Two sections of divided parkway, well landscaped and with wide rights-of-way, were selected, together with two ordinary major thoroughfares or undivided state roads through Westchester County.

This was felt to be a good laboratory, in that some of the Westchester parkways were the forerunners of the divided highway and limited access parkway system, some of them being built around 1924 and 1925, and some of the newer projects around 1938.

This study resulted in publication of a popular report, followed by a technical report entitled "Traffic Impact." One thing that considerably influenced the thinking in the planning field is that the location and the right-of-way widths of these major thoroughfares through developed communities, as differing from the farm or rural type of location, may have an impact on the development and the economy of the area far greater than the damages which might accrue in the way of right-of-way cost and property damage.

In other words, an attempt was made to answer the ever-present question of what influence this major thoroughfare will have on the neighborhood in which people have built their homes and invested their life savings. That was the idea of the study. It was found that the wider the right-of-way, and the more care taken with the roadside (such as landscaping, and so on), the least amount of impact there is on the surrounding property. At the same time, it improves and enhances roadside development, to the extent that those values are now stable and are increasing, whereas in a control area (that is, a similar area elsewhere in the same city) these effects are not felt as much.

Where these roads are placed through rural districts and where there is a need for industrial expansion, that is where the industrial expansion is going to take place. When they are built through existing cities and existing neighborhoods, a different set of problems arises. The effect on land values depends on the convenience of the road.

Arlington County, Va., is the corridor through which most of the westbound and southbound traffic must pass from the Washington metropolitan area. The trans-Potomac traffic is in the neighborhood of 225,000 or 230,000 vehicles a day.

In the regional plan of the area, Fairfax County, which adjoins Arlington, is planning for three or four expressways.

Those expressways will be extended through Arlington whether Arlington wants them or not, so the idea is to locate them in such a way as to take full advantage of them and at the same time not split up existing residential and commercial districts to disadvantage.

Operations Research: The Multi-Discipline Technique

Robert H. Roy, Dean, School of Engineering
The Johns Hopkins University

Some of the methodology and techniques of the mixed-team approach to the study of operations can have desirable effects on complex systems such as are under discussion.

Such problems might well be attacked by putting together a multi-discipline team of economists, demographers, statisticians, mathema-

ticians, and other pertinent disciplines. It probably also ought to have, as a member of the team, someone who is cognizant of Highway Research Board problems internally, and perhaps someone cognizant of the political impact of the kinds of things that might result.

But one cannot escape the feeling that some of the very tools described (linear programming, matrix algebra, operation gaming, Monte Carlo processes), coupled with the facilities of high-speed computers, could bring results beyond those obtained by groups of people studying problems like this within highway departments. The university is uniquely a desirable place in which to center such studies, because of the wealth of diverse resources available, either on a direct participation basis or a consulting basis.

It is gratifying to hear that some operations research is being done in this area and it is hoped that this technique can make some contribution toward the solution of this immensely complex problem.

Community Planning and Highway Improvement Must be Joined at the Local Level

Joseph L. Intermaggio, Highway Research Board

The Highway Research Board Committee on Urban Research is interested broadly in the areas that have been particularized here, especially in the interrelationships of community development and transportation systems.

Several of the preceding participants have spoken of the national highway program, with some very broad objectives requiring a national viewpoint. We have gone a long way in setting forth a national highway development policy. But we have not gone as far in articulating another essential—a national development policy which this national highway program can help to achieve. This is something which must be spelled out on local levels.

If community planners do not indicate what the range of local alternatives is, and what the land use plans are, or what they should be, there is not going to be very much chance to develop an effective highway program for the local areas.

Neither can one measure the effectiveness nationally nor achieve the optimum results in a national highway program unless these broad objectives are spelled out within the range of a great number of alternatives, taking into account the dynamics of population growth, changing technology, and other factors.

With respect to population growth, New York City provides an excellent illustration. New York's anticipated regional growth has been estimated at about four or five million people in the next 25 years. This would amount to wrapping Los Angeles around the New York metropolitan area.

In such a situation, the measurement of economic impact is a difficult thing. Nevertheless, determination of an objective may make it far easier to achieve these goals and to institute directive devices as the local economy is developed.

There have been many evidences at this conference of the great amount of study and work that has been done, and that there is a need for educational dissemination of the ideas that have been expressed here. There is no question but that the uncovering of these ideas can have far-reaching