

# Traffic Engineers are Land-Use Planners

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A joint meeting of traffic engineers and people working in the fields of city and regional planning is particularly appropriate, for it is hard to conceive of two professions the results of whose day-to-day activities are more closely interdependent. Decisions made by city planners with respect to the location of residential, industrial, and commercial activities are major determinants of the adequacy of existing highway facilities and of the need for highway improvements. Conversely, decisions made by highway planners on the location, capacity, and design features of new highways will shape in important ways the future patterns of land use in the areas served by the new roads.

I would like to emphasize this second point—the role of highway planners in shaping the use of land—because it implies a particularly heavy responsibility for those of you who are charged with the planning of major highway improvements. Basic transportation advances have always been powerful determinants of the nature and intensity of land use. In the last century, the building of the railroads played a dominant role in the location of towns and cities and in the development of the country's agricultural and industrial resource base. At a later period, the structure of our major cities was shaped in important respects by the subway, the commuter train, and the electric railway. The last several decades have seen the highway replace these forms of mass transportation in transforming old land-use patterns and in shaping new ones. The interstate system will prove to be the most fundamental transportation innovation since the development of the automobile, and it will be the single most important force in holding future uses of land in this country.

John Howard, the M.I.T. city planner, was not exaggerating recently when he predicted: "The new highway program will have more effect upon all form and pattern of growth, and, therefore, upon the character and structure of our metropolitan areas, than all the

metropolitan planning done by city planners between 1945 and now." I suspect that the antagonism that frequently develops between city planners and highway planners stems not only from differences in their outlook and goals, but also from differences in their power to control future land uses. As Dr. Howard emphasized, city planners recognize that the structure of metropolitan areas depends far more on highway planning decisions than on the most carefully drawn land-use plans. By the very nature of his work, the highway planner is inevitably also a land-use planner. He may not recognize or like this additional role, but he cannot avoid it.

While the role of highways in shaping land uses in urban areas has been generally recognized, less attention has been paid to the rural land-use problem. Several considerations suggest that during the next 15 to 20 years, changes in the use of rural lands will be both dramatic and strongly influenced by the new interstate highways. One factor will be the substantial mileage of the interstate system to be constructed in rural areas. Nearly seven-eighths of the total mileage is rural. Another consideration is the prohibition against user service facilities on interstate rights-of-way. The rural countryside will be basically changed as user-oriented changes in land use take place. The most pervasive and enduring factor, however, is the increased demand for land that will accompany the expansion of our economy and our population during the next few years. Rising personal incomes, increased leisure time, growing demands for outdoor recreation, higher rates of "household formation," and expansion of industrial and commercial activity will contribute to massive shifts of rural land into high-intensity uses. These shifts will be guided to some degree by decisions now being made by highway planners.

The responsibility imposed on highway planners by the prospective development of rural areas is truly awesome. Because their decisions affect so decisively the emerging structure of land uses, they need to share the city planner's traditional concern with the compatibility of particular uses and with the aesthetics and efficiency of the pattern of development. But the highway planner has a more direct and immediate reason for concern with the land shifts that are induced by highway improvements. He is faced with forecasting volumes of traffic 10, 20, and even more years into the future, so that the facilities he plans will retain their usefulness throughout their physical life. The accuracy of these forecasts depends largely upon the accuracy of the forecasts he makes of the pattern of uses that will develop on the land served by the improvement. Crowded, congested highways in every state in the

nation testify to the imbalance that develops when changes in use of land and the increased traffic associated with them are underestimated. The interrelationships between highway improvement and the use of land are thus of vital concern to the highway planner in discharging his responsibility to design, construct, and preserve an efficient system of highways.

Because the highway planner is inevitably a land-use planner and because the future adequacy of our highways and the character of our land-use patterns will depend upon his success in both areas of planning, I would urge three things. The first is increased awareness of the vital role that highways play in shaping land use and greater emphasis on the land-use consequences of location and design of highways. The second is increased attention to the prediction of the effect that new highways will have on the areas through which they pass. Much remains to be done in developing useful explanatory models for predicting changes in the use of land. My final suggestion is for better understanding and closer cooperation between highway planners and city and regional planners. The overlapping of the functions of the two groups as well as the divergence of goals means that both need to participate in planning both highway improvements and the use of land.