can be checked.

Intermediate residential areas not directly served by the expressway can be benefited by the expressway as discussed in "Effect of Tax Ratables". When through traffic is removed from the existing streets in these areas and routed over an expressway with a wide, attractive right-of-way, these intermediate areas benefit although they are not directly served.

Additional facilities such as playgrounds and park areas sometimes included in an expressway project also contribute to the value of a residential district by providing recreational facilities in addition to the transportation service and esthetic value.

Added safety through the protection of life and property offered by an expressway has a material economic value. This same factor applies likewise to business districts.

3. Blighted Area.

The economic effect of an expressway on the properties fronting on existing streets in a blighted area has been partially discussed under the subject of the location of an access with the desire to develop a backward area.

The expressway may physically eliminate a blighted area by including most of it in its right-of-way. Locations making such elimination possible are attractive both from the standpoint of low property damage and from the standpoint of the benefits derived by the elimination of the blight.

An expressway may make a blighted area even more blighted if its right-of-way is unduly restricted or if the expressway is of such a type that it acts as a barrier dividing the community.

That some areas are blighted may be attributed to the fact that its streets have dead ends or adverse grades. Often an expressway project involved the opening of these streets and improvement of street grades. Consequently, the principal reason for the blighted condition is corrected, and a general rehabilitation follows.

EFFECT ON STREET SYSTEMS

The development of a system of expressways will make important changes in the traffic pattern on the existing street system. Some existing major arterials will become minor feeder routes. Traffic will move with much more freedom on those existing streets from which there will be large diversions to the expressways. The accident hazard will be decreased. But, on some of the streets, those into which large volumes of traffic will be discharged, there will be critical problems of traffic accommodation. Thus, on the one hand, there are resultant benefits in the efficiency and safety of motor travel on many of the main streets, and on the other, a problem of fitting interchange connections to the street system, particularly in the city centers, in a manner that will permit existing streets to accommodate increased traffic load.

In so far as the planning of expressway systems is concerned, there is no essential need to evaluate the benefits in efficiency and safety that will be provided through the diversion of traffic from the street system to the expressway system. However, it will no doubt be helpful in presenting the case for expressways to show these advantages as well as others which will result from the development of expressway systems. In the Connecticut Highway Department reports, "Hartford Metropolitan Area Expressways" and "Connecticut's Road Program", this was attempted. The Lindman report of November 1946 on a "Proposed System of Highway Financing for the State of California" emphasizes the reduced hazard and congestion on the existing street system.

While it is not essential to evaluate the benefits in traffic operation on the existing streets, as indicated in the previous paragraph, it is necessary to consider the damage that may be done through the traffic concentrations on the existing street system at interchanges, and to the maximum extent possible, lay out the interchange connections and recommend street control measures that will permit free traffic flow. It may be necessary to widen some of the

existing streets, to ban parking and to institute one-way operation. Each interchange ramp connection, the street to which it discharges or from which it draws traffic, and the connecting streets serving the major generators of traffic, present separate problems. Satisfactory street traffic operation can be attained only through careful consideration of traffic volumes in relation to street and intersection capacities all the way between traffic generators and expressway ramps.

STAGE CONSTRUCTION

"Stage construction" is construed as meaning the construction of an expressway to something less than the ultimate planned improvement but to a stage where the facility or a portion of it may be opened to and used by traffic. Excluded are stage construction practices such as the acquisition of rights-of-way, grading of the roadbed, or the construction of structures separately from and in advance of paving operations, since these operations do not produce a usuable improvement.

Examples of stage construction include:

1. Placing a temporary rather than a permanent pavement.
2. Paving less than the ultimate width of roadway, or one roadway of an ultimate divided highway.
3. Deferral of construction of grade separations.
4. Deferral of construction of interchanges, or construction of less than the ultimate interchange, for example, building two ramps of a four-ramp plan.
5. Deferral of construction of service roads.
6. Deferral of landscaping, installation of lighting and other items not essential to a reasonably safe utilization of the improvement.
7. The progressive construction of an expressway by sections or units over a period of years. In this case a constructed section might be complete within its limits but it would constitute only one state of the construction required to make available the benefits of the ultimate improvement.

Proposals for stage construction almost always stem from a need to stretch currently available funds so that traffic conditions may be improved as quickly as possible and prior to the time when the entire expressway can be financed. While this reason for constructing something less than a complete improvement may be a very good one and sometimes the only way to get a project started, a word of caution seems in order. Too ready acceptance of the need for improvising, by stage construction or otherwise, to overcome an apparent inability to finance an improvement, could well prolong beyond reason the time required to remedy the intolerable traffic conditions in urban areas. Without a doubt, it will be necessary (in general) to find additional amounts (and probably, new sources) of funds to meet and keep pace with highway requirements. There should be reluctance to employ stage construction for the purpose of side-stepping the critical issue of inadequate finances for overwhelming highway needs.

In case immediate construction of a complete improvement is determined to be impossible, consideration might well be given to the feasibility of initiating activity over the entire project as quickly as possible. This might be done by utilizing one or more of the first six stage construction techniques previously mentioned instead of the more generally-used method of progressive construction of an improvement by sections which are complete in themselves. Getting work underway throughout the length of the proposed expressway would establish and guarantee the route to be followed by the facility. It might avoid delays over rights-of-way. It also might do much to encourage and influence zoning or re-zoning and other city planning activities, and the efficient and non-conflicting location of industries, housing, and like developments in the urban area.

However, regardless of all other considerations, it must be kept in mind that the primary purpose of the improvement is to correct, or at least, relieve unsatisfactory traffic conditions on city streets. Therefore, it seems obligatory that the effects on those streets should