].

Appendix Table 2. Requirements for a comparable replacement dwelling under the 1968 and 1970 programs

Number/requirement for comparable dwelling <sup>a</sup>	Program required under	
	1968	1970
1. Decent, safe and sanitary, as defined in Appendix Table 1	Yes	Yes
2. Functionally equivalent and substantially the same as the acquired dwelling with respect to: (a) number of rooms, (b) area of living space, (c) type of construction, (d) age, and state of repair.	Yes	Yes
3. Fair housing--open to all persons regardless of race, color, religion, sex or national origin and consistent with the requirements of Title VIII of the Civil Rights Act of 1968.	No	Yes
4. In areas not generally less desirable than the dwelling to be acquired in regard to: (a) public utilities, and (b) public and commercial facilities.	Yes	Yes
5. Reasonably accessible to the relocatee's place of employment.	Yes	Yes
6. Adequate to accommodate the relocatee.	No	Yes
7. In an equal or better neighborhood.	Yes	Yes
8. Available on the market to the displaced person.	No	Yes
9. Within the financial means of the displaced family or individual.	No	Yes

<sup>a</sup>Sources: [25] and Federal Instructional Memorandums 80-1-68 (dated 9-5-68) and 80-1-71 (dated 4-30-71).

Appendix Table 3. Economic measures of housing value of original, comparable and replacement dwellings, by original/replacement tenure of respondent

Original/replacement tenure of respondent	Measure of housing value		
	Original <sup>a</sup>	Comparable <sup>b</sup>	Replacement
Owner to owner	Residential value	Purchase value	Purchase price
Owner to tenant	Residential value	Purchase value	Calculated purchase price <sup>c</sup>
Tenant to tenant	Greater of economic or actual rental value	Rental value	Actual rent
Tenant to owner	Greater of economic or actual rental value	Rental value	Calculated rent <sup>c</sup>

<sup>a</sup>For most original properties, the residential value was the amount that the THD paid for the property before deduction for retentions, indebtedness, back taxes, or other closing costs. If the highest and best use was not residential, the residential value was different from the price paid for the property.

<sup>b</sup>The comparable purchase value or rent was set by the THD, based on adjusted asking prices or rents of available DS&S dwellings.

<sup>c</sup>The calculated purchase price was generated by multiplying the actual rent for 12 months by 9.5 for single family residences or 7.5 for other dwellings. The calculated rent was obtained by dividing the actual purchase price of the property by 12 times 9.5 for single family residences or 7.5 for other dwellings.

Appendix Table 4. Extent to which the original and replacement housing passed the DS&S standards, by original tenure of respondent

Dwelling status with DS&S standards	Original owner		Original tenant	
	Original dwelling <sup>a</sup>	Replm't dwelling <sup>b</sup>	Original dwelling <sup>a</sup>	Replm't. dwelling <sup>b</sup>
-----number-----				
Failed following:				
Condition of building	13	2	23	12
Habitable floor space	4	1	13	7
Electrical system	4	0	8	1
Building codes	3	0	7	0
Plumbing fixtures	0	0	5	0
Water supply	0	0	2	0
Summary:				
Failed only one	9	1	14	15
Failed two or more	7	1	12	2
Passed all standards	69	83	60	69
All respondents	85	85	86	86

<sup>a</sup>The DS&S determination for original dwellings was made by TTI researchers who reviewed the property appraisals, asked each respondent about the condition of dwelling, and calculated the habitable floor space requirements for the household at time of taking. In the latter case, 70 percent of the heated area was taken as the habitable floor area.

<sup>b</sup>The DS&S determination for most of the replacement dwelling was made by THD personnel. In cases where the respondent had moved into housing other than that inspected by THD, the TTI researchers observed the dwellings, asked appropriate questions about the dwelling, and calculated the habitable floor space requirements.



