

have and did have upon their retail sales. In this case the actual dollar value was not requested but they were requested to give the change in sales, percentage-wise, that had actually occurred. The businessmen were agreed that the bypass did not hurt their businesses.

The use made of these data is an important phase of any such study. These Indiana studies were made to determine the influences of the highway upon a particular area after the location had been selected. This material was used, or could be used, to combat objections of businessmen to highways bypassing their cities. It was also used to evaluate the traffic use of bypasses in Indiana. We are quite proud of the fact, for example, that at Lebanon the traffic predicted was within 1 percent of the actual amount that used the bypass after it was open for a six-month period.

These data also were used to point out that in right-of-way acquisition more thought should be given to benefits that accrue to the land directly affected, as well as to damages to that land. This material could also be used to evaluate the influence of a location on land development in that particular area, or on land use. As Mr. Richards suggested, perhaps highways should be located in urban, suburban, and rural areas to best serve the desired land use as well as to serve eventual traffic. We certainly found that highway improvement has an effect on types of land use.

This is not to say that the increases in value in a particular location, and other changes found, represent net benefits to the community. This particular problem was not studied. In fact, two problems are involved here. These are: (a) What change or influence does a highway improvement have on a particular area? And (b) Do these local benefits contribute to the net highway and community benefits, and to the national benefits?

As previously pointed out, these studies are being continued, with the research directed primarily to the influences in a particular location. But there also is a need to determine the net benefit to the entire community. Lack of men and lack of money are not necessarily the most important deterrents to research in this area. One of the most important problems involved is that of time. But as important, perhaps, as time is the need to define the problem. If the problem can be defined and broken down into "bite-size" chunks, so that many graduate researchers can attack the problem, something definite will be obtained. The men will be found, and the money will be found also.

