Community Consequences and Urban Highway Location Decisions

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•THE LOCATION of urban highways affects both the motorists and the community. The development of methods to determine what the economic and social effects on the community are has lagged, perhaps because it is difficult to obtain information about these effects and to reduce it to a form suitable for use. Despite many studies, knowledge about consequences that highway improvements have on communities still amounts to considerably less than what is needed for objective evaluation. Studies have usually presented narrow, limited findings, such as the number of jobs, businesses, and homes removed from the right-of-way, or they have provided projected benefits or damages that have seemed unrealistic. In most cases, expected effects have been described in qualitative terms or in such length that comparisons of decision-making or review of recommended decisions are difficult and time consuming.

At least part of the difficulty may be that intricacies of route location considerations are carried too far beyond the point justified by either the nature of the data or the time that a person or group can devote to considering or reviewing the location decision. Indicating by a simple plus or minus whether alternative route locations have positive or negative effects on selected characteristics is an easier way to portray in a summary report the superiority of one location over another. Information of this type should be adequate for situations where a decision has already been made to build a highway improvement and the only question remaining is where to locate the improvement. For example, the decision to build a link in the Interstate System may have been made by Congress or on the basis of user-benefit analysis. Instead of a comparison of precisely how many dollars may be gained or lost by a particular location for a highway, one route is ranked against another so that the items relevant to the route location can be summarized for quick comprehension.

A LIST FOR RANKING

Such an approach could involve a list of characteristics such as that issued by the U. S. Bureau of Public Roads in 1964 and given in Table 1. Table 1 also gives the rankings of the 2 alternate route locations shown in Figure 1.

Several of the characteristics overlap, however, this should present no problems because only pluses and minuses are used to show which location ranks higher for each item. In fact, this overlap generally seems desirable because much of it occurs on matters that deserve emphasis. Thus, there is some overlap among aesthetics, residential character and location, and property values; this simply provides a healthy emphasis. A plus and minus can be used for a characteristic on which the alternate locations are considered to have about an equal effect.

The list of characteristics and rankings for them are intended to help decision-makers comprehend easily how technicians rank alternate route locations. The list should not be a substitute for analysis because each of the characteristics must be analyzed to indicate, for example, why one location was ranked plus for residential character, perhaps because this location left a stable neighborhood undisturbed.

IMPORTANCE OF POINT OF VIEW

In this simplified example, route location A ranks higher than route location B on characteristics such as national defense, economic activity, highway cost, and highway user savings. For recreation, aesthetics, safety, religious institutions, conservation,

TABLE 1
RANKING OF ALTERNATE ROUTE LOCATIONS BASED ON THEIR EFFECTS ON SELECTED CHARACTERISTICS

Characteristic	Alternate A	Alternate B
National defense	+	–
Economic activity	+	–
Employment	+	–
Recreation	–	+
Fire protection	+, –	+, –
Aesthetics	–	+
Public utilities	+, –	+, –
Safety	–	+
Residential character and location	+, –	+, –
Religious institutions and practices	–	+
Rights and freedoms of individuals	–	+
Conduct and financing of government	+, –	+, –
Conservation	–	+
Property values	+, –	+, –
Replacement housing	+	–
Education and disruption of school district operations	–	+
Specific numbers of families and businesses displaced	+	–
Operation of highway facilities and other transportation facilities during construction and following completion	+, –	+, –
Engineering, right-of-way, and construction costs for proposed highway facilities and related transportation facilities[a]	+	–
Maintenance of highway facilities and other transportation facilities[a]	+	–
Use of highway and other transportation facilities, and user costs[a]	+	–

[a]Also analyzed, at least in part, in the user benefit-cost analysis.

and education, location B outranks location A. It is quite conceivable that in such a situation an evaluator with a local point of view would favor location B. It is longer and more costly to build, but it might be expected to provide more nonuser benefits than location A.

The detailed analysis of each characteristic on the list will permit the analyst to take account of points of view, a matter of special importance in evaluating community benefits. Thus, an educational point of view might be more locally oriented than a national defense point of view.

SOME IMPACT PRINCIPLES

As an aid in ranking alternate highway route locations and in reviewing these rankings, especially pertinent information can be summarized in the form of a list of general principles or findings based on an analysis of highway impact studies. Such a list of general principles may be useful regardless of whether a simple plus-minus ranking system, a numerical rating plan or some other system is used. A few items that might

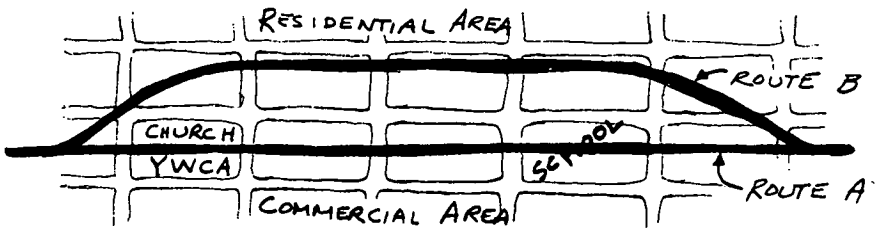

Figure 1. Location of alternate routes.

be developed into a list of general principles useful in highway location decisions are as follows (1):

1. Industrial and commercial properties have apparently benefited more than residential land from having a highway nearby.
2. Adverse effects of highways may be mitigated or eliminated by well-landscaped highways located outside or on the border of neighborhoods or school districts.
3. New highways have apparently hastened economic changes that were previously under way; this appears to be more characteristic of gains (or potential gains) than losses.
4. Local tax roll losses due to right-of-way acquisition have typically been offset by new development or by intensifying existing development.
5. Interchange areas have experienced a disproportionately large amount of economic activity.
6. Residents relocated from right-of-way areas have typically improved their living accommodations and increased their living costs.

Problems may be encountered in preparing a list of principles. It may be difficult to reach agreement on which findings are firmly enough established to be considered principles. This is because some finds or principles are based partly on nonquantifiable information. Also, several different groups participate in some way in highway location decisions—staff workers who make the initial location recommendation, members of the public, and officials or legislators who make the final decision (2, 3). Almost any set of principles will seem trite to some and controversial to others.

This problem can be partly overcome by documenting the items on the list. For some of those using such a list, fairly full documentation could be provided, perhaps with some analysis as well as references to completed studies. For users without the time or inclination to follow the full documentation, it may suffice to provide summary references to pertinent findings such as the following:

Principle

Industrial and commercial properties have apparently benefited more than residential land from having a highway nearby.

Sources

Bureau of Public Roads analysis of California, Georgia, and Texas studies shows median annual percentage gains along major highways of 17 for industrial, 11 for commercial, and 9 for residential. Bureau of Public Roads analysis of severance cases from 40 states shows median value gains between acquisition and remainder sale of 45 percent for commercial and industrial and 25 percent for residential parcels. Also see: Michigan Proximity Study, No. 203.

SUMMARY

Bringing relevant economic data to bear on highway location matters may be aided by means of a simple plus-minus ranking of selected characteristics relevant to route selection. Such a ranking, or that by some other system providing numerical ratings, will be assisted if highway study findings can be distilled into a list of principles that is substantive enough to be meaningful but short enough to be manageable.

REFERENCES

1. Highways and Economic and Social Changes. U.S. Bureau of Public Roads, 1968.
2. Public Involvement in Highway Location and Design. Public Works, Vol. 98, No. 11, Nov. 1967, p. 7.
3. Fielding, G.J. Locating Urban Freeways: A Method for Resolving Community Conflict. Unpublished, 1968.