

# DEPARTMENTAL RESEARCH

Report Number 44-1

EVALUATION REPORT

OF THREE HUNDRED

STUDIES OF

RIGHT OF WAY

**FOR LOAN ONLY**

REMAINDERS

RETURN TO FILE D-108

TEXAS HIGHWAY DEPT.

TEXAS HIGHWAY DEPARTMENT

EVALUATION REPORT OF  
THREE HUNDRED  
STUDIES OF RIGHT OF WAY REMAINDERS

by

Billy W. Mauldin  
Research Project Supervisor

Research Report No. 44-1

Evaluation Report of Three Hundred  
Studies of Right of Way Remainers  
Research Project 1-15-63-44



Conducted by

Right of Way Division  
Texas Highway Department  
in cooperation with the  
U. S. Department of Transportation  
Federal Highway Administration  
Bureau of Public Roads

The opinions, findings and conclusions expressed  
in this publication are those of the authors and  
not necessarily those of the Bureau of Public  
Roads.

May, 1967



#### ACKNOWLEDGEMENTS

The writer wishes to acknowledge the cooperation and assistance of the Right of Way Staffs of each district for their contribution in submitting studies for publication. Also, the assistance of Mr. Walter E. Simms, Chief Appraiser, Right of Way Division, for his review and analysis of each published study.



## TABLE OF CONTENTS

Part	Page
FOREWARD .....	vi
ABSTRACT .....	vii
I. ORIENTATION OF STUDIES .....	1
A. <u>Authorization of Studies</u> .....	1
B. <u>Distribution and Use of Studies</u> .....	1
C. <u>Methodology</u> .....	2
II. CHANGE IN LAND USE OF REMAINDERS .....	2
A. <u>43.7% Remainder Change in Use</u> .....	2
B. <u>Change is to Commercial</u> .....	3
III. CHANGE IN VALUE OF REMAINDERS AS RELATED TO USE OF ORIGINAL PROPERTY ON BOTH SYSTEMS .....	4
A. <u>Interstate</u> .....	5
1. Residential .....	5
2. Commercial .....	5
3. Farm .....	5
B. <u>ABC System</u> .....	6
1. Residential .....	6
2. Commercial .....	7
3. Farm .....	7
4. Ecclesiastical .....	7
IV. COMPARISON OF SIZE OF REMAINDERS TO CHANGE IN VALUE	7
A. <u>Interstate</u> .....	8
B. <u>ABC System</u> .....	8



Part	Page
V. TOTAL CASES PUBLISHED BY BEFORE USE CLASSIFIED BY DAMAGES PAID, ACTUALLY DAMAGED AND THOSE DAMAGED MORE THAN PAID .....	9
A. <u>Interstate</u> .....	9
B. <u>ABC System</u> .....	11
VI. RELATIONSHIP OF DOLLAR AMOUNT OF APPRAISED DAMAGES TO ACTUAL DAMAGES OR ENHANCEMENTS .....	11
VII. PARTIAL FINDINGS .....	13



## TABLES AND CHARTS

TABLE	Page
I. CHANGE IN LAND USE OF REMAINDERS ON THE INTERSTATE AND ABC SYSTEMS .....	3
II. INTERSTATE-FARM REMAINDERS MEDIAN CHANGE IN VALUE .	4
III. TOTAL CASES PUBLISHED CLASSED BY BEFORE USE SHOWING CASES WHERE DAMAGES WERE PAID, THOSE ACTUALLY DAMAGED AND THOSE DAMAGED MORE THAN PAID AND A PERCENTAGE OF TOTAL CASES .....	10
IV. RELATIONSHIP OF ACTUAL DAMAGES AND ENHANCEMENTS TO APPRAISED DAMAGES .....	12

### Chart

1. Change in Land Use of Remainers on the Interstate Highway System .....	3
2. Change in Land Use of Remainers on the ABC Highway System .....	4
3. Change in Value of Interstate Remainers as Related to Use of Original Property .....	5
4. Change in Value of ABC System Remainers as Related to Use of Original Property .....	6
5. Comparison of Size of Interstate Remainers to Change in Value .....	7
6. Comparison of Size of ABC System Remainers to Change in Value .....	8



## FOREWARD

Many individuals believe that there will be damages to remaining property when only a portion of a tract is acquired for highway right of way. Damages can and do occur, but many of the remainders experience special enhancements which offset damages. Since there was a need for more factual data to be used in accounting for changes in land values and land use of remainders, this research project was initiated to evaluate the effect partial takings for highway purposes would have on the remaining property.