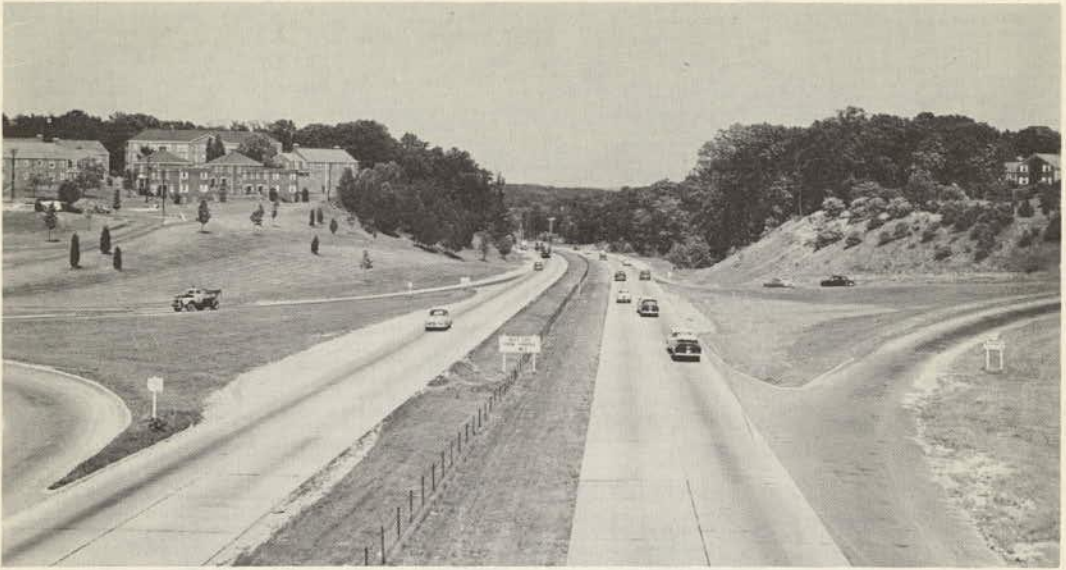
## **TRAFFIC INTERRELATIONSHIPS**

### **Expressways, Mass Transit, and Other Traffic Interrelationships**

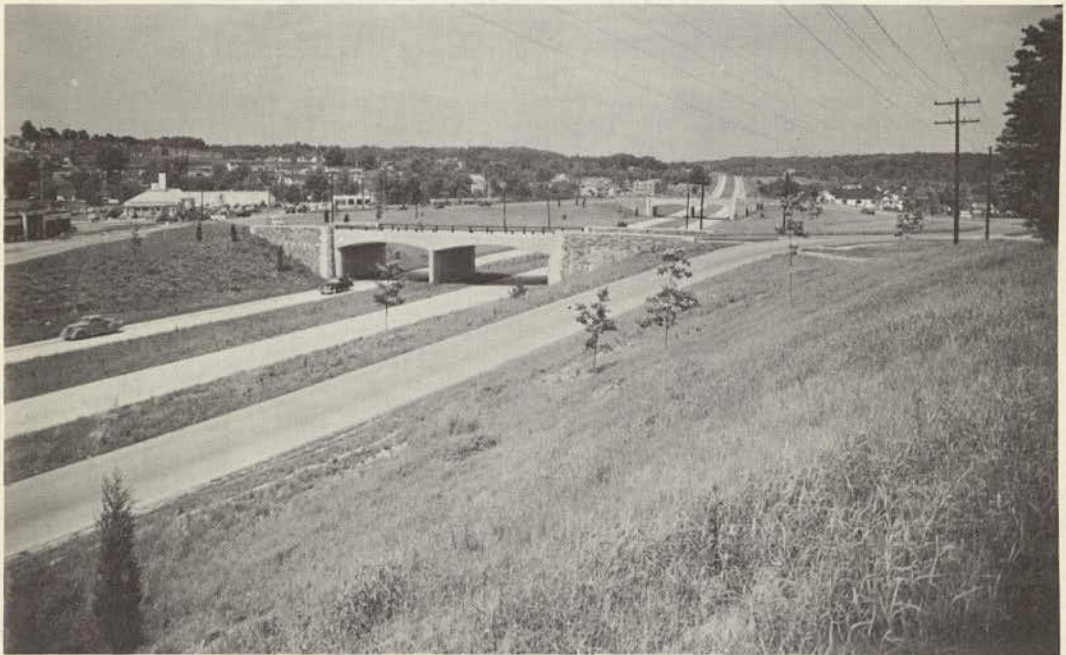
#### **D. Grant Mickle, Automotive Safety Foundation**

It is apparent that a lot of work is being done by the various departments and the various universities both in the field of bypass routes and in other economic impact studies. It would seem, however, that perhaps that information is not getting around to other highway departments and other universities for their guidance and stimulation and use.

The newly created Joint Committee of the American Municipal Association and the American Association of State Highway Officials might be a perfectly logical vehicle for the collection of information from the highway departments and universities. If it could summarize the worthwhile



The Shirley Memorial Highway from atop State Route 7, looking northeast toward Shirlington. Extensive multiple-family dwellings and shopping centers have sprung up along this modern highway in the Washington Metropolitan Area.



Another view of the Shirley Memorial Highway in Virginia in the vicinity of the rotary intersection in Arlington County. The Shirley Highway has had a profound economic impact on adjacent land uses, as well as on the larger portion of the Washington Metropolitan Area.

studies and disseminate the findings to all the other departments it would serve a great need.

Every limited access highway in an urban area is, in effect, a bypass; it bypasses something because of the fact that it is either an elevated or depressed expressway for at least a certain distance, and whatever distance that is, it is bypassing something. Such a highway should bring about certain collateral benefits beyond those that are immediately apparent. For instance, not enough attention is being given to the benefits that may accrue to transit operation, for example, in the city areas. Certainly some of these expressways are going to aid transit service by making it possible to provide some kind of express service.

In the areas that have been relieved of the traffic from existing streets, truck deliveries and pickups certainly will be improved. That is a benefit to business that may be difficult to measure, but in the long run it would have some relationship to the cost of doing business, and therefore should be reflected in the level of business activity.

Safety has been mentioned in one or two of the preceding reports as being a collateral or fringe benefit. Ridding the existing streets of unnecessary traffic ought to have very definite and measurable safety benefits. What have been the results of the improved traffic operational conditions on the surfaced streets after the expressway has been built? Obviously, the remaining streets should operate more efficiently and more as they were originally designed to operate, when the unwanted or the unnecessary traffic is removed from them.

Finally, if business benefits are to be achieved in the downtown areas of cities by the construction of expressways, off-street parking must be provided along with the expressway or highway program.

## **Traffic Studies and Economic Impact Research**

### **Roy T. Messer, Bureau of Public Roads**

Although traffic studies are necessary to determine the economic benefits to the highway user, many of those benefits can be translated into economic benefits accruing to the land or the use to which that land is being put.

Often, one of the reasons for building a bypass and determining its location is the industry located in the area. What is the influence of the availability of additional traffic capacity in attracting new industry along limited access highway improvements that are really basically in the nature of bypasses?

To what extent does availability of a bypass motivate industry to locate there? Is this new industry or is it industry moving from a present location to a more favored location?

The traffic problem has not always been fully investigated, but it seems like a logical aspect to include. Traffic is one thing that can often be measured relatively easily, although origin-destination studies sometimes involve considerable effort. Any economic study might well include an origin-destination analysis of the traffic that is using the route, to determine the amount of traffic that is generated by use of the land directly served, as against that which is diverted from other areas.