EFFECTS OF EXPRESSWAYS

ON URBAN LAND VALUES

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I welcome this opportunity to explore land value aspects of urban expressways with you today because I believe that this subject should be of much concern to tax assessors as to any group I can name. Since counties and local units of government are heavily dependent upon the ad valorem tax, tax assessors must be keenly aware of any factor which is likely to change land values. It is becoming common knowledge that expressways are such a factor. They tend to change land prices, often in a spectacular fashion. When the price of land changes, even in the presence of demonstrated speculation, the probability that tax ratables also will have changed is very great.

The interest of the tax assessor, however, goes beyond the simple fact that an expressway is likely to change tax ratables. He is concerned with the incidence of change; it is his duty to be aware of the types of property which are likely to be altered in value and of the particular characteristics of expressways which are likely to influence land values. And, although the tax assessor may have reappraisal and reassessment as obvious requirements, his over-all responsibility includes the zealous protection of the tax base as defined by law and within the policy framework in which he operates. He, therefore, must be a diligent student of any factor which may bear on the size and composition of the tax base. In some circumstances, he may have need of a well-formulated opinion on how alternative expressway locations and designs might affect the tax ratables within his tax jurisdiction.

These are the thoughts which have guided the writer in the preparation of his assignment. The topic described by the title of the paper is very broad. In truth, the material might be more correctly entitled, "Notes on the Effects of Expressways on Urban Land Values." The presentation consists of two major divisions: (1) a general analysis of how land value impacts of expressways may occur and (2) a selection of some research findings on the effects of Texas' expressways.

The Function of the Urban Expressway

Road improvements historically have changed patterns of land use and land value. The urban expressway, of course, is more than a mere road improvement. It is a unique combination of roadways, the purpose of which is to move large numbers of motor vehicles at express speeds through the dense growth and varying activities of the urban area. Safety, speed and efficiency for traffic are its primary standards. It is built to relieve congestion on the remainder of the street system. To perform its functions, it has one-way traffic lanes protected from crossing traffic and with a limited number of entrance and exit points.

Expressways may vary a great deal in design. They may or may not have frontage roads. They may have many or few access points. They may have four lanes for through traffic or many more, eight or more lanes are common. Grade separations and intersection points may be close together or widely scattered. Expressways may be depressed below grade level or they may be elevated. Speed limits can be varied.

Whatever its characteristics, however, the expressway reduces phenomally the travel time from a multitude of origins to a multitude of destinations. Perhaps you know of the continuing controversy on the basic function of the expressway. All agree that expressways are constructed to serve traffic. Some claim, however, that these special-type facilities cannot accomplish their traffic function and also be land service roads. But land and traffic are closely associated and cannot long be separated. Vehicular movements originate and terminate at land sites; passengers and goods must be loaded and delivered and vehicles must be serviced on land.

Even if land service is restricted by absolute denial of access to vehicles for a stretch of expressway, access points eventually must be provided, and at such points, the land service feature will emerge like a jet of toothpaste from a tube held in a tight fist. The engineer-designer cannot prevent expressways from serving land although he does protect the traffic function by influencing how land will be served and inadvertently perhaps, which land will be served. The point of our discussion here is that expressways, regardless of their design and thus of their land service features, comprise a most important factor affecting land use and land values.

Urban Land Values

Perhaps it is worthwhile before proceeding further to review briefly the nature of land values. Land has value because it contributes to the production of something of value and, because it is always relatively scarce. This is to say that there is not enough of particular kinds of land to completely satisfy all demand for it. Since land is not super abundant, it is not free.

The same idea is conveyed by the idea that land has value because it yields, or can be made to yield an income stream. Urban land has value essentially because of location characteristics; we sometimes say its value is primarily "site value." Differentials in suitability or adaptability for certain uses give rise to differentials in land value. The highest and best use of a particular unit of land is that use which yields the highest value of the future income to the land; it is the most profitable among all of the alternatives of use.

Locational or site value depends heavily upon accessibility, which may be thought of as a quality of land measured by the total costs of getting to and from the site (for all purposes related to the variety of possible uses). Differentials in site value arise because some tracts are more accessible than others which means that the total of transportation costs is less for some tracts than for others. One authority has said land rent is "the charge which the landowner can levy in return for savings in transportation costs."[1] Land rent may be capitalized into land value.

Different uses of land have different accessibility requirements. Service stations, to the profitable, must be readily accessible to a comparatively large number of customers. In other words, a service station site must offer greater transportation savings to customers than other uses on the site; also, obviously, the site must offer greater transportation costs savings to the service station than would other possible sites. The concept sounds highly theoretical but it is demonstrated in the "real" world despite the continuous errors in economic judgments by those who interpret the "facts" and decide upon the proper land uses.

The accessibility of a tract of land is continually changing. It changes because of changes in the uses of other tracts of land and because of changes and inovations in transportation facilities. An urban expressway represents a highly significant change in the transportation system of an area. It alters transportation costs to a marked degree; for some tracts of land it brings savings and perhaps for other tracts increases in transportation costs (or decreases in accessibility). It may make certain tracts much more accessible without changing importantly the accessibility of all other tracts (except in a relative sense). The latter case may state most correctly the urban expressway impact. Since urban expressways are peculiarly capable of such influences on accessibility, they are consequently capable also of enhancing or decreasing land values.

Notes on Expressway Benefits

We have discussed accessibility in terms of individual tracts of land. But those who are responsible for designing, locating and justifying urban expressways are concerned with general accessibility (or, in other words, with vehicular savings through the over-all improvement of traffic conditions).

Their effort primarily is to foster vehicular or user benefits, the first of two general classes of expressway benefits. The second class of benefits has come to be called nonvehicular or nonuser benefits. (Benefits in this usage may be thought of as either positive or negative.)

The division of expressway impacts into user and nonuser benefits is a misleading dichotomy. The difficulty is that user benefits are by nature transferable or shiftable to nonuser beneficiaries, a fact that has been inferred previously and which requires more attention in later discussion.

First, however, let us deal more closely with the definition of vehicular or user benefits. An expressway is designed for the purpose of carrying traffic more efficiently than the existing roads or streets in a traffic corridor. The expressway is justified on the grounds that time savings, savings in vehicle operating costs, safety benefits and perhaps other valuable goals such as driver comfort will have a dollar value in excess of (or at least equal to) the cost of the expressway. These various savings accrue initially at least to the expressway user. Repeating, they are the benefits which are entered into the benefit-cost analysis by which an expressway is proved as the correct answer for a problem. (It is supposed that this calculation is sometimes by "rule of thumb" rather than by highly detailed mathematical treatment.)

Our interest today actually is focused on the second class of expressway benefits. We are interested in land values which do not fit the user definition and thus must fall into the nonuser class. It would be permissible for us to divide nonuser benefits into such classes as "localized" and "diffused," as "social and economic" and perhaps in other ways. Most convenient for our purposes, however, is that we turn our attention to land use and land value impacts and thereby avoid separate treatments for each of a variety of nonuser benefits, many of which may very well be eventually reflected in land values.

Expressway Effects on Land Values

Land use and land values comprise an almost inseparable complex in that what effects the one must affect the other. The two, nevertheless, are definitely distinguishable; land use is tangible and its changes are tangible, with the exception that potential or possible future uses are reflected in land values and not demonstrated in a physical sense until some later date. Land use and land values thus may be differentiated in the physical sense and also in time, because land values anticipate or precede land use, as the latter requires consideration of alternatives and delay in the implementation of the selected plan of usage.

In other words, land may be changed in value because its future use is changed, but the waiting period for the actual change in land use may be several years. An expressway, or any other factor, may change land values by changing the highest and best use of land. The change in highest and best

use may be accompanied by a physical alteration in improvements; or it may occur with no such alteration for a long period. It may be demonstrated only by a change in the present or future income stream (or rent) of the property.

Any attempt to name in detail the possible ways an expressway may affect urban values is quite ambitious. A list of considerations known to be incomplete and overlapping, is given here for the sake of "rounding-out" our discussion. Some of the points will be recognized as repetitious of previous statements.

1. First an urban expressway may be thought of as a physical structure. It cuts a swath of considerable width and, obviously, it changes land from a variety of urban uses directly into transportation use, which is now generally the most intensive of land uses. Urban expressways have been found to have construction costs of $2 million per mile and more. The fact that such large sums are spent in a local area has some influence on the urban economy and may in some fashion have at least minor effects on land values.

2. As a physical structure, an urban expressway displaces investments and persons in large numbers. Right of way costs in urban areas sometimes exceed $1 million per mile. One effect of displacement is that the supply of certain kinds of properties is diminished. At the same time, the money expended for right of way makes the need for replacement properties an effective demand. Displaced persons and investments will seek substitute properties. To the extent that neighborhood and business ties are strong, reinvestment will occur in adjacent areas. Land values in adjacent areas may be bid up.