In order to evaluate the effect of partial takings, case histories of remainders which have sold are being compiled including before values and use, subsequent sales, changes in use and effects since right of way acquisition. From these case histories, published reports have been prepared and distributed throughout the State. Data from the published reports are being classified so conclusions can be drawn as to the cause of damages and enhancements.

The gathering of data and basic analysis of the studies is conducted by right of way staffs of each district office. When sales occur within a district they are verified and submitted to the Right of Way Division on a standard form. After an analysis and review a remainder report is published for distribution and file.

Each published report has been prepared using the same format. For this evaluation report the published studies have been compared and analyzed using the same techniques. From this analysis partial findings have been found and are being presented.



## ABSTRACT

An analysis of the first 300 published studies, 195 on the Interstate System and 105 on the ABC System (U. S. and State Highways) has been made. It would be premature to attempt to reach firm recommendations on this limited number of studies. However, certain trends are indicated, which are enumerated below.

1. There seems to be a market value for all types, sizes and shapes of remainders; however, the size plays an important role as to the after value. The 5 to 10 acre group appears to enjoy the greatest enhancement on both the Interstate and ABC Systems.
2. Some remainders will suffer a diminution in market value but the loss is not as great as originally estimated. This is primarily because of changes in use from that envisaged at the time of appraisals.
3. When new facilities are constructed or existing highways are widened and improved there is evidence that the use of property will change when the remainder sells.

It is evident that through these studies more is known about sales and use of remainders. The Bureau of Public Roads and the Highway Department firmly believe that the studies are an excellent source of information to assist personnel engaged in appraising and acquisition to arrive at fair compensation for right of way.



STATUS REPORT OF  
RESEARCH PROJECT NO. 1-15-63-44  
STUDIES OF RIGHT OF WAY REMAINDERS

I. ORIENTATION OF STUDIES

A. Authorization of Studies

The Highway Department initiated right of way remainder studies in June, 1963, with Administrative Order 24-63. The purpose of the studies is to develop a better method, based on factual data, for measuring the damages or enhancements to remainders resulting from partial takings.

B. Distribution and Use of Studies

As each study is published, it is distributed to the Highway Department districts which in turn provide copies to interested individuals. Right of Way Division personnel also receive copies of each study. By becoming familiar with sales of remainders in an area, review personnel at the district and the Right of Way Division have found the published reports to be beneficial. Negotiators are using these studies to an advantage. Fee appraisers are able to use the studies within their area as comparables and also get a better perspective as to what experience the other sections of the State are having with sales of remainders. Copies are sent to the Attorney General Division handling highway condemnation cases. Although the studies cannot be introduced into court as evidence in eminent domain trials, the actual sale can be introduced as a comparable in establishing the remainder value after taking. Copies are sent to the Library of Congress, and the Texas State Library. In order for the studies to be of use on a national basis, a detailed form, "Case Study of Severance Effects," is completed on each study and submitted to the Bureau of Public Roads to be included in the national bank of remainder study data along with similar data from other states active in remainder study work. The studies are being used by private companies as well as by governmental agencies. Recently a national department store requested a copy of three studies.