Appendix Table 5. Housing value differentials for original owners according to whether original and/or replacement dwellings passed DS&S standards

Dwelling status with DS&S standards <sup>a</sup>	Value of housing		
	Original	Replacement	Difference
Only original not DS&S			
Number	15	15	15
Mean	\$ 7,120	\$11,000	\$ 3,879 <sup>b</sup>
Minimum	\$ 3,587	\$ 4,100	-\$ 1,170
Maximum	\$12,750	\$21,250	\$10,975
Median	\$ 6,000	\$ 8,847	\$ 2,879
Both original and replm't. DS&S			
Number	68	68	68 <sup>c</sup>
Mean	\$10,757	\$16,299	\$ 5,542
Minimum	\$ 5,396	\$ 3,790	-\$ 6,000
Maximum	\$14,925	\$34,200	\$22,125
Median	\$11,000	\$14,895	\$ 4,026

<sup>a</sup>There was one original owner who purchased a replacement dwelling that was not DS&S. The replacement price was considerably less than the DS&S original value. Also, there was only one original owner who had both original and replacement houses that were not DS&S. In this case, the replacement price was greater than the original value

<sup>b</sup> $t = 3.91^{**}$ ;  $t_{.01} = 2.98$ ; 14 d.f.

<sup>c</sup> $t = 7.34^{**}$ ;  $t_{.01} = 2.66$ ; 67 d.f.

Appendix Table 6. Housing rent differentials for original tenants according to whether original and/or replacement dwellings passed DS&S standards

Dwelling status with DS&S standards	Rent of housing <sup>a</sup>		
	Original	Replacement	Difference
<b>Only original not DS&amp;S</b>			
Number	17	17	17
Mean	\$ 67	\$101	\$ 34 <sup>b</sup>
Minimum	\$ 25	\$ 54	-\$ 2
Maximum	\$110	\$167	\$104
Median	\$ 75	\$ 96	\$ 30
<b>Only replm't. not DS&amp;S</b>			
Number	8	8	8
Mean	\$113	\$108	-\$ 5
Minimum	\$ 45	\$ 80	-\$ 55
Maximum	\$135	\$160	\$ 45
Median	\$125	\$100	-\$ 6
<b>Both original and replm't. not DS&amp;S</b>			
Number	9	9	9
Mean	\$ 63	\$ 87	\$ 24
Minimum	\$ 35	\$ 40	-\$ 20
Maximum	\$130	\$153	\$113
Median	\$ 50	\$ 93	\$ 5
<b>Both original and replm't. DS&amp;S</b>			
Number	52	52	52
Mean	\$100	\$121	\$ 21 <sup>c</sup>
Minimum	\$ 50	\$ 48	-\$ 75
Maximum	\$175	\$220	\$159
Median	\$ 98	\$114	\$ 20

<sup>a</sup> Monthly rent

<sup>b</sup>  $t = 5.15^{**}$ ;  $t_{.01} = 2.90$ ; 16 d.f.

<sup>c</sup>  $t = 3.79^{**}$ ;  $t_{.01} = 2.70$ ; 51 d.f.

Appendix Table 7. Housing value differentials for DS&S and non-DS&S original housing according to economic change in housing, by original tenure of respondent

Economic change in housing/original tenure	Housing value differentials <sup>a</sup>		
	Original DS&S	Original not DS&S	Total
<b>Original owner</b>			
Voluntarily upgraded			
Number	50	6	56
Mean	\$ 7,878	\$ 7,381	\$ 7,825
Minimum	\$ 1,500	\$ 2,350	\$ 1,500
Maximum	\$22,125	\$10,975	\$22,125
Median	\$ 6,753	\$ 7,745	\$ 6,820
Involuntarily upgraded			
Number	4	7	11
Mean	\$ 3,061	\$ 2,634	\$ 2,789
Minimum	\$ 1,559	\$ 712	\$ 712
Maximum	\$ 3,730	\$ 4,913	\$ 4,913
Median	\$ 3,478	\$ 2,781	\$ 2,879
Other			
Number	15	3	18
Mean	-\$ 2,133	-\$ 727	-\$ 1,898
Minimum	-\$ 6,000	-\$ 1,170	-\$ 6,000
Maximum	0	325	\$ 0
Median	-\$ 1,140	-\$ 685	\$ 1,070
<b>Original tenant</b>			
Voluntarily upgraded			
Number	28	10	38
Mean	\$ 50	\$ 53	\$ 51
Minimum	\$ 15	\$ 19	\$ 15
Maximum	\$ 159	\$ 113	\$ 159
Median	\$ 45	\$ 44	\$ 45
Involuntarily upgraded			
Number	11	10	21
Mean	\$ 13	\$ 29	\$ 21
Minimum	\$ 3	\$ 4	\$ 3
Maximum	\$ 45	\$ 50	\$ 50
Median	\$ 6	\$ 30	\$ 15
Other			
Number	21	6	27
Mean	-\$ 22	-\$ 7	-\$ 19
Minimum	-\$ 75	-\$ 20	-\$ 75
Maximum	\$ 0	\$ 0	\$ 0
Median	-\$ 20	-\$ 5	-\$ 10

<sup>a</sup> For tenant dwellings, the figures are monthly rent.

Appendix Table 8. Measures used to determine the various relocation costs, by type of relocation payment and original/replacement tenure

Relocation payment by original/replacement tenure	Measure of relocation cost for 1968 and 1970 programs
<b>Housing supplement</b>	
Owner to owner	Replm't. price less orig. value
Owner to tenant	Estimated replm't. price less original value <sup>a</sup>
<b>Interest</b>	
Owner to owner	Present worth of diff. in monthly paym'ts. of replm't. mortgage at actual interest rate and at 4.5 percent int. rate. less Present worth of diff. in monthly paym'ts. of orig. mortgage at actual int. rate and at 4.5 percent int. rate <sup>b</sup>
Owner to tenant	Present worth of diff. in monthly paym'ts. of orig. mortgage at actual int. rate and at 4.5 percent int. rate <sup>b</sup>
Tenant to owner	Present worth of diff. in monthly paym'ts. of replm't. mortgage at actual int. rate and at 4.5 percent int. rate <sup>b</sup>
<b>Downpayment</b>	
Tenant to owner	Replm't. price less replm't. loan balance
<b>Rent supplement</b>	
Tenant to tenant	Diff. in replm't. rent for applicable period and original rent for same period <sup>c</sup>
Owner to tenant	Diff. in replm't. rent for applicable period and economic rent for same period <sup>c</sup>
Tenant to owner	Diff. in estimated replm't. rent for applicable period and orig. or rent for same period. <sup>a, c</sup>

Appendix Table 8. (Continued)

Relocation payment by original/replacement tenure	Measure of relocation cost for 1968 and 1970 programs
Moving	
All tenure groups	Actual cost (including charges for commercial movers, storage of furnishings, equipment rentals, hired labor, reconnection of utilities, personal transportation, meals, and lodging).

<sup>a</sup>Estimated replacement price through the use of rent multipliers in Appendix Table 3, Footnote C.

<sup>b</sup>The 4.5 percent rate was the rate of interest paid on savings accounts in the areas studied at the time of relocation.

<sup>c</sup>Applicable period was 24 months for 1968 program and 48 months for 1970 program.

Appendix Table 9. Measures the THD used to determine the various relocation payments, by type of program and original/replacement tenure

Relocation payment by original/replacement tenure	Measure of payment by program <sup>a</sup>	
	1968	1970
<b>Housing supplement</b>		
Owner to owner (long-term)	Comp. replmt. value less orig. value	Lesser of comp. or actual replm't price less orig. value
Interest Owner to owner (long-term)	No payment	If int. rate on replm't loan was greater than on orig. loan, present worth of diff. in mortgage paym'ts. using least loan bal. <sup>b</sup> and shortest term
<b>Downpayment</b>		
Tenant to owner (short and long-term)	Actual downpayment up to \$1,500 incl. closing costs	Lesser of comp. or actual downpayment up to \$2,000 plus 50 percent of next \$2,000 <sup>c</sup>
Owner to owner (short-term)	Same as above, except can't exceed am't. of housing supplem't to a long-term owner	Same as above
<b>Rent supplement</b>		
Tenant to tenant (short and long-term)	Diff. in comp. rent for 24 mos. and orig. rent for 24 mos. up to \$1,500	Diff. in comp. rent for 48 mos. and orig. rent for 48 mos. up to \$4,000 <sup>d</sup>
Owner to tenant (short and long-term)	Diff. in comp. rent for 24 mos. and 12 percent of orig. value (except can't exceed am't. of housing supplem't.) up to \$1,500	Diff. in comp. rent for 48 mos. and econ. rent for 48 mos. up to \$4,000 (except can't exceed am't. of housing supplem't.)

