

or to the bridge or to persons or property that might be under the bridge.

To stop a typical automobile traveling 60 miles per hour involves absorbing 500,000 foot-pounds of energy which presents a challenging task to a designer. Of course, safe bridge design is further complicated where pedestrian traffic is involved.

All in all, we are now completely cognizant of the roadside problem and its seriousness and the roadside is becoming an engineered and designed element of the highway facility, instead of a byproduct of the grading and drainage operations.

With all of the appurtenances that are necessary for the functioning and operation of a modern highway, which includes signs, guardrails, light standards, headwalls, and many other items, it is essential that these appurtenances not be planned and constructed independently, but reviewed together and coordinated by a field review at the time of construction.

It may be possible to move a light standard or a sign installation to where a guardrail installation is already provided. If such is not possible, then these necessary obstructions need to be relocated so as to minimize hazard.

Almost every State has had some experience in having proposed design rejected or reduced by so-called Bureau of Public Roads frugality, because of the costs involved.

Full width bridges, the elimination of shoulder piers, additional lanes, full width left-hand shoulders on six- and eight-lane freeways, and the like, are examples.

We do not wish to make an issue of this and do not propose to offer it as an excuse. It is our opinion that cost will continue to be a major control factor in this and all other highway programs.

Even if there is considerable feeling of a liberalization in spending at this time, by the time the next cost estimate for the Interstate program is submitted, undoubtedly there will be a tendency to swing back the other way and become extremely cost-conscious once again.

In 1958, AASHO was questioned by the Senate Public Works Committee as to the possibility that the States were overdesigning the Interstate facilities and using wider rights-of-way and median strips than justified.

Now, it is well known and accepted that such charges are not true, and it indicates an evolution in official thinking.

We might add that we have encountered some minor conflicts between highway safety and highway beautification proponents. This is not a serious problem, but it does take the attention and action of the State highway administrators to correct. There is a tendency on the part of landscapers to plant trees close to the shoulders and locate shrubbery where sight distances are impaired.

We have heard some criticism of the highway signing on our highways, and in particular, on the Interstate System. We have had more experience in communicating with the public through signs than anyone else.

It is very definite that with over 100 million registered drivers having different levels of education, mental and physical reaction and background, that the intended and proper use of highway signing