

IS THERE A SELECTION RATIO IN THE FUTURE OF LICENSING?

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Although the controversy over the causes and extent of the current energy crisis continues, the world has known for decades that fossil fuels are limited and that the United States is the foremost energy glutton. It has become obvious, however, that the United States cannot continue to expand its wasteful use of energy nor can other countries hope to attain the "American dream" of luxurious vehicles and superhighways available to every man for every trip. Only the Federal Republic of Germany reports a higher annual death rate than the United States with its 43 deaths for every 100,000 males. The United States, with its trend toward liberating women, now has the highest rate of traffic deaths among women: in 1970, 14.7 for every 100,000 women. If we assume that the average driver is exposed to such a threat for 50 years, more than two out of every 100 drivers will be killed by an automobile before they are 50 years old, given the annual death rate. Even if this extension is not completely accurate, the order of magnitude is clear.

By far the great majority of these fatalities are from individual, privately owned and operated automobiles. The only hope for reducing such a toll lies in reducing the exposure of the population to such threats.

Those of us who have studied driver

licensing and accident involvement know that it is difficult to identify a minimum amount of knowledge that is "essential" or attitudes that are "optimal" and correlated with driving success; the "problem driver" constitutes a very small portion of the total problem. Driver inattention, fatigue, confusion, and distraction are involved in more accidents than causes such as mechanical conditions or equipment failure. The fact is that driving is incidental to many other activities and often does not receive the emphasis and practice or motivation to keep it at a very high level of performance. In short, use of public transportation vehicles, driven by a relatively small number of experienced drivers who have a minimum of other distracting duties and interests, would reduce the likelihood of the thousands of errors, incidents, and accidents that occur in conjunction with distraction or temporary incapacity.

The one thing that the energy crisis has done is put the problem in a slightly more reasonable perspective. This, presumably, will result in providing some alternatives to individual automobile mobility in those places where it is practical. The pricing pressures arising from fuel shortages will make many things practical that, until recently, were not within the realm of possibility. If there are alternatives to driving automobiles, drivers can be

selected on a more systematic basis. In fact, only when a selection ratio exists can any kind of a selection based on performance or likelihood of success be instituted. Under existing practices in the United States, virtually all of the drivers who submit themselves to "examination" for licensing are eventually licensed. On the other extreme, commercial airline pilots probably are selected from the greatest number of potential applicants. Some intermediate between these extremes is found in commercial truck and bus drivers. Professional firms have demonstrated that it is possible to develop successful drivers from a group of potential drivers, even if their selection techniques have lacked a truly scientific basis.

We do not yet have an infallible system for selecting drivers, but the possibility of accepting only two out of three applicants for a driver's license, instead of almost all applicants, indicates that some measure of success can be developed.

The impact of the fuel shortage on speed alone is not likely to be very effective. For example, in 1972, 32,000 fatalities occurred on rural roads where speed limits already were 50 to 55 mph. The reduced speed now mandated will not affect the likelihood of fatalities on these roads, although reduced volume will. In contrast, only 8,000 fatalities occurred on Interstates, freeways, or turnpikes. Here the reduction from 65 or 70 to 50 or 55 mph is likely to reduce the percentage of fatalities somewhat, but the overall effect on total fatality is likely to be small. On rural roads where three-fifths of the fatalities continue to occur, two-thirds of these are at night even though the volume then tends to be lower. Undoubtedly a great number of these fatalities are related to alcohol use, but, once more, the drinker often has no alternative to driving. If he is provided an alternative transportation means or if a substantial change in values and mode of living eventually occurs, the fatality rate would be affected.

Demand for automobile travel exceeds the reasonable capacity of many urban areas. Energy waste and urban congestion are more reasons for reducing automobile use in populous areas. Providing alternatives to individual automobile use makes higher driver qualifications possible, especially as a means for increasing the traffic flow and reducing the noise, visual, and air pollution that results from excessive use of automobiles in congested areas. Pricing will undoubtedly make public transit more attractive in certain areas, but driving performance in urban areas truly is beyond the capability of a considerable portion of the people now attempting to drive. Anecdotal evidence is sufficient in this case, for we all are held up occasionally by inept, confused, lost, or otherwise (at least temporarily) unqualified motorists.

A great deal of effort is being directed toward providing alternatives to the more conventional transportation that has evolved under a purely demand system. The cost of personal rapid transit, dial-a-bus, and other modes often makes them appear beyond reach, especially given that drivers tend to perceive out-of-pocket automobile cost as 5 to 10 cents per mile rather than the 15- to 20-cent per mile true ownership cost. Especially in rural areas, the problem of public transportation becomes a complex one.

One proposed system is a "demand-stop" bus system that is somewhere between the regular bus and the dial-a-bus concept. In this system, a large number of stopping points are provided for users; each one includes a visible signal that may be activated by a person waiting at the bus stop. The signals are located along a through route so that the driver is required to make occasional small detours from a set of options in response to the signal light or the requests of passengers. No elaborate equipment is involved; communications equipment consists of a pair of clocks that state the time at which the last bus passed and the last interval between buses at that stop. There is only a simple visual link between the signal light and the driver. In this way, a passenger can rely on the bus—not a fixed schedule but on the interval between buses and the time elapsed since the last bus passed.

For rural areas, this demand-stop system allows a large number of potential points, each of which has a very small frequency of use, to be serviced. The variable bus circuit time thus would be compensated for by dependable, demand-regulated service and the customizing of routes based on actual demand without the delays inherent in regular stops in a large number of stations. Such concepts have not been seriously evaluated in many rural areas, and the result is that no transportation is available to a significant portion of the rural aged or rural poor and that multiple car ownership is

almost essential in rural areas. Such systems would require modifications in individual life-styles, perhaps. The perpetual rush demonstrