

Land Economic Studies in Indiana*

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Everyone will agree that an owner whose property is involved in a right-of-way acquisition should receive fair compensation for the part taken and for any damages incurred by the residual. In other words, the market value of the remainder after the taking, plus the amount of the settlement, should be neither more nor less than the total value of the original tract before the taking. This, of course, presupposes that both the market value of the parcel at the time of acquisition and the extent of the damages can be accurately estimated.

The development of the appraisal process provides the competent and conscientious appraiser with the means for making a reasonably good estimate of the "before" value of a property. However, it is only recently that serious thought has been given to a factual determination of the damages sustained by residual parcels.

Many state highway departments in recent years have undertaken the investigation of remainder parcels and are cooperating with the Bureau of Public Roads in the building of a "central bank" of case studies concerned with what happens to individual residual tracts. This type of economic research offers a maximum return for the time and money expended and holds the promise of producing a considerable amount of information that will be quickly and directly applicable to the determination of damages sustained by residual parcels.

Indiana's initial studies in this area have been conducted by the Joint Highway Research Project during the past year. This paper will be a brief discussion of the basic procedures used and of the results avail-

* The research reported in this paper is part of an investigation conducted by the Joint Highway Research Project in cooperation with the Indiana State Highway Commission and the Bureau of Public Roads, U. S. Department of Commerce. The paper is presented and here included was not reviewed by the Indiana State Highway Commission or the Bureau of Public Roads prior to presentation.

able as of this date. It is anticipated that this research will be continued and perhaps expanded in the years to come.

From the outset, it was intended that these investigations should be indicative for the entire state of Indiana as well, as a documentation of the case histories of remainder parcels. In order to insure that the results would be representative, all projects placed under construction contract between the 1st of January 1955 and the 31st of December 1961 were divided into two groups, namely, interstate or primary and secondary route projects. A sample of 31 was then drawn at random from the 99 interstate projects and another sample of 35 from the 430 projects on primary and secondary routes. Sample size was determined by the availability of personnel to conduct the study. Fig. 1 shows the geographical distribution of the sample projects.

A check was then made of county records to determine which remainder parcels had been sold following the right-of-way acquisition. For some tracts the time interval between acquisition and the time of these studies had been seven years, for others it had been less than one. Data concerning the land use, zoning, distance to nearest trading center, etc. were obtained and the sale price was verified by interview with the grantee and/or grantor. Information as to the "before" value as appraised, amount of settlement, area taken, etc. was obtained from the files of the Division of Land Acquisition.

To date, 46 case studies have resulted from these investigations and an additional 16 case studies have been developed as a consequence of other parallel research being conducted by the Joint Highway Research Project. A few examples will indicate the basic nature of these case studies. The "before" values indicated are the average of two fee appraisals made for the highway commission.

Fig. 2 shows the location of a 2.0 acre residential property that was involved in a taking for the by-pass of a small city. The new highway is a 4-lane divided facility and has limited control of access with a fenced right-of-way. Most of the intersecting local roads were closed by its construction, but the road on which the property fronts was not. This county road as a result will be a major arterial leading to the city which is situated to the west of the by-pass.

Fig. 3 shows the location of the residence which was located on the property and the right-of-way taken. A summary of the history of this parcel is as follows:

"Before" Value (May 1960)	\$23,400
Settlement: land \$350	700
damages \$350	

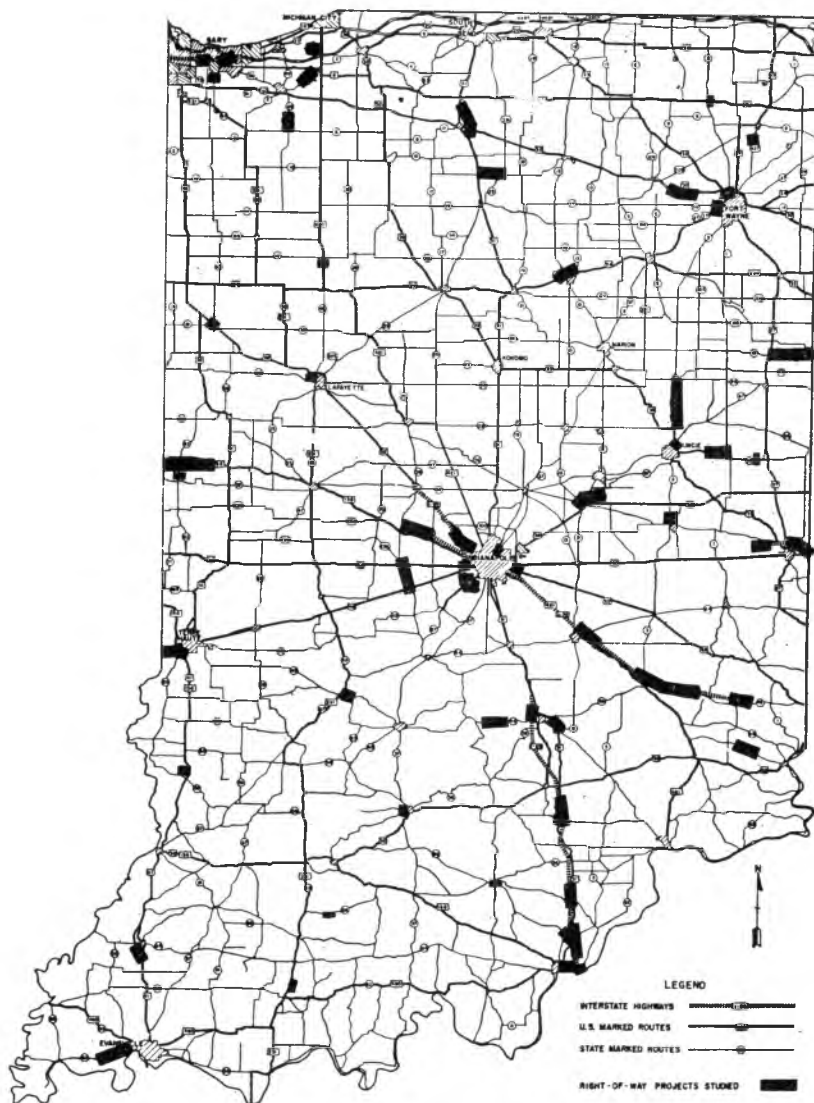


Fig. 1. Location of Right-of-Way Projects Involved in the Samples.

Apparent "After" value	22,700
Sale Price (June 1960)	35,000
Grantee's anticipated use at the time of purchase:	service station site

In this instance the property owner sold the residual for \$12,300 more than its apparent "after" value. In fact, he sold it for substantially more than its "before" value.

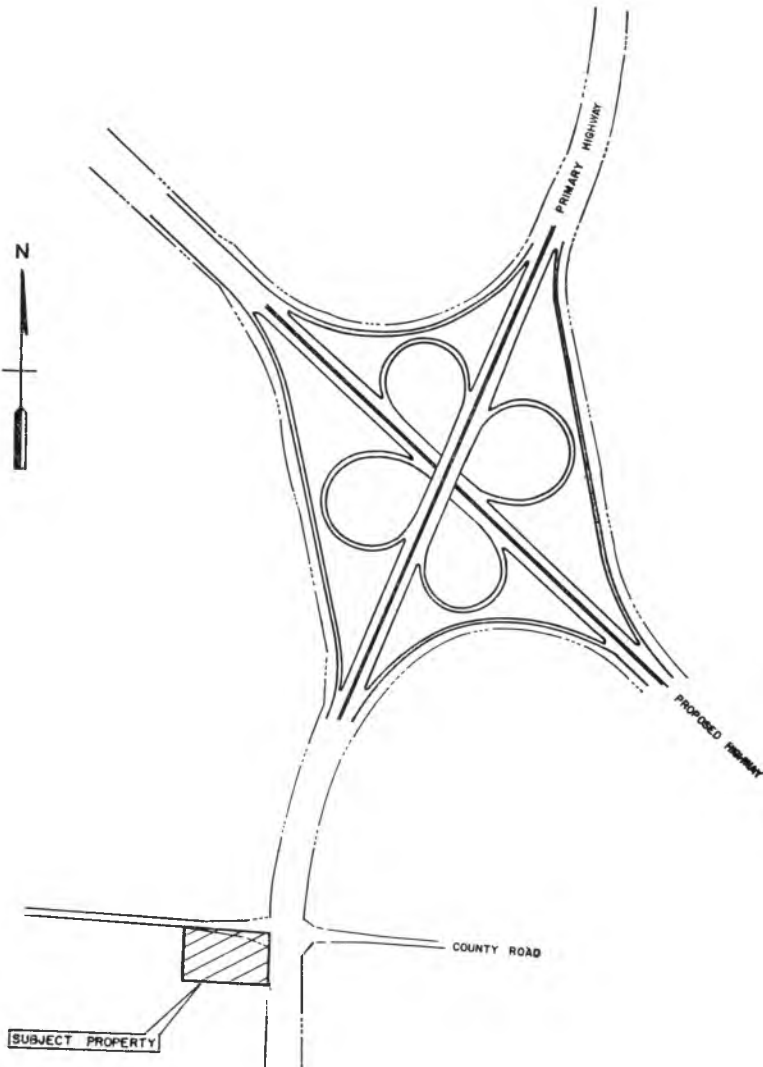


Fig. 2. Location of Subject Property, Example No. 1.

The property represented in Fig. 4 was a 1.0 acre parcel on which a combined residence and commercial establishment was situated. The front portion of the parcel was taken in conjunction with an urban by-pass. All existing roads intersect this new facility at grade and a right-of-way fence was constructed between these at-grade intersections.

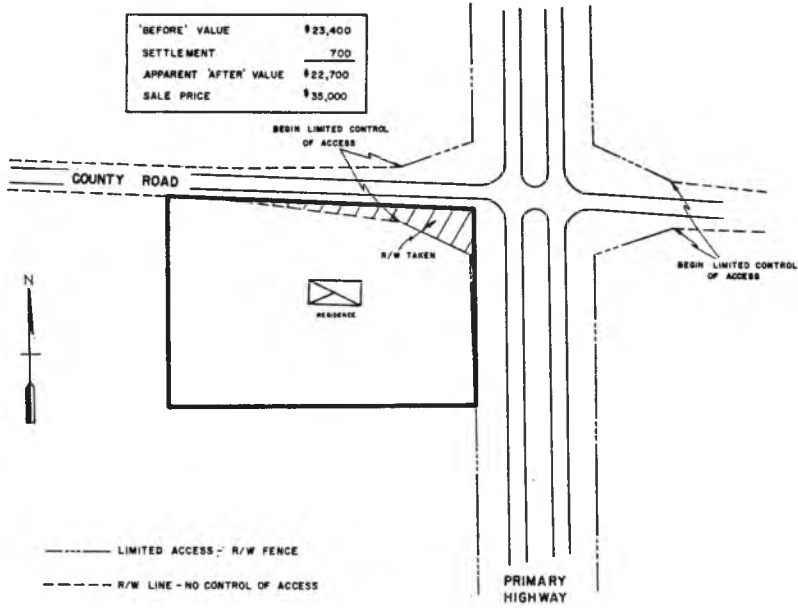


Fig. 3. Location of Residence and that Portion of the Parcel taken for Right-of-Way, Example No. 1.

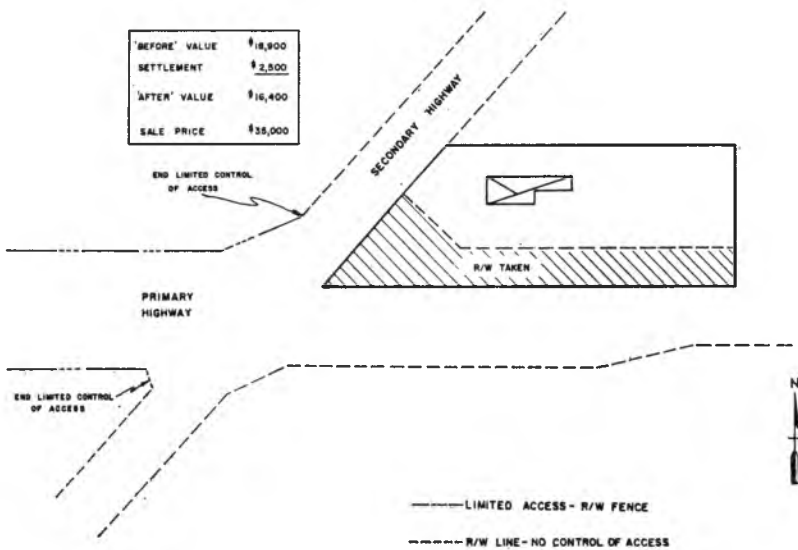


Fig. 4. Location of Improvement and Right-of-Way Acquired, Example No. 2.

Access control ends at the secondary highway opposite the subject property; thus, access to the subject property is not controlled.

“Before” Value (January 1960)	\$18,900
Settlement: land taken; 0.4 acres	\$1,350
damages to 0.6 acre	
residual	1,000
other	150
Apparent “after” value	16,400
Sale Price (September 1960)	35,000
Amount by which sale price exceeded “after” value	18,600

The grantee also purchased an adjacent triangular tract to the north and presently operates a service station and restaurant on the total property with the remodeled residence on the subject property being used as the restaurant.

The main portion of the farm shown in Fig. 5 was severed into two tracts by the construction of an interstate highway—Tract II on which the improvements were located and Tract III which was left landlocked and which was subsequently sold. The average appraised “before”

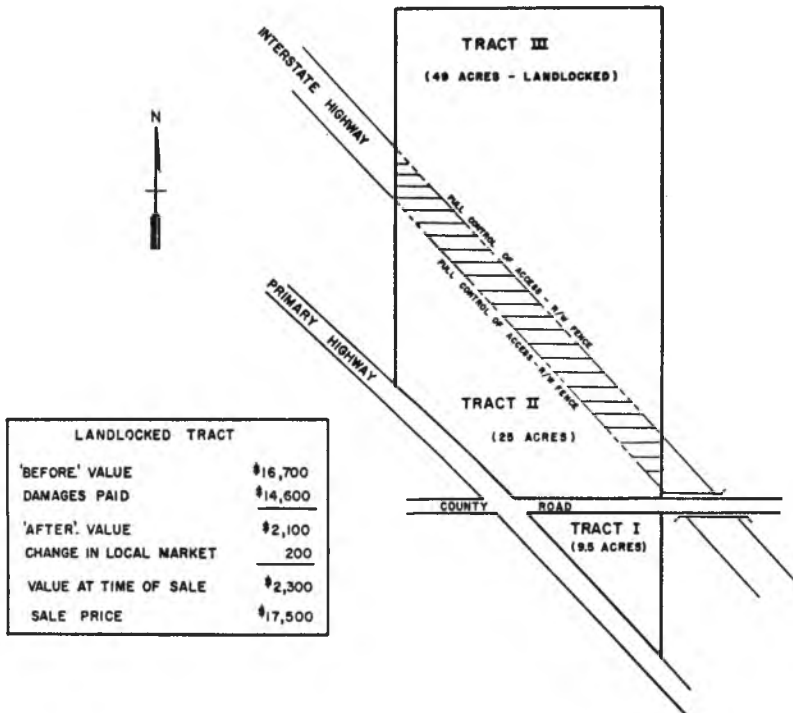


Fig. 5. Location of Right-of-Way Acquired, Example No. 3.

value of this landlocked tract and the damages paid are summarized below.

“Before” value of Tract III	\$16,700
Damages paid due to landlocking	14,600
Apparent “after” value	2,100

Between the time when the settlement was made and the date of the subsequent sale, the general price level of local farm acreage increased by about 10 per cent. This would be approximately \$200 for the parcel in question. Therefore, the “after” value of Tract III at the time of sale would presumably have been \$2,300. The tract actually sold to one of two adjacent owners for \$17,500.

Applying the 10 per cent increase in local land value to the appraised “before” value indicates that the 49 acres would have been worth about \$18,400 at the time of sale if no damages had been involved. The sale price was only \$900 less than this figure—the real damage sustained—while \$14,600 was paid in damages.

The property shown in Fig. 6 was a 2.0 acre parcel on which a residence was located. Access to the tract was via the narrow strip which leads from the county road. The cross-hatched portion, containing approximately 1.0 acre, was acquired for the construction of an urban expressway. This new facility has some intersections at-grade and an access control fence. A frontage road was provided in the vicinity of the subject property. The jog in the right-of-way line results from this section of the expressway being on a substantial fill.

'BEFORE' VALUE	\$ 19,750
'SETTLEMENT'	11,050
APPARENT 'AFTER' VALUE	\$ 8,700
SALE PRICE	\$ 13,500

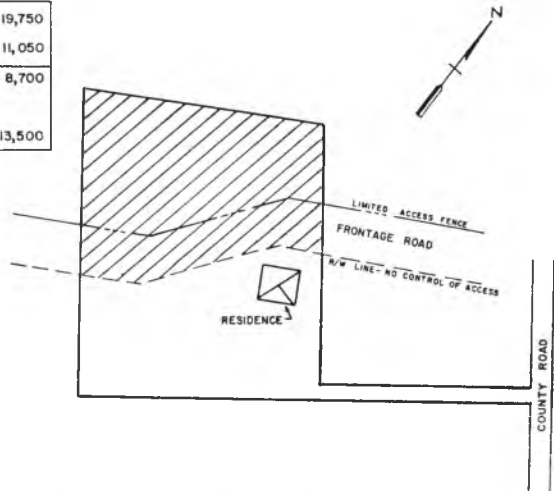


Fig. 6. Location of Residence and Right-of-Way Acquired, Example No. 4.

"Before" value (February 1959)	\$19,700
Settlement; land	\$1,800
damages	5,900
other	3,300
	11,000

Apparent "After" value	\$ 8,700
Sale price (August 1959)	13,500

In this case the sale price exceeded the apparent "after" value by \$4,800. The damages sustained were about \$1,200 as compared to the \$5,900 paid.

These four case studies are not intended to be representative of all the case studies that were obtained. Rather they are intended to indicate that under some circumstances, substantial enhancements occur to the residuals, or that in other instances where very substantial damages have been paid only moderate or even negligible damages were sustained. The following examples summarize three cases where there were uncompensated damages and one situation where there was no significant difference between the "after" value and the sale price.

Fig. 7 shows an 8.0 acre parcel which had frontage on an existing primary highway. A strip of commercial development (the cross hatched

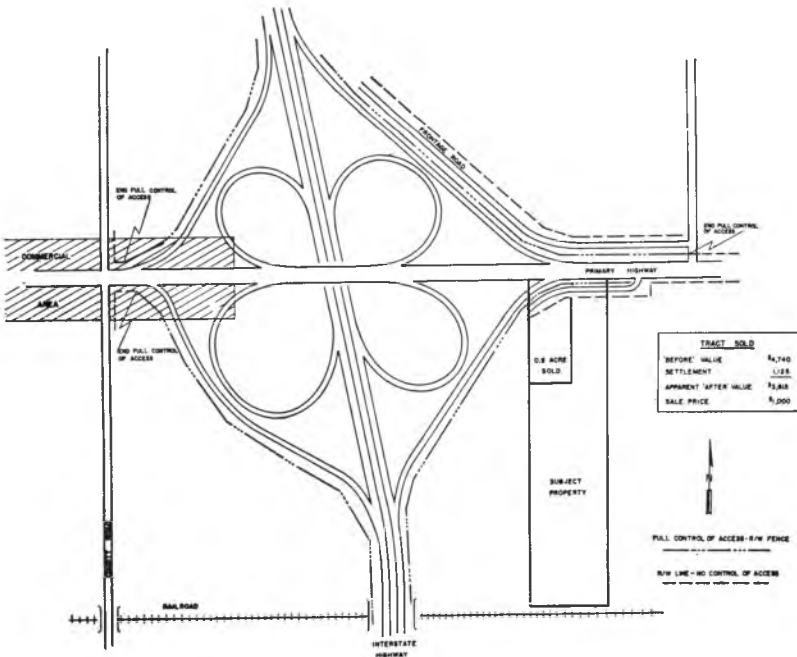


Fig. 7. Location of Subject Property, Example No. 5.

area) was located a short distance to the west of the property; the area to the east had already developed as a residential area.

The state acquired 0.8 acres of the subject property for the construction of the interchange and a frontage road. Two months later, a 0.5 acre tract was sold off the front of the residual.

"Before" value of tract sold	\$ 4,740
Portion of settlement for damages to this tract.....	1,125
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Apparent "After" value of tract sold	\$ 3,615
Sale Price	1,000
Difference	—\$ 2,615

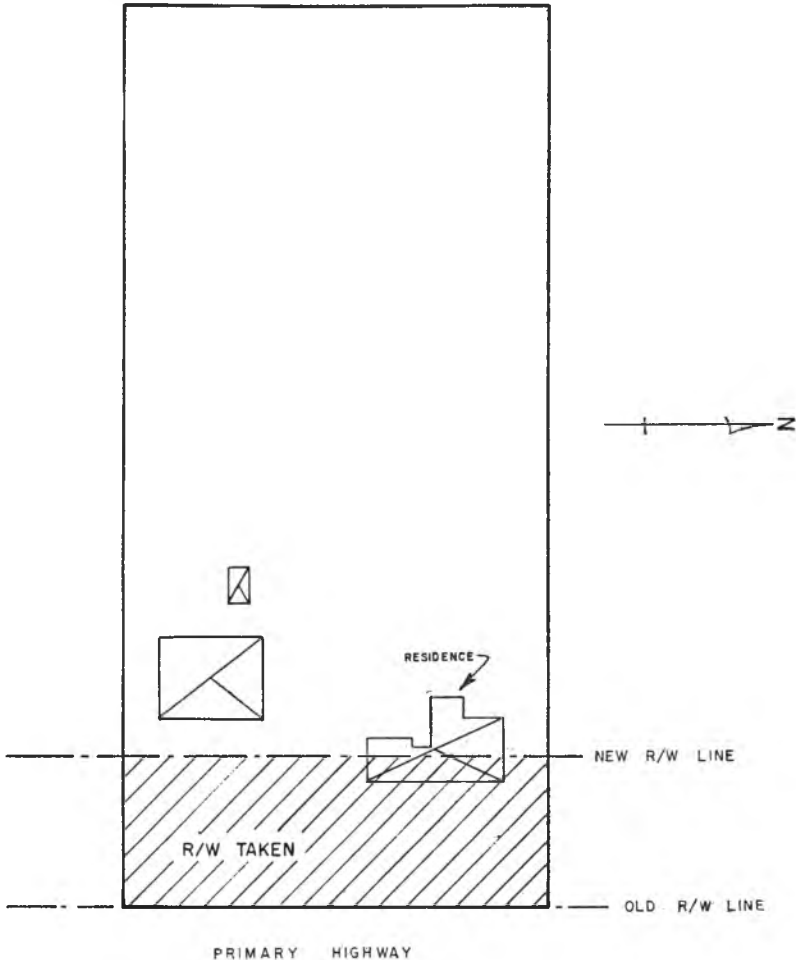


Fig. 8. Plat of Subject Property Showing the Right-of-Way Acquired, Example No. 6.

In this instance the highest and best use was commercial prior to the construction of the interstate highway. However, the construction of the interstate route "cut the residual" from the commercial area and left it associated with a developed residential area. Therefore, the residual would be expected to develop in a residential usage.

Fig. 8 represents a 2.0 acre parcel on which a residence and two unused chicken houses were located. Approximately 1/3 of an acre and the residence was taken by the construction of a primary highway.

"Before" Value (August 1960)	\$18,200
Settlement	16,000
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Apparent "After" Value	\$ 2,200
Sale Price (December 1960)	900
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Difference	—\$ 1,300

The property indicated in Fig. 9 was a 2 acre suburban tract on which a residence and garage were located. The front part of the tract, including the residence, was acquired for the construction of a grade separation to carry the county road traffic over an interstate highway and for the construction of a frontage road.

"Before" Value	\$10,500
Settlement; land & improvements	\$6,800
damages	1,500
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Apparent "After" Value	\$ 2,200
Sale Price	1,600
	<hr/>
Difference	—\$ 600

Fig. 10 shows a low-cost residential property on which a residence and two sheds were situated. The rear 1/3 of the lot and the larger shed were taken by the construction of an interstate highway.

"Before" Value	\$ 3,800
Settlement	2,700
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Apparent "After" Value	\$ 1,100
Sale Price	1,200

In this case there was no significant difference between the apparent "after" value and the sale price.

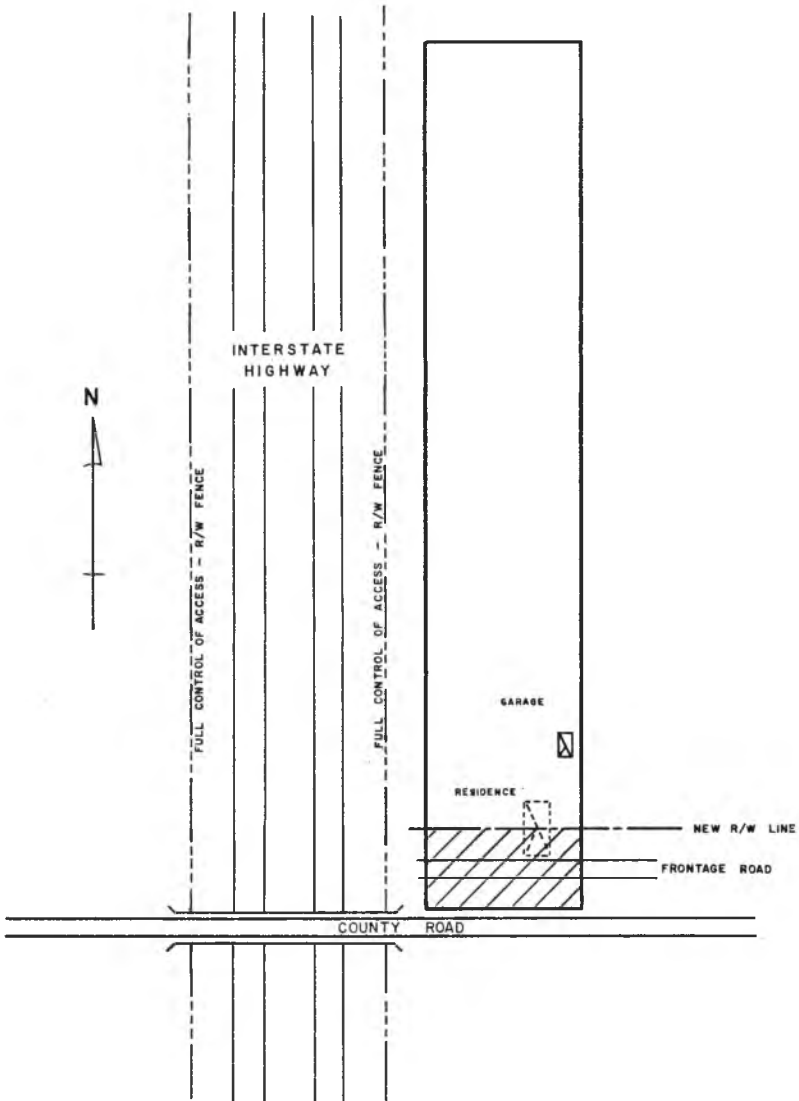
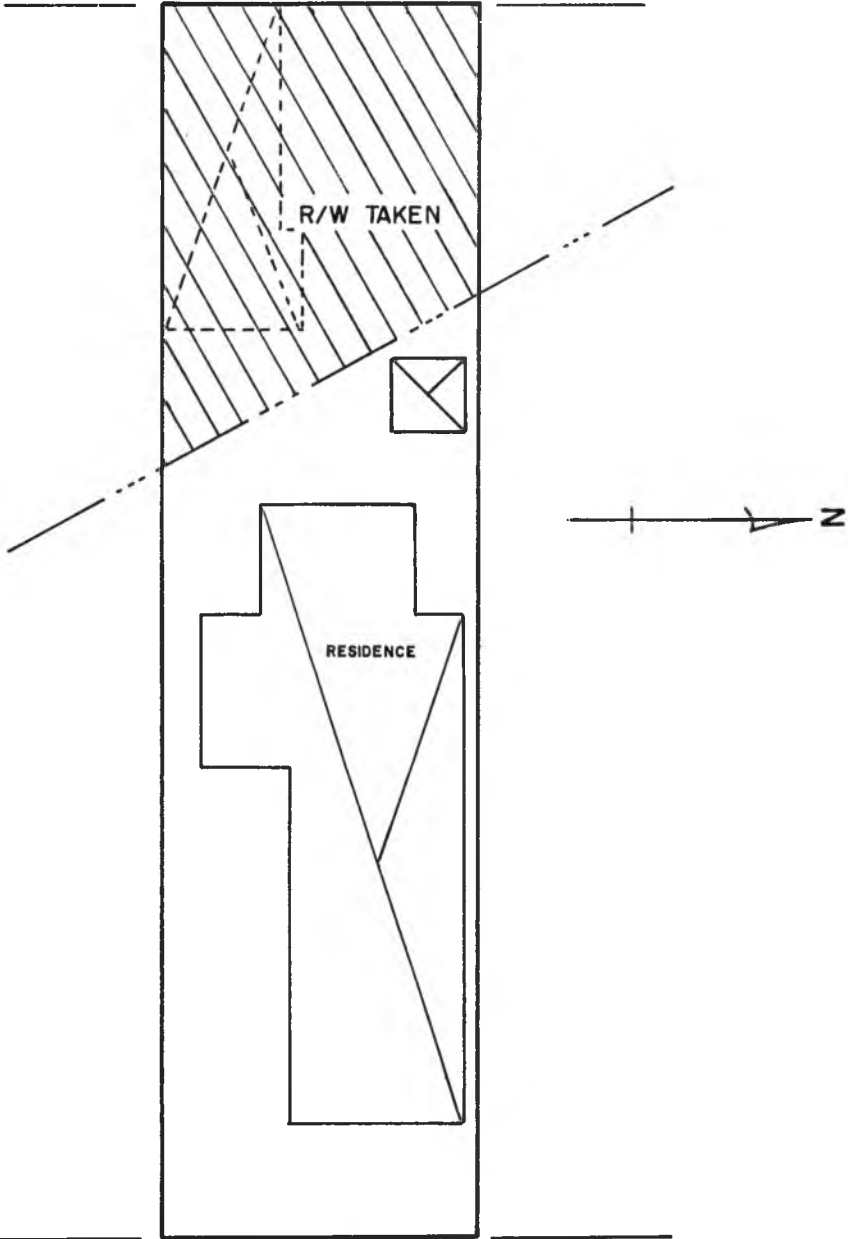


Fig. 9. Plat of Subject Parcel Showing its Proximity to the New Highway, Example No. 7.

ALLEY



CITY STREET

Fig. 10. Plat of Subject Parcel Showing the Right-of-Way Acquired, Example No. 8.

At this point it might be appropriate to look at a summary of the data obtained from the 46 case studies. The upper part of Fig. 11 shows a comparison of the totals for the "before" values, the apparent "after" values, and the sale prices of 16 remainders which were created by a right-of-way taking for a primary or secondary route and which resulted in a case study. As previously stated, the "before" value for each case study was, in most instances, the average of two fee appraisals. The "after" value was the "before" value less the amount of the settlement made with the property owner. The total of the sale prices for the 16 cases exceeded not only the "after" values but also the total of the "before" values. Yet, over 25 per cent (\$70,700) of the total of the "before" values was paid for the parts taken and for damages to the residuals.