### C. Methodology

In analyzing these remainders five different possibilities have been considered. First, the before use has been considered and compared with the use as indicated by the sale to evaluate the change in use of the remainders. In comparing the change in value, the before use of the remainders was classified as residential, commercial and farm on the Interstate System and residential, commercial, farm and ecclesiastical on the ABC System. The percentage of increase or decrease in value due to the influence of the new facility was arranged in an array for each class from the largest increase to the largest decrease and the mid-value of this array, the median value, was used to represent increase due to highway influence of each type of property. For the third analysis the remainders were grouped by size and the median percentage computed for sizes from 0 to .5 acre, .5 acre to 1 acre, 1 acre to 5 acres, 5 acres to 10 acres, 10 acres to 50 acres and 50 acres up. In the fourth analysis the remainders were grouped by before use and they were tabulated as those that were damaged by the appraisal process, those actually damaged when the sale price is compared with the remainder value before and those damaged more than considered. For the fifth analysis a relationship of actual damages and enhancements to appraised damages was made using the actual dollar amount considered as damages and the change in value indicated by the sale. Control of access was also analyzed as a factor; however, since the majority of the remainders studied have access to a frontage road or city street no definite conclusions could be drawn.

## II. CHANGE IN LAND USE OF REMAINDERS

### A. 43.7% Remainders Change in Use

In establishing the value of a remainder the appraiser has to visualize what will happen to the property after the taking. Will the remainder have the same use as the whole property or will this use change? An analysis of the studies which has been published reveals that 43.7% of the remainders changed to a different use after the taking. Out of the 300 studies analyzed the land use of the original properties were 203 residential, 66 commercial, 28 farm and 3 ecclesiastical as shown in Table I. Of the 203 residential properties, 89 remained residential, 111 changed to commercial usage, and 3 are being used as part of church sites. Of the 66 commercial properties, 64 continued to be used as commercial after the taking with one as residential and one ecclesiastical. Farm properties changed very little as 16 of the 28 remainders are still being used as farm properties with 9 having commercial usage of which 3 are used as both commercial and farm and 3 are being used as rural residential. The 3 ecclesiastical properties changed to commercial usage.

CHANGE IN LAND USE OF REMAINDERS ON THE INTERSTATE AND ABC SYSTEM

LAND USE OF REMAINDER	LAND USE OF ORIGINAL PROPERTY											
	RESIDENTIAL			COMMERCIAL			FARM			ECCL.		
	ALL CASES	INT.	ABC	ALL CASES	INT.	ABC	ALL CASES	INT.	ABC	ALL CASES	INT.	ABC
	203	131	72	66	46	20	28	18	10	3		3
RESIDENTIAL	89	64	25	1	1		3	3				
COMMERCIAL	111	67	44	64	45	19	9	5	4	3		3
FARM							16	10	6			
ECCL.	3		3	1		1						

B. Change is to Commercial

It is evident that the change is to commercial. Of the 4 classes, 187 of the remainders are being used for commercial purposes as compared to 66 whole properties appraised as commercial. Farm land, with interchange influence or in close proximity to an urban center, is being converted to commercial use for the property abutting the facility with the land back from the facility still being used for farming purposes. Charts 1 and 2 show the change in land use of remainders on each system. In order to measure what economic effect the highway had on these remainders the appraised remainder value before acquisition of each remainder has been compared with the sale price, after the sale price has been adjusted for any general increase or decrease in property values in the area.

