

cannot be instinctive to all of these drivers. What might be clear to many, could be confusing to a few, or vice versa.

It is essential that drivers be taught how to use the signing and the complex geometry of modern highways for as time goes on and traffic increases, such things are not going to become any simpler. We already have 60 percent more vehicles on our highways than when the Interstate program was started.

Signs must have target value day and night and be large enough to be legible and read at highway speeds. They must stand out but not be unsightly and must not require more than a glance to be read. Smaller artistic or rustic offerings have no place on high-speed high-density arteries.

Highway safety involves three areas—the vehicle, the highway, and the driver. In fact, it is a three-legged structure and for such a structure to be stable, each support must be completely adequate.

We readily admit that some further progress in traffic safety can be made on even our most modern highway facilities, but the most fertile field for achieving traffic safety lies with the improvement of the driver.

Highway administrators and engineers are firm in this position.

We see far too much hazardous and wasteful use of our highway space even though the average driver generally does a good job.

Some of the things you can see that contribute to accidents are driving when fatigued, driving when intoxicated, driving beyond conditions, aggressive driving, tailgating at high speed, driving too slow, driving with smooth tires, not planning a trip in advance as to proper routes and exits, exiting from the wrong lanes, and not knowing how to drive on a freeway. One of the most hazardous things on a two-lane facility is passing on hills.

These things are entirely too prevalent and while we accept the responsibility in the highway field of enhancing chances of survival in case a vehicle goes out of control, to a large extent we are merely treating the symptoms or the results and not correcting a major cause of accidents.

Recently, at a national conference, we were advised by outstanding motor vehicle administrators and State highway officials, that no less than 10 percent of the drivers on our highways were operating with a revoked license or had no license at all. This further underscores the need for improving the quality of the person permitted to operate a vehicle.

We admit that we have experienced some delay in getting improved designs and applications incorporated into our highways. This is especially a problem when your personnel is involved in a very heavy and continuing workload that is part of moving a big highway program.

Essential leadtime may cause design features to go into the pipeline 2 or 3 years before construction is started and construction may require 1 or 2 years. There is a tendency, under such conditions, to use existing standard design sheets and not take time out to upgrade or correct them, and to overlook making desirable changes during construction by change order.

The larger an organization, the more serious the problem of internal communication and coordination between the various engineering offices becomes. This is the responsibility of the chief engineering officer