Appendix Table 9. (Continued)

Relocation payments by original/replacement tenure	Measure of payment by program <sup>a</sup>	
	1968	1970
Moving		
All tenure groups	Actual cost to 50 miles, otherwise scheduled paym't. of \$200 plus \$100 dislocation allowance	Actual cost to 50 miles, otherwise scheduled paym't. of \$300 plus \$200 dislocation allowance

<sup>a</sup>Subject to statutory time periods and maximum payments, as indicated-Table 18.

<sup>b</sup>The State used a 4.5 percent interest rate, same rate paid on savings accounts in the areas studied at the time of relocation, to discount the difference in monthly payments to obtain the present worth.

<sup>c</sup>Includes all incidental expenses required to purchase replacement house if no more than \$2,000. The State used 20 percent of the comparable replacement value.

<sup>d</sup>Used economic rent, if actual rent was not comparable to market rent.

Sources: [22, 23, 24, 25, 27, 28].

Appendix Table 10. Level of relocation costs and payments to respondents, by type of payment and original/replacement tenure of respondent

Type of payment by original/replacement tenure	Level of cost versus payment			Total
	Cost less than paym't.	Cost more than paym't.	Cost equal to paym't.	
	-----number-----			
Housing supplement				
Owner to owner <sup>a</sup>	26	49	1	76
Owner to tenant <sup>a</sup>	0	2	0	2
Interest payment				
Owner to owner	0	38	5	43
Owner to tenant	4	0	2	6
Tenant to owner	1	40	0	41
Downpayment				
Tenant to owner	0	13	17	30
Rent supplement				
Tenant to tenant	30	13	0	43
Tenant to owner <sup>b</sup>	5	8	0	13
Owner to tenant	5	2	0	7
Moving payment				
Owner to owner	62	5	1	68
Owner to tenant	8	0	1	9
Tenant to tenant	40	1	1	42
Tenant to owner	38	0	0	38

<sup>a</sup>These respondents rented dwellings after initial move.

<sup>b</sup>These respondents purchased dwellings after initial move.



Appendix Table 11. Relocation cost-payment differentials, by type of payment and original/replacement tenure of respondent

Type of payment by original/replacement tenure <sup>a</sup>	Relocation cost versus payment		
	Cost	Payment	Difference
----- dollars -----			
<b>Interest payment</b>			
Owner to owner			
Mean	- 2,414	157	- 2,257 <sup>c</sup>
Minimum	-11,244	0	- 9,269
Maximum	0	2,315	0
Median	- 1,511	0	- 1,406
Owner to tenant			
Mean	92	0	92
Minimum	0	0	0
Maximum	305	0	305
Median	56	0	56
Tenant to owner			
Mean	- 3,714	0	- 3,714 <sup>d</sup>
Minimum	- 9,417	0	- 9,417
Maximum	445	0	445
Median	- 3,264	0	- 3,264
<b>Rent supplement</b>			
Tenant to tenant			
Mean	- 707	975	269
Minimum	- 3,792	0	- 2,952
Maximum	672	2,640	1,920
Median	- 480	840	300
Tenant to owner			
Mean	- 1,191	858	- 333
Minimum	- 3,816	240	- 2,976
Maximum	288	1,500	1,008
Median	- 1,104	840	- 336
Owner to tenant			
Mean	- 103	314	211
Minimum	- 4,560	0	- 4,560
Maximum	2,160	1,500	3,660
Median	816	0	816
<b>Moving payment</b>			
Owner to owner			
Mean	- 117	312	196 <sup>e</sup>
Minimum	- 444	180	- 50
Maximum	0	450	425
Median	- 100	300	203

Appendix Table 11. (Continued)