CHANGE IN LAND USE OF REMAINDERS ON THE INTERSTATE HIGHWAY SYSTEM

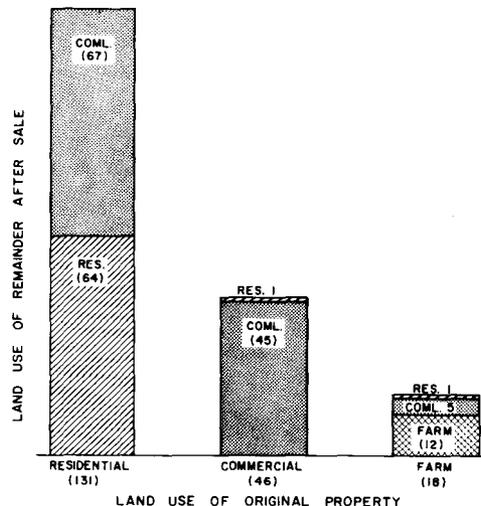


CHART I

CHANGE IN LAND USE OF REMAINDERS ON  
THE ABC HIGHWAY SYSTEM

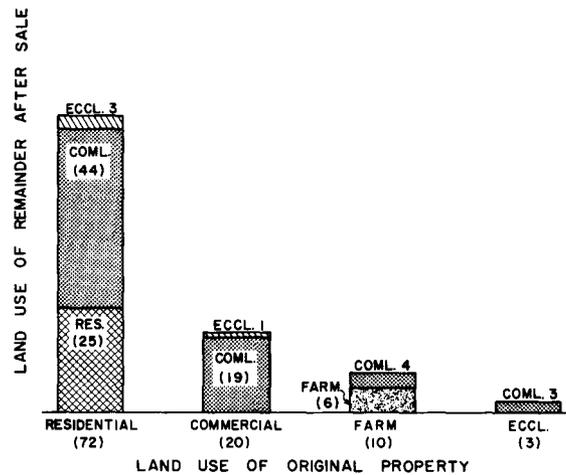


CHART 2

III. CHANGE IN VALUE OF REMAINDERS  
AS RELATED TO USE OF THE ORIGINAL  
PROPERTY ON BOTH SYSTEMS

In analyzing the change in value between the remainder value before acquisition and sale of the remainder, the median value of the group has been chosen as the percentage of increase or decrease in each group. The median value is the center value of an array when the percentages are arranged in a sequence starting with the lowest value up to the highest. Table II is an example of how the median value for the Interstate farm remainders was found.

TABLE II  
INTERSTATE-FARM REMAINDERS  
MEDIAN CHANGE IN VALUE

+ 336.0
+ 204.0
+ 157.0
+ 81.6
+ 74.3
+ 64.5
+ 57.1
+ 43.0
+ 33.5
+ 22.6
+ 21.7
+ 20.9
+ 15.5
+ 14.2
+ 13.1
- 2.9
- 21.4
- 25.3

28.1 MEDIAN PERCENTAGE

### A. Interstate

The 131 residential Interstate properties as shown on Chart 3 have a median percentage of +9.8%. There were 52 remainders that suffered a loss, 77 that received an enhancement and 2 of which sold for same as their before appraised value. Of the 52 that suffered a diminution in value, 44 remained residential, and 8 are used for commercial. The 77 that were enhanced in value, 18 remained residential, and 59 are used for commercial. The 2 remainders which sold for the same as their appraised value sold for additional residential yard area.

CHANGE IN VALUE OF INTERSTATE REMAINDERS  
AS RELATED TO USE OF ORIGINAL  
PROPERTY

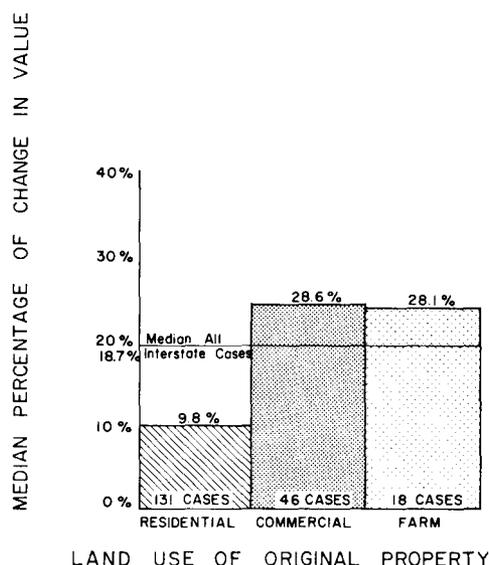


CHART 3

Commercial remainders have a median percentage of enhancement of +28.6%. Of the 46 properties appraised as commercial, 45 remained commercial and one is being used as residential. Eight of the remainders sold for less than the appraised remainder value before acquisition, 37 sold for an enhancement over the before value of the remainder and one sold for the same amount as the remainder value before acquisition.

Farm properties showed the next highest percentage gain with a 28.1% increase as shown on Chart 3. In only 3 of the 18 case studies published did the remainder sell for less than the appraised remainder value before, 2 sold for partial commercial

and farm use, and the other remained farm. Of the 18 remainders, 10 sold for farm, 5 for commercial, and 3 as rural residential.

B. ABC System

Residential properties had an increase of 38% over the appraised remainder value before acquisition. Most of these properties were on existing highways which were widened. Out of the 72 properties which were residential prior to acquisition 23 were actually damaged when the sale price is compared with the remainder value before. Sixteen of the 23 damaged are being used as residential after the sale.

CHANGE IN VALUE OF ABC SYSTEM REMAINDERS AS RELATED TO USE OF ORIGINAL PROPERTY

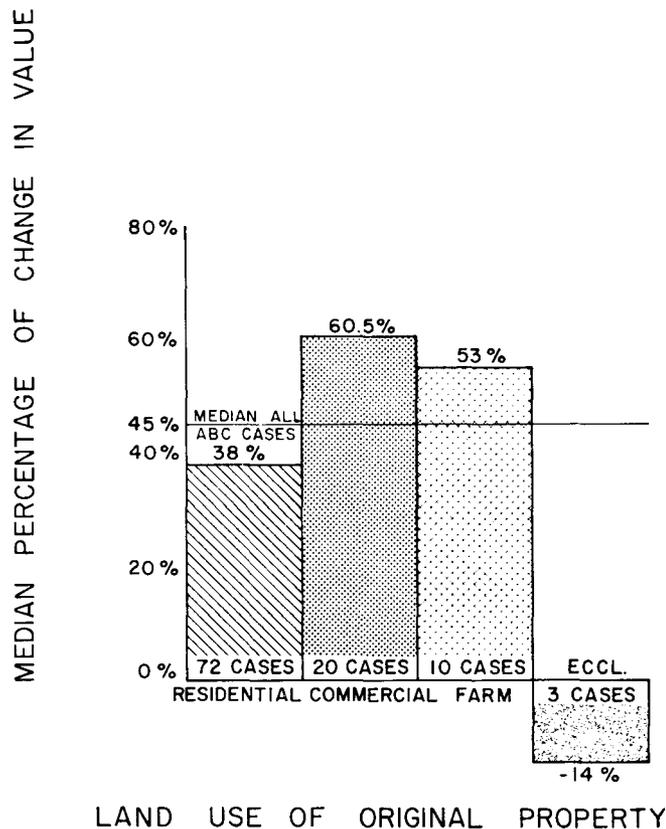


CHART 4

Commercial properties gained 60.5% over the appraised remainder value before as shown on Chart 4. Nineteen of the 20 properties appraised commercial remained commercial with only 2 sales reflecting a loss in value. One changed to ecclesiastical.

Farm remainders increased in value 53% which was the second highest percentage gain. Only one remainder of the 10 sold suffered a diminution in value. Eight increased in value with 2 of these being used as commercial properties. One of the remainders sold for its appraised value.

Ecclesiastical remainders suffered a loss when the remainder value before acquisition was compared with the sale price. All 3 remainders had a diminution in value even though their use changed to commercial.

#### IV. COMPARISON OF SIZE OF REMAINDERS TO CHANGE IN VALUE

Another feature of a remainder which must be considered in evaluation is the size of the remainder. The cases previously discussed on the Interstate and ABC Systems have been grouped for each system. The grouping on the Interstate System is from 0 to .5 acre, .5 to 1 acre, 1 to 5 acres, 5 to 10 acres, 10 to 50 acres and 50 acres up as shown on Chart 5. The ABC System is grouped the same except the larger land grouping is from 10 acres up as shown on Chart 6. Each system followed the same general pattern with the ABC System having a greater increase in value over the Interstate System.