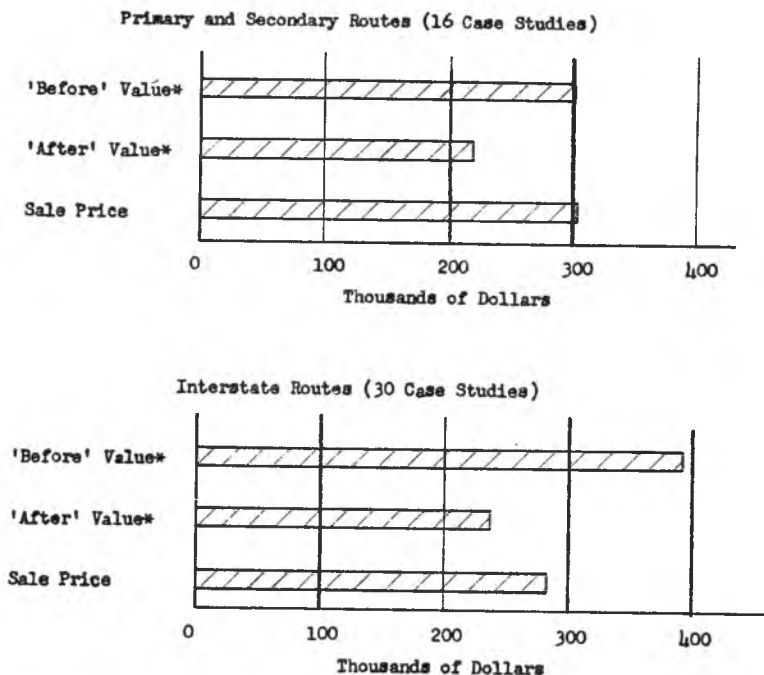
This certainly indicates that there were substantial enhancements from the new roads to some residuals, and it suggests that excessive damages may have been paid on some remainders.

A comparison of the totals for the 30 case studies of residuals resulting from a taking for an interstate highway is also presented in Fig. 11; these data show that the total of the sale prices exceeded the total of the apparent "after" values by about 20 per cent. However, in contrast to the data for the primary and secondary routes, this total was considerably less than the total of the "before" values.

The data for both primary and interstate highways suggest that excessive damages may have been paid in some cases. A comparison, therefore, of the damages paid with those sustained was made to determine the magnitude of this problem. For the 16 cases involved on the primary and secondary routes, the total damages paid (see Table 1) exceeded those sustained by about 15 per cent. Damages paid in the 30 cases involved in an interstate taking exceeded the damages sustained by nearly 30 per cent.

These totals do not, however, indicate the seriousness of an even more important problem, namely, are the various owners equally treated or do some, in actuality, suffer uncompensated damages while others materially benefit from the taking?

Damages were paid in 15 of the 16 case studies resulting from residuals created by a taking for a primary or secondary route. As indicated in Fig. 12, in about 45 per cent of these cases the damages paid significantly exceeded the damages sustained. In 20 per cent of the cases, however, the damages paid were significantly less than those sustained.



Individual values have been adjusted for any change in local real estate price level that occurred between the time of the appraisal and the date of sale.

Fig. 11. Comparison of Totals for "Before" Value, "After" Value, and Sale Price.

The lower half of Fig. 12 presents information for the case studies which resulted from a right-of-way taking for an interstate route. As was indicated in Table 1, the total damages paid were considerably in excess of those sustained. Yet, in 40 per cent of the instances where damages were involved, the residual sustained significant uncompensated damages.

The problem then was to determine those situations in which damages were consistently over or under paid. Further analysis indicated that landlocked and separated tracts were two situations where a general overpayment of damages occurred.

As shown in Fig. 13, the damages paid for landlocking, no access by road possible, were found to be $2\frac{1}{2}$ times the damages paid. On the

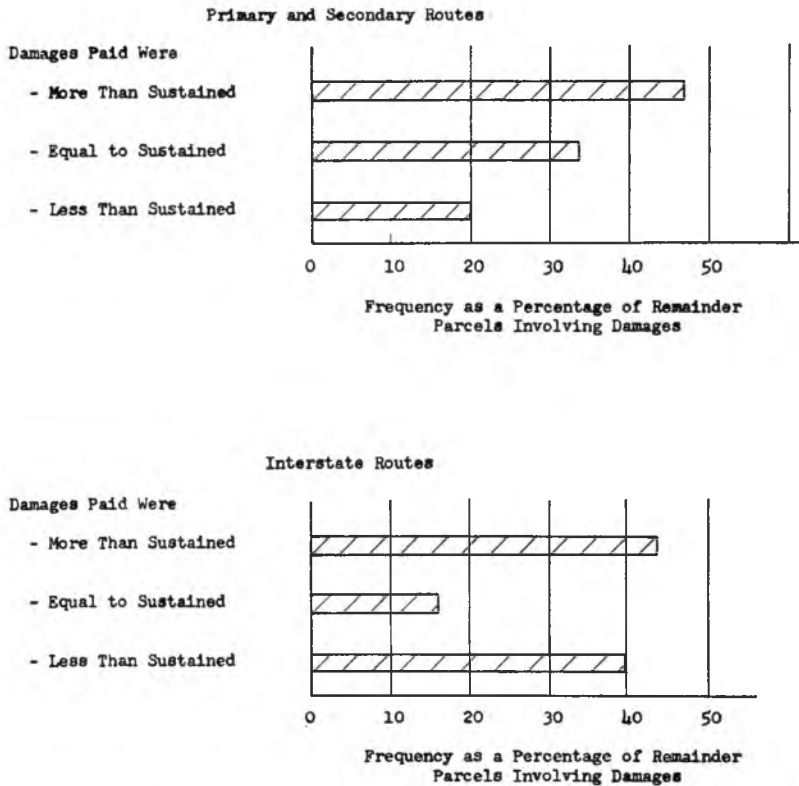


Fig. 12. Frequency with which the Damages Paid Equaled the Damages Sustained.

average, only 34 per cent damages were sustained by the several landlocked tracts while 80 per cent damages had been paid. Other research conducted in Ohio has indicated that an average of about 80 per cent damages are sustained when there is only one adjacent landowner to a landlocked tract but only about 20 per cent when there are two or more.

