

into the design manual that I mentioned earlier, at the earliest possible time after these findings have been evaluated and proven to be valid and feasible.

Also germane to your inquiry is the fact that all too often in the past, engineering decisions have been weighted by first or capital cost considerations. However, enlightened engineering practice now dictates that although initial costs may play an important role in such decisions, other factors must also be considered. More and more we will be urging States to use the cost-effectiveness approach not only for operational highway improvements, where it has already proven its worth, but in broader areas of highway design affecting safety. This approach has special implications with regard to safety items such as guardrail, median barriers, signs, and lighting standards. Yardsticks are being developed by which relative safety effectiveness of one design over another can be measured. We believe accident reduction benefits, for example, can be measured on the basis of anticipated deaths, injury, and property damage, through formulas which can be employed equally well for determining either the area to be improved or the method for improving it.

In addition, the other projections involving maintenance demands, durability under actual service conditions, and flexibility to accommodate anticipated traffic growth can be applied to all highway projects in the future. I am convinced that such techniques, founded on reliable cost-effectiveness bases in conjunction with realistic engineering for safety, will reduce the extravagance of too frequent rebuilding and at the same time will result in better, safer, and more economical highways.

I believe it is important to note that the physical plant which is our Nation's highway network is one of the three major safety elements which is most susceptible to consistent and continuing public control. No driver can be trained and policed to perform with the predictability or reliability of a fixed engineered system. The vehicle's dependability is subject to variables not always susceptible to constant and immediate correction. Thus, the highway itself will continue to be a fertile area for total highway safety progress.

Much effort in this direction has already been expended, and some of it has begun to bear fruit. But much more attention needs to be given to this pervasive problem, as well as to other elements of the comprehensive national highway safety programs which the House Public Works Committee helped launch.

We share with you, Mr. Chairman, your concern that "the mistakes of the past are not carried over into our new roads." The consuming interest of this committee will make our work toward that goal a great deal easier, and will stimulate much more vigorous action toward the meaningful reduction of built-in hazards across the Nation's highway system.

Mr. Chairman, that concludes my prepared statement. As I indicated in my statement, Mr. Turner has a prepared statement which deals in much greater depth and detail with some of the issues, most of the policy issues that have been raised in the course of these hearings.

Mr. McCARTHY. Mr. Bridwell, before Mr. Turner commences with his statement, I wonder if I could ask you a question.