COMPARISON OF SIZE OF INTERSTATE  
REMAINDERS TO CHANGE IN VALUE

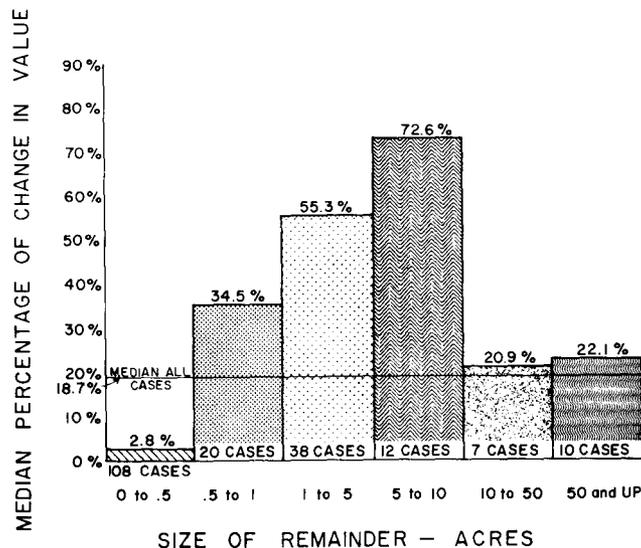


CHART 5

### A. Interstate

Interstate remainders when grouped as above show an increase in value with the greatest enhancement in the 5 to 10 acre range. The group from 0 to .5 acre which contained 108 sales is shown with a median percentage of +2.8%. This group has the lowest per cent of enhancement when compared with the other five groups. Of the 62 remainders which were damaged, 50 were in this group with 12 in the other 5 groups.

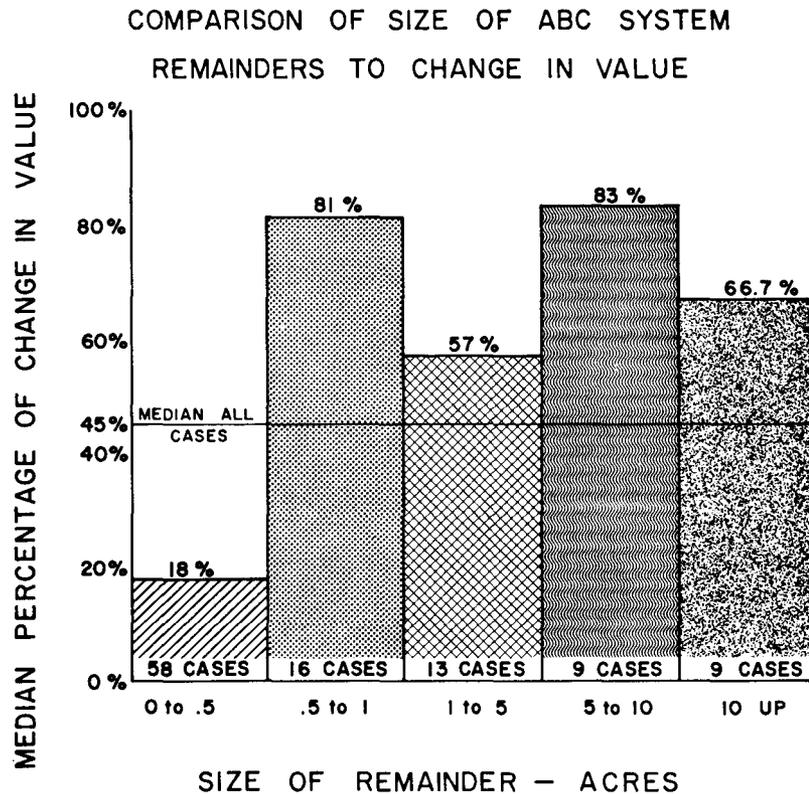


CHART 6

### B. ABC System

ABC System remainders have an increase in value in every group with a median percentage of 45% on all cases as shown on Chart 6. Out of a total of 105 remainders 58 were from 0 to .5 acre with a median percentage of 18%. This percentage climbed to 81% for .5 to 1 acre, dropped to 57% for 1 to 5 acres and went back up to 83% for those 5 to 10 acres in size. The median percentage for the 9 remainders of 10 acres or more is 66.7%.

V. TOTAL CASES PUBLISHED BY BEFORE USE CLASSED BY  
DAMAGES PAID, ACTUALLY DAMAGED AND  
THOSE DAMAGED MORE THAN PAID

All of the above computations have been made using the appraised remainder value before acquisition compared to the sale price of the remainder adjusted for any general increase or decrease in real estate values in the area where each remainder is located. This comparison establishes whether the remainder was enhanced or suffered a diminution in value due to the highway taking. In order to establish whether these damages were recognized and compensated for, the following computations have been made. Table III shows the number of case studies published by type of before use and the cases where damages were actually paid, those remainders which were actually damaged and those damaged more than paid. Damages were paid on 198 of the 300 studies analyzed. The analysis shows that 93 remainders, or 31%, were actually damaged, of which only 32 remainders, or 10.7%, suffered more damages than were paid.

A. Interstate

Interstate remainders comprised 195 studies of the total. These case studies are classed by the before use as residential, commercial, and farm. One hundred and thirty-one of the Interstate remainders were residential with 105 of these remainders being damaged by the appraisal process. Fifty-two of these residential remainders were actually damaged; however, damages were paid to offset the damages incurred on 42 leaving 10 remainders damaged more than considered. Out of the 46 commercial remainders published, it was estimated that 22 would be damaged. Eight of these 22 commercial remainders were actually damaged with five being damaged more than paid. The majority of the properties that have been acquired have been urban. Of the 18 farm remainders published, 10 were considered to have been damaged. However, only three were actually damaged and two remainders were damaged more than paid.

**TABLE III**

Total Cases Published Classed By Before Use  
 Showing Cases Where Damages Were Paid,  
 Those Actually Damaged And Those  
 Damaged More Than Paid And A  
 Percentage Of Total Cases.

## ALL CASES

PROPERTY TYPE	STUDIES PUB.	DAMAGES PD.	ACTUAL DAM.	DAM. MORE
RESIDENTIAL	203	152   74.9%	75   36.9%	20   9.9%
COMMERCIAL	66	30   45.5%	11   16.7%	8   12.1%
FARM	28	13   46.4%	4   14.3%	3   10.7%
ECCLESIASTICAL	3	3   100.0%	3   100.0%	1   33.3%
TOTAL	300	198   66.0%	93   31.0%	32   10.7%

## INTERSTATE

PROPERTY TYPE	STUDIES PUB.	DAMAGES PD.	ACTUAL DAM.	DAM. MORE
RESIDENTIAL	131	105   80.2%	52   39.7%	10   7.6%
COMMERCIAL	46	22   47.8%	8   17.4%	5   10.9%
FARM	18	10   55.6%	3   16.7%	2   11.1%
TOTAL	195	137   70.3%	63   32.3%	17   8.7%

## ABC SYSTEM

PROPERTY TYPE	STUDIES PUB.	DAMAGES PD.	ACTUAL DAM.	DAM. MORE
RESIDENTIAL	72	47   65.3%	23   31.9%	10   13.9%
COMMERCIAL	20	8   40.0%	3   15.0%	3   15.0%
FARM	10	3   30.0%	1   10.0%	1   10.0%
ECCLESIASTICAL	3	3   100.0%	3   100.0%	1   33.3%
TOTAL	105	61   60.7%	30   28.6%	15   14.3%

## B. ABC System

ABC System remainders followed the same general pattern as the Interstate remainders as shown on Table III. Out of a total of 105 remainders 72 are residential, 20 commercial, 10 farm and 3 ecclesiastical. Forty-seven of the 72 residential remainders were damaged by the appraisal process while only 23 were actually damaged with 10 being damaged more than considered. Damages were paid on 8 of the 20 commercial remainders yet only 3 of the remainders were actually damaged and they were damaged more than considered. Three of the 10 farm remainders were damaged when appraised; however, when their sale price was compared with the remainders value before, only one was damaged. In comparing the sale price of the ecclesiastical remainders with the remainders value before acquisition all 3 show damages. Damages were paid on these properties but one remainder was damaged more than considered at the time of acquisition.