Type of payment by original/replacement tenure <sup>a</sup>	Relocation cost versus payment		
	Cost	Payment	Difference <sup>b</sup>
	----- dollars -----		
Owner to tenant			
Mean	- 174	361	188 <sup>f</sup>
Minimum	- 400	250	0
Maximum	- 10	450	390
Median	- 147	400	186
Tenant to tenant			
Mean	- 52	214	162 <sup>g</sup>
Minimum	- 300	115	- 75
Maximum	0	375	365
Median	- 43	225	172
Tenant to owner			
Mean	- 45	241	196 <sup>h</sup>
Minimum	- 181	115	69
Maximum	0	400	380
Median	- 35	238	168

<sup>a</sup>The number of respondents for each group is shown in Appendix Table 10, but excludes those where the cost was not determined.

<sup>b</sup>Obtained through Algebraic addition.

<sup>c</sup> $t = 5.86^{**}$ ;  $t_{.01} = 2.69$ ; 42 d.f.

<sup>d</sup> $t = 11.43^{**}$ ;  $t_{.01} = 2.70$ ; 40 d.f.

<sup>e</sup> $t = 14.95^{**}$ ;  $t_{.01} = 2.59$ ; 67 d.f.

<sup>f</sup> $t = 4.60^{**}$ ;  $t_{.01} = 3.36$ ; 8 d.f.

<sup>g</sup> $t = 14.20^{**}$ ;  $t_{.01} = 2.69$ ; 41 d.f.

<sup>h</sup> $t = 13.65^{**}$ ;  $t_{.01} = 2.74$ ; 37 d.f.

Appendix Table 12. Mortgage, equity and monthly house payment differentials by original/replacement tenure of respondents

Measure by original/ replacement tenure <sup>a</sup>	Value of mortgage or equity		
	Original	Replacement	Difference
	-----dollars-----		
Owner to owner			
Mortgage debt (74)			
Mean	1,793	6,190	4,397 <sup>b</sup>
Minimum	0	0	- 4,000
Maximum	11,191	31,600	20,409
Median	0	5,350	633
Equity (74)			
Mean	8,096	8,607	511
Minimum	855	100	-12,510
Maximum	14,900	30,000	18,575
Median	8,147	7,290	- 463
Monthly house payment (73)			
Mean	46	81	35 <sup>c</sup>
Minimum	14	14	- 41
Maximum	115	269	175
Median	28	78	22
Tenant to tenant			
Monthly house rent (43)			
Mean	72	95	23 <sup>d</sup>
Minimum	25	40	- 38
Maximum	121	160	80
Median	71	93	20

<sup>a</sup>Number in parentheses is the number of respondents.

<sup>b</sup> $t = 6.44^{**}$ ;  $t_{.01} = 2.66$ ; 73 d.f.

<sup>c</sup> $t = 6.74^{**}$ ;  $t_{.01} = 2.65$ ; 72 d.f.

<sup>d</sup> $t = 5.51^{**}$ ;  $t_{.01} = 2.69$ ; 42 d.f.

Appendix Table 13. Comparison of age of head of household with race or nationality of head, number of persons per household, and type of persons in household

Characteristic of respondent	Age of head of household			Total
	Less than 40 yrs.	40-49	50 or more yrs.	
----- number -----				
Race or nationality of head of house <sup>a</sup>				
Anglo	20	17	58	95
Non-Anglo	32	17	27	76
No. of persons per household <sup>b</sup>				
1	4	3	24	31
2	4	12	33	49
3	18	5	14	37
4 or more	26	14	14	54
Persons in household				
Head of house without spouse <sup>c</sup>				
Alone	4	3	22	29
Children and/or others	8	8	17	33
Head of house with spouse				
Spouse only	2	7	25	34
Children and/or others	38	16	21	75
All respondents	52	34	85	171

<sup>a</sup> $\chi^2 = 12.11^{**}$ ;  $\chi^2_{.01} = 9.21$ ; 2 d.f.

<sup>b</sup> $\chi^2 = 39.68^{**}$ ;  $\chi^2_{.01} = 16.81$ ; 6 d.f.

<sup>c</sup> $\chi^2 = 36.63^{**}$ ;  $\chi^2_{.01} = 16.81$ ; 6 d.f.

Appendix Table 14. Comparison of race or nationality of head of house with number of persons per household and persons in household

Characteristic of respondent	Race or nationality of head of house		
	Anglo	Non-Anglo	Total
	----- number -----		
Number of persons per household <sup>a</sup>			
1	20	11	31
2	38	11	49
3	20	17	37
4 or more	17	37	54
Persons in household <sup>b</sup>			
Head of house, without spouse			
Alone	18	11	29
Children and/or others	16	17	33
Head of house with spouse			
Spouse only	29	5	34
Children and/or others	32	43	75
All respondents	95	56	171

<sup>a</sup> $\chi^2 = 23.32^{**}$ ;  $\chi^2_{.01} = 11.35$ ; 3 d.f.

<sup>b</sup> $\chi^2 = 18.39^{**}$ ;  $\chi^2_{.01} = 11.35$ ; 3 d.f.

Appendix Table 15. Change in location of selected activities within neighborhood or community as a result of relocation, by original tenure of respondent

Change in location of activity	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Shopping center (most used) <sup>a</sup>			
Yes	63	44	107
No	22	41	63
Not applicable	0	1	1
Bank account			
Yes	24	19	43
No	56	58	114
Not applicable	5	9	14
Schools			
Yes	16	15	31
No	7	18	25
Not applicable	62	53	115
Church membership			
Yes	23	17	40
No	51	55	106
Not applicable	11	14	25
Family doctor			
Yes	9	13	22
No	70	69	139
Not applicable	6	4	10
Employment			
Yes	7	8	15
No	57	66	123
Not applicable	21	12	33
Movie house (most used) <sup>b</sup>			
Yes	7	13	20
No	11	25	36
Not applicable	67	48	115

Appendix Table 15. (Continued)

Change in location of activity	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Public park (most used) <sup>c</sup>			
Yes	14	15	29
No	10	30	40
Not applicable	61	41	102
All respondents	85	86	171

<sup>a</sup> $\chi^2 = 9.10^*$ ;  $\chi^2_{.05} = 5.99$ ; 2 d.f.

<sup>b</sup> $\chi^2 = 10.38^{**}$ ;  $\chi^2_{.01} = 9.21$ ; 2 d.f.

<sup>c</sup> $\chi^2 = 13.95^{**}$ ;  $\chi^2_{.01} = 9.21$ ; 2 d.f.

Appendix Table 16. Change in distance to selected facilities within neighborhood or community as a result of relocation, by original tenure of respondent

Distance to facility	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Shopping center (most used)			
Greater	32	24	56
Less	28	33	61
About same	25	28	53
Not applicable	0	1	1
Bank			
Greater	38	34	72
Less	26	24	50
About same	15	15	30
Not applicable	6	13	19
Schools			
Greater	7	9	16
Less	10	11	21
About same	7	12	19
Not applicable	61	54	115
Church building			
Greater	34	27	61
Less	22	24	46
About same	19	18	37
Not applicable	10	17	27
Doctor's office			
Greater	37	29	66
Less	30	29	59
About same	10	20	30
Not applicable	8	8	16
Place of employment (HH)			
Greater	26	27	53
Less	19	21	40
About same	12	20	32
Not applicable	28	18	46



Appendix Table 16. (Continued)

Distance to facility	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Movie house (most used) <sup>a</sup>			
Greater	4	11	15
Less	11	18	29
About same	3	10	13
Not applicable	67	47	114
Park (most used)			
Greater	10	15	25
Less	8	14	22
About same	6	9	15
Not applicable	61	48	109
Homes of relatives and friends			
Greater	34	35	69
Less	29	29	58
About same	18	19	37
Not applicable	4	3	7
Transit bus stop			
Greater	19	17	36
Less	8	19	27
About same	12	13	25
Not applicable	46	37	83
All respondents	85	86	171

<sup>a</sup>  $\chi^2 = 12.23^{**}$ ;  $\chi^2_{.01} = 11.35$ ; 3 d.f.

Appendix Table 17. Change in neighborhood conditions by original tenure of respondent

Replm't. neighborhood compared to orig. neighborhood	Original tenure of respondent		
	Owner	Tenant	Total
	-----number-----		
Condition of homes and other bldgs.			
Better	55	45	100
Worse	21	26	47
About same	6	13	19
Didn't know	3	2	5
Condition of lawns and yards			
Better	51	38	89
Worse	24	32	56
About same	8	14	22
Didn't know	2	2	4
Condition of streets			
Better	41	36	77
Worse	24	36	60
About same	20	14	34
Undesirable business activity			
More	25	24	49
Less	49	48	97
About same	9	13	22
Didn't know	2	1	3
Traffic hazards			
More	31	33	64
Less	19	18	37
About same	35	35	70
Didn't know			
Noise			
More	36	36	72
Less	30	26	56
About same	19	24	43
Air pollution <sup>a</sup>			
More	31	18	49
Less	35	54	89
About same	14	11	25
Didn't know	5	3	8
All respondents	85	86	171

<sup>a</sup>  $\chi^2 = 8.36^*$ ;  $\chi^2_{.05} = 7.82$ ; 3 d.f.

Appendix Table 18. Respondents' evaluations of relocation program and attitudes toward entire relocation experience, by race or nationality of head of household

Respondents' evaluations/ attitudes	Race or nationality of head			
	Anglo	Black	Other	Total
-----number-----				
Evaluation of relocation program				
Very good program	38	17	7	62
Good "	32	28	7	67
So-so "	18	9	5	32
Bad "	3	0	1	4
Very bad "	4	1	0	5
Didn't know	0	1	0	1
Attitude toward entire relocation experience				
Very upset	7	5	2	14
Mildly upset	13	9	3	25
Had mixed emotions	21	9	2	32
Mildly pleased	15	14	5	34
Very pleased	38	19	7	64
Didn't know	1	0	1	2
All respondents	95	56	20	171

Appendix Table 19. Respondents' reactions to news of required move and attitudes toward freeway before and after being notified of available relocation assistance, by race or nationality of head of household

Respondents' reactions/ attitudes	Race or nationality of head			
	Anglo	Black	Other	Total
----- number -----				
Reaction to news of required move				
Very upset	27	26	9	62
Mildly upset	30	15	5	50
Filled with mixed emotions	21	9	3	33
Mildly pleased	3	0	1	4
Very pleased	12	4	2	18
Didn't know	2	2	0	4
Attitude toward freeway before notified of relocation assistance <sup>a</sup>				
Favored freeway	33	11	6	50
Against freeway	23	19	1	43
Indifferent toward it	35	21	10	66
Didn't know	4	5	3	12
Attitude toward freeway <u>after</u> notified of relocation assistance				
Favored freeway	42	19	9	70
Against freeway	20	11	1	32
Indifferent toward it	31	22	10	63
Didn't know	2	4	0	6
All respondents	95	56	20	171

<sup>a</sup> $\chi^2 = 9.82^*$ ;  $\chi^2_{.05} = 9.49$ ; 4 d.f. The "Indifferent" and "Didn't know" cells were combined for the  $\chi^2$  test.

Appendix Table 20. Respondents' reactions to news of required move and attitudes toward freeway before and after being notified of available relocation assistance, by age of head of household

Respondents' reactions/ attitudes	Age of head of house			Total
	Less than 40 to 40 yrs.	50 or 49 yrs.	more yrs.	
	----- number -----			
Reaction to news of required move <sup>a</sup>				
Very upset	12	10	40	62
Mildly upset	17	10	23	50
Filled with mixed emotions	11	6	16	33
Mildly pleased	4	0	0	4
Very pleased	6	7	5	18
Didn't know	2	1	1	4
Attitude toward freeway <u>before</u> notified of relocation assistance				
Favored freeway	12	11	27	50
Against freeway	9	10	24	43
Indifferent toward it	23	12	31	66
Didn't know	8	1	3	12
Attitude toward freeway <u>after</u> notified of relocation assistance				
Favored freeway	19	15	36	70
Against freeway	7	7	18	32
Indifferent toward it	22	12	29	63
Didn't know	4	0	2	6
All respondents	52	34	85	171

<sup>a</sup> $\chi^2 = 21.43^*$ ;  $\chi^2_{.05} = 18.30$ ; 10 d.f.