Similar data for tracts which were separated from the main portion of the residual, but not landlocked, are summarized in Fig. 14. These data show that the total damages paid were over $3\frac{1}{2}$ times those sustained. These tracts sustained an average of less than 10 per cent in damages compared to the over 30 per cent paid.

The problem of uncompensated damages appears to be much more complex than the problem of overpayment. Analysis of the case studies in this research failed to identify any patterns for uncompensated damages. Additional research on this problem is certainly desirable.

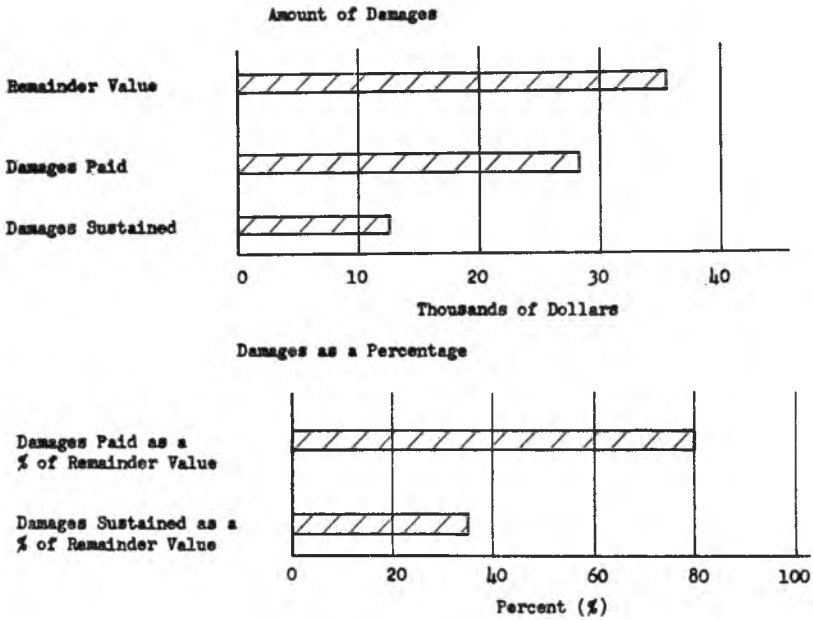


Fig. 13. Summary of Damages Paid and Sustained by Landlocked Tracts.

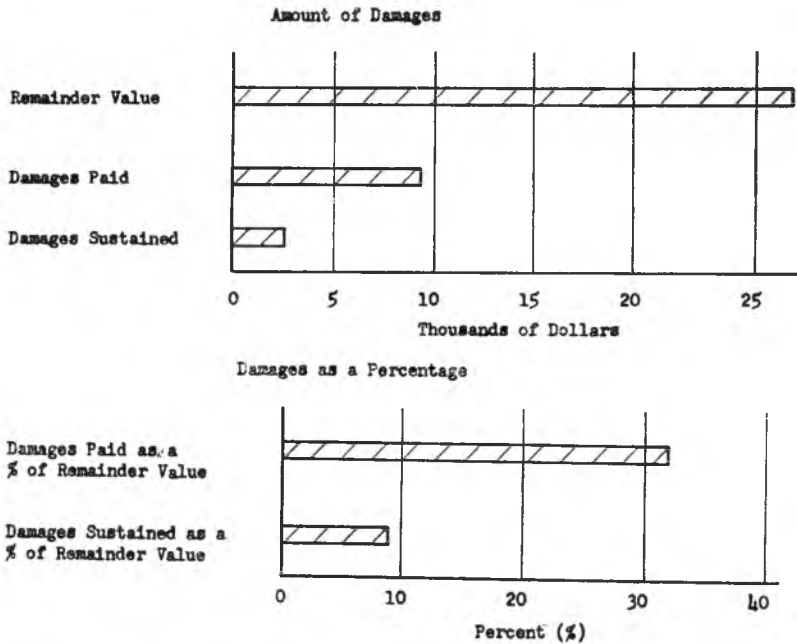


Fig. 14. Summary of Damages Paid and Sustained by Separated Tracts.

TABLE 1
SUMMARY OF TOTAL DAMAGES PAID AND TOTAL DAMAGES
OR ENHANCEMENTS SUSTAINED

	Primary and Secondary	Interstate
	Routes	Routes
Damages Paid*	\$25,900	\$71,100
Damages Sustained*	22,400	55,700
Overpayment of Damages	\$ 3,500	\$15,400
Per cent Overpayment	16%	28%
Enhancements Sustained*	\$76,100	\$33,100

The conclusions from this research which can be made at this time are as follows:

1. There were very significant enhancements to some residuals; however, the frequency of these occurrences was relatively small; about 10 per cent of the case studies showed a very significant enhancement.
2. Although there was a general overpayment of damages, a sizable portion of the residuals suffered significant uncompensated damages; 20 per cent of the case studies on primary and secondary routes and 40 per cent of the case studies on interstate routes had uncompensated damages.
3. Damages paid for landlocking and separation of property were considerably more than the damages sustained.

* Figures shown are rounded to the nearest 100.