### VI. RELATIONSHIP OF DOLLAR AMOUNT OF APPRAISED DAMAGES TO ACTUAL DAMAGES OR ENHANCEMENTS

To arrive at the relationship of appraised damages to actual damages or enhancements, as evidenced by the sale of the remainder, parcels were arranged in dollar groupings according to amount of damages determined by the appraisal process. The actual damage or enhancement indicated by the sale of each remainder was computed by adjusting the sale price for any changes in value within the respective geographical area. Table IV illustrates the number of parcels that were damaged by the appraisal process and what actually happened, dollar wise, when the parcel sold. Every case above the diagonal line indicates too much damage was estimated, whereas the cases below the diagonal line indicate the remainders were damaged more than estimated. For example, 23 cases were appraised as being damaged from \$1 to \$100. When these remainders sold only 2 were damaged within the range estimated, 5 were damaged more than estimated, but 16 showed enhancements. Over-all the table indicates more appraised damages than reflected by the sale.

**TABLE IV**  
**RELATIONSHIP OF ACTUAL DAMAGES AND**  
**ENHANCEMENTS TO APPRAISED DAMAGES**

		DAMAGE BY APPRAISAL IN DOLLARS															
		NO DAMAGE	1 to 100	101 to 500	501 to 1000	1001 to 1750	1751 to 2750	2751 to 4000	4001 to 5500	5501 to 7500	7501 to 10000	10001 to 12500	12501 to 15000	15001 to 17500	17501 to 25000	25001 and UP	
TOTAL CASES		100	23	70	31	22	16	12	10	4	6	2	0	0	4	0	
ACTUAL ENHANCEMENTS OR DAMAGES ESTABLISHED BY SALE OF REMAINDER	ENHANCED	UP to 25000		1			1	1		1	1	1					
		17501 to 17500		2		1											
		1501 to 15000	1	1			1				1						
		1251 to 12500	1	1		1		1									
		1001 to 10000		3			1										
		751 to 7500	2	1	1	1	1	1	1								
		501 to 5000		2	1			2			1						
		4001 to 4000		6	2	1		1									
		2751 to 2750		3	3	2	1	1	1								
		1751 to 1750		5	1		1										
		1001 to 1000		4	1	2					1						
		501 to 500	3	6	4	1											
		101 to 100	4	11	3		1										
		NO DAMAGES	5	5	1		1					1					
	DAMAGED		UP to 25000	1	2	5	1	1	1								
			17501 to 17500	4	2	12	8	3	2	1							
			1501 to 15000	3	3		5	3	2		2	1					
			1251 to 12500	1		1		4	2	1							
			1001 to 10000	1				1	1	2							
			751 to 7500					1		1	1						
			501 to 5000						1	3							
			4001 to 4000									1					
			2751 to 2750										1				
			1751 to 1750											1			
			1001 to 1000								1						
			501 to 500														
		101 to 100													2		
		NO DAMAGES	2													2	

NOTE: CASES ABOVE DIAGONAL LINE INDICATES OVER PAYMENT  
CASES BELOW DIAGONAL LINE INDICATES UNDER PAYMENT

## VII. PARTIAL FINDINGS

It appears that there is a market for remainders from 488 square feet up to large acreage tracts; however, the size of remainders plays an important part in the after value with the 5 to 10 acre group enjoying the greatest enhancement. Rural farm land may enhance in value even though the use may continue as agricultural. The studies indicate that more residential remainders were considered to be damaged than other properties. It is evident that some suffer a diminution in value; however, this loss is not as great as was anticipated. The greatest changes in use seem to be toward commercial with an upward change in value. Appraisers and reviewers should try to visualize if a change in use of remainders will occur, since it appears that as remainders change use, the value will possibly increase.

The 300 published reports are a small sampling of all the partial takings on both systems. It is estimated that 54% of all Interstate takings are partial and 84% of all ABC System takings are partial. Of the reports published, approximately 66% of the remainders were damaged by the appraisal process. From the analysis it can be seen that only 31% were actually damaged and that the damages paid were equal to or greater than those actually suffered except on 10.7% of the remainders where the loss in value exceeded that anticipated at the time of acquisition.

In order to reach firm conclusions and recommendations, additional studies are needed from all areas of the State on both systems. However, it is considered that the proper application of the information developed thus far by the remainder studies should be of material assistance to the fee appraisers and Highway Department personnel and the Attorney General's Highway Division Staff in arriving at just compensation for right of way.