3. Again, as a physical structure, the urban expressway plays several additional roles. It might clear slum areas, provide better drainage and better lighting for adjacent areas and perhaps add an element of spaciousness and relief to an otherwise dull and congested urban sector. An expressway might serve as a barrier to encroaching urban blight; it can be a very effective buffer between areas of different and conflicting development.

4. An expressway can have detrimental influences on land values in its role as a physical structure. It can sever integrated neighborhoods. It can act as a "Chinese wall" to travel and trade between areas, giving rise to troublesome and expensive circuity of travel (less accessibility for some properties). Perhaps more serious, it can shatter the tranquility of a neighborhood by the imposition of noise, fumes and even dust. Lighting might be objectionable rather than advantageous. And the physical structure might well replace a more desirable landscape. Such "negative benefits" can occur despite the best efforts of the designer within

the various limitations, including costs, that he must meet. Whether the expressway as a physical structure enhances or detracts from the value of its environs is quite dependent, of course, upon the previous nature of such surroundings.

5. The second general light in which we can view an expressway is as a super traffic artery. Here as far as land values are concerned, we return to the concept of accessibility. First and foremost, urban expressways are constructed to yield traffic benefits. As has been explained, the urban expressway reduces transportation costs for large areas of land and for large numbers of properties. Thus it changes the relative locations and consequently bids to change the values of many properties. The changed values may be new or they may be shifted to or from other areas. Certainly land values can be transferred vehicular benefits, that is, vehicular savings capitalized into land rent, as was mentioned earlier in this paper.

6. The idea that expressways can "create" or "destroy" land values through their traffic-serving function is popularly held. The concept is exceedingly difficult to explain, however. The burden is that one is hard-pressed to offer a situation in which land values are not shifted to some extent. An oversimplified explanation is that new value occurs (or old value is destroyed) when the total value of all land has been changed. A generalized example of created value might be that the lowering of transportation costs leads to increases in efficiency and real wealth, some of which has found its incidence in land values. This is highly abstract and can be disputed, however; thus it is forgivable I believe that we forego further analysis along this line and turn to more familiar ideas.

7. There can be no doubt that expressways are capable of shifting land values. The phenomenon of shifting may be demonstrated in a myriad of forms. Universally accepted is that shifting occurs through the capitalization of changes in transportation costs. In other words, if the relative accessibility of a piece of land is bettered, the improvement will be capitalized in land value. In the same way, decreases in relative accessibility will result in a lower value for a tract of land. Effects of shifting will be widely diffused in most instances, and only a small number of land value changes will be measurable. Shifting does not respect geographic limits; it may occur within the urban area or between many urban areas.

8. Let us consider an example of shifting land values. Suppose that an expressway draws to its immediate area a much higher level of commercial activity (or residential development, to extend the case). Consumers prefer to shop near the expressway because of vehicular or time savings. (Other activities may be attracted to the area for the same reasons.) They will give up some or all of their savings in the form of higher prices for this privilege. Land income and land values will rise in the area. Suppose that

the increased commercial activity in the expressway's vicinity is accompanied by a slump in such activity at other commercial locations. Customers now avoid shopping at other such locations in order to take advantage of time and vehicular savings by using the expressway. Repeating, they simultaneously give up at least some of such savings by shopping near the expressway and paying higher prices. (Price differences may be so small as to be hardly noticeable.) It is well to note here that shifting may be illustrated by innumerable examples. The next paragraph gives one other such case.

9. Suppose a worker has found that an expressway has greatly reduced his costs in going to and from work. He saves on vehicle operating expense and he saves time. His savings, however, are due not simply because of the expressway but because of the peculiar relationships between his dwelling site, the expressway and his work site. (His work site we assume to be a very popular one, the Central Business District.) The worker may react to his savings in many ways. He may shift his consumer activities to the expressway vicinity with effects on commercial values according to the illustration in the previous paragraph. He may change his consumer habits; for example, he may now decide he can own two cars, in which case, land values may be shifted to the auto-makers' capitol, Detroit. It is almost a certainty, that part of his savings will somehow be reflected in the value of his dwelling. Perhaps the best proof of this is that he may now be able to sell his dwelling for more than it would bring in the absence of the expressway. The next owner by paying a premium for the dwelling pays for the expressway benefits he is yet to receive. User benefits have been transferred into land values. Shifting of values between tracts of land has occurred if some other dwelling site or sites have become relatively less desirable.

10. In summary, expressways affect urban land values in various and complex ways, only a sample of which we have managed to explain in this paper. Some empirical findings of recent Texas studies now receive our attention.

Measuring Expressway Effects

Several studies of expressways effects on urban land values in Texas have been made in recent years. Highlights from these research efforts and some of the implications for tax assessors are the concern of the remainder of this paper.

Gulf Freeway Study - The first Texas study of expressway effects was conducted by Norris and Elder, Consulting Engineers.[2] It involved a six and one-half mile section of Houston's Gulf Freeway. Land values were studied over the 1939-1956 period in areas described as follows:

Group 1 was comprised of bands two to four blocks in width on either side of the expressway.

Group 2 was a secondary area also two to four blocks in width adjacent to Group 1 bands.

Group 3 areas were in the same quadrant of Houston as the Freeway but were not in bands. This paper omits Group 3 findings.

Group 4 included ten control areas selected to compare with Groups 1, 2 and 3. These areas were presumably outside of the Freeway's zone of influence.

The findings of the study are summarized in Table 1 below. Attention is directed to the portion of the table designated "Inferred Gulf Freeway Influence." These figures were not presented in the Norris and Elder report. They were calculated for this paper to reduce the number of comparisons necessary to summarize the study's findings.

It may be noted that over the full 1939-41 to 1954-56 study period the Gulf Freeway had considerable influence on Group 1 properties under each of the two methods of measurement. Method 1, which is unadjusted real estate prices, shows that Group 1 property values on the average were increased a net of 304 percent by the expressway; Group 2 lost a net of nine percent in value. During the over-all period Method 4,which removed the value of improvements from sale prices to reflect land values only, showed a net gain of 464 percent for the Group 1 study area and a positive influence of 39 percent for the Group 2 area.

The data for the 1939-41 to 1945-46 period seem to reveal that the Freeway during its early influence had a detrimental effect on property values in adjacent areas, especially in Group 2. A word or two of explanation is needed here. First, the Freeway was not complete in 1945-46 although it was under construction. Whether it was an important factor in land values at that time is uncertain. If it was, perhaps it damaged land values but why would it do so in large degree in the second band, Group 2, and not to a significant extent in the nearer Group 1 area? A number of reasons could be offered. However, the balance of evidence suggests that the Freeway was not yet a dominant factor and that the data are unavoidable mismeasurements of its influence.

The size of the influences measured from 1945-46 to 1954-56 indicates that the expressway became an important factor during the period. Any early depression of land values was overcome in both Group 1 and Group 2 areas.

There can be little doubt that the Gulf Freeway improved the general accessibility of large numbers of properties. Thus enhancements of land

Table 1

CHANGES IN LAND VALUES ALONG THE GULF FREEWAY AND IN OTHER AREAS OF HOUSTON 1939 TO 1956*
(1939-41 VALUES = 100 PERCENT)

	METHOD 1 Unadjusted Sales Prices	METHOD 4 Value of Land Only
	Percentage Change	
1939-41 to 1954-56		
Group 1 study area	585%	567%
Group 2 study area	242	142
Group 4 control areas	251	103
1939-41 to 1945-46		
Group 1 study area	94	122
Group 2 study area	54	22
Group 4 control areas	90	130
1945-46 to 1954-56		
Group 1 study area	491	441
Group 2 study area	188	120
Group 3 control areas	161	- 27
	Inferred Gulf Freeway Influence	
1939-41 to 1954-56		
Group 1 study area	304%	464%
Group 2 study area	- 9	39
1939-41 to 1945-46		
Group 1 study area	4	- 4
Group 2 study area	- 46	- 108
1945-46 to 1954-56		
Group 1 study area	330	468
Group 2 study area	27	147

* Adapted from Norris and Elder report. See Reference 2

values were a normal expectancy. Only a small part of the research findings is reviewed here. It should be emphasized that anyone who has need of such data should attempt to obtain a copy of the original report.

Central Expressway Study - In 1957 the Texas Transportation Institute completed a study of land values along Dallas' Central Expressway. The time period for the study was 1941 to 1955. The section studied was 5.4 miles in length from near Downtown Dallas to the Northwest Highway (Loop 12). The areas in which land values were analyzed were as follows:

A Band consisted of properties abutting the expressway right of way on each side.

B Band was adjacent to abutting properties and averaged about two blocks in width on either side of the expressway.

C Band bordered B Band and also averaged about two blocks in width.

Control areas, sixteen in number, were chosen to compare with the three study area bands near the expressway.

Table 2 summarizes the land value effects of a 4.4-mile segment of Central Expressway; results on another one-mile section were developed but are omitted here. The findings presented were derived by methods similar to those used in the Gulf Freeway study. Method I is unadjusted sales prices and Method II reflects the value of land only, as the value of improvements has been removed.

The similarity between findings in the Gulf Freeway and Central Expressway studies is quite evident. A sizeable net expressway influence was found for abutting properties, A band. (Group 1 in the Gulf Freeway study included abutting properties.) The early effects of Central Expressway were minor and indeed measurements indicate decreases in land values. As with the Gulf Freeway findings, however, mismeasurements apparently occurred. After 1950, expressway benefits emerged and thus it seems that any earlier damage was overcome.

Another sample of the Central Expressway analysis is shown in Table 3. Here it may be seen that unimproved land was enhanced by the expressway, land nearest to the facility having received the greatest benefit. Other analyses in the Central Expressway study included rather full treatments of tax valuations and land use changes. Additional methods of land value determination also were explored.

Table 2

NET INFLUENCE OF DALLAS' CENTRAL EXPRESSWAY ON LAND VALUES*
(1941-45 LAND VALUES = 100 PERCENT)

	METHOD I Unadjusted Sales Prices	METHOD II Value of Land Only
1941-45 to 1951-55		
A Band	271%	483%
B Band	- 22	0
C Band	110	58
1941-45 to 1946-50		
A Band	- 87	- 80
B Band	- 44	- 64
C Band	7	- 26
1945-50 to 1951-55		
A Band	358	563
B Band	22	64
C Band	103	84

* See Reference 3. Net influence is difference between percentage change in land values in study and control areas. In no period were there decreases in land values in either study or control areas. Negative influence resulted from control area values increasing more than study area values.

Table 3

CHANGES IN VALUES OF UNIMPROVED LAND IN STUDY AND CONTROL AREAS, CENTRAL EXPRESSWAY STUDY
1941-45 TO 1951-55

	Percentage Increases		Influence of the Expressway
	Study Area	Control Area	
A Band	518%	150%	368%
B Band	383	162	221
C Band	291	186	105

San Antonio Expressway Study - In 1958 the Texas Transportation Institute completed a study of expressway effects in San Antonio. Two expressway sections totaling 3.7 miles in length were studied.[4] One of the sections is the route of U.S. Highway 81 and the other U.S. Highway 87. The sections are located near Downtown San Antonio and since they merge, they were treated as one expressway in most of the original study and in this paper.

Land values were studied over the 1941 to 1956 period as definite planning for the facilities had been started in 1946. The methods of analyzing land values through land sales were much the same as those applied in the Gulf Freeway and Central Expressway studies. The San Antonio study area, however, was not sectionalized into bands. Instead, all properties that sold in study and control areas were classified as to type-of-street location, zoning and land use.

The San Antonio study area had a width of about three blocks on either side of the expressway. Along major thoroughfares crossing the facility, an additional two blocks were included for study. Five control areas in other parts of the city were selected for comparisons with the area crossed by the expressway sections.

Table 4 presents a summary of the estimates of the expressway's influence on land values. Both Method I and Method II measurements indicate that land values rose more in study than in control areas from 1941-45 to 1952-56. The net influence of the facility in the over-all study area was 77 percent under Method I and 133 percent under Method II.

Table 4 also shows calculations of the expressway's influence on land values at different street locations. The greatest enhancement accrued to properties on frontage roads, the benefits being 300 percent by Method I measurement and 392 percent according to Method II. Other abutting properties were benefited seemingly to a substantial degree. The remainder of study area properties received positive influences but these were small for properties on minor streets.

It was found that the use of property conditioned the impact of the expressway. Unimproved land and nonresidential properties were enhanced substantially. Apartments received beneifts according to each index. Method I measured damages for one-family dwellings although Method II calculations resulted in small benefits for this class of property.

Another series of measurements concerned the expressway's influence in various zoning districts. Again, a somewhat logical pattern was found. Land zoned for manufacturing was calculated to have received the greatest benefits. Retail and commercial and apartment zoning districts also were enhanced. Areas restricted to one-family dwellings were indicated to have suffered in value from the expressway's presence. The negative influence was small, however, being minus ten percent under Method I and minus five percent under Method II.

Table 4

NET INFLUENCE OF SAN ANTONIO EXPRESSWAYS
ON LAND VALUES, 1941-45 TO 1952-56*

	METHOD I Unadjusted Sales Prices	METHOD II Value of Land Only
All Study Areas	77%	133%
Areas by Type of Location:		
Abutting expressway frontage roads	300	392
Abutting expressway but not on frontage roads	231	299
On main thoroughfare, not abutting expressway	64	115
On minor street, not abutting expressway	13	33
Various Land Uses:		
Unimproved land	310	310
Nonresidential use	219	332
Apartment	72	109
One-family dwelling	- 18	2
Various Zoning Districts:		
Manufacturing	208	199
Retail and Commercial	91	131
Apartment	21	113
One-family dwelling	- 10	- 5

* See Reference 4.

Additional analyses of expressway effects on property classified by two or more of the above factors were attempted. The number of sales of more closely defined property types restricted such efforts. It was confirmed, however, that land used and zoned for one-family dwellings and located on minor streets apparently was influenced very little. Properties located on frontage roads were benefited regardless of zoning and use. Land in nonresidential uses and zoning districts was calculated to have benefited at all locations.

Tax Implications of Expressway Effects

Primarily the tax assessor is interested in how expressways affect land values as a tool for deciding which properties have been influenced. He then has the burden of reappraisal to determine the amount of the influence and, in fact, whether or not the change is actually ratable according to tax policy. The following remarks are based on these assumptions. They are necessarily brief, but it is hoped they give an element of completeness to this paper and prove to be of practical guidance to those who must be constantly concerned with land values.

1. Changes in land use are likely to lag behind changes in land values, sometimes by many years.

2. Unimproved or vacant land is likely to be the first to show increases in value.

3. Vacant land is also likely to be the first to experience a change in use, assuming that its accessibility is improved at least as much as other land.

4. Abutting land, even tracts shallow in depth, is very likely to receive the greatest enhancement, in the short run at least.

5. Abutting land draws commercial and industrial uses in urban areas but large apartment projects also may be attracted.

6. One-family dwellings and small apartments have little advantage on abutting land, may be at disadvantage, and likely cannot compete successfully with other uses.

7. Previous land use patterns, and especially the proportion of unimproved land, have a great influence on expressway effects. Zoning restrictions and deed restrictions obviously are also limiting factors.

8. The design of the expressway shapes the influence of the facility. Frontage roads evidently give accessibility to abutting properties not furnished by other designs. Interchanges and other points which provide good accessibility are likely to raise land values.

9. Clearing of old improvements will proceed when the value of land has risen to the point that it exceeds the value of the land and its improvements in their old use.

10. Land values may well be enhanced without a change in land use. Better accessibility gives rise to higher land rent; for example, a pre-existing office building might well enjoy higher occupancy and higher rents due to new accessibility afforded by an expressway.

11. Size of tracts can be another factor; very small tracts are difficult to assemble and may await use change for a long period even though their accessibility may be improved.

12. Additional expressways which bring a new supply of highly accessible sites are likely to influence land values less than previous expressways. That is, unless demand for such sites has kept apace.

13. Shifting of values from other areas of the city to the expressway vicinity will occur but in many instances the effects on areas losing value are too diffused to be measurable.

14. Speculation may push values beyond basic income productivity value of land and thus may interfere with land use change. The element of speculation, as necessary as it may be, confounds the researcher and makes the tax assessor's job more difficult.

15. Individual properties, and not their averages as dealt with in research, receive the incidence of expressway effects, a fact that tax assessors will recognize. They will acknowledge, in addition, that they are perhaps the only public servants which have to cope with this fact continuously.

Other Studies

The Texas Transportation Institute is conducting studies of land values as affected by road improvements in several areas of the State. The research is in various stages of completion; some studies are preliminary and await resurveys before findings will be published. The following are areas in which studies have been completed or are in progress: Robertson County, Loop 13 in San Antonio, Austin, Temple, Rockwall, Merkel, Houston, and Ellis County (both rural and urban studies). Tax assessors may obtain copies of past and future publications by writing to the Texas Transportation Institute, College Station, Texas.

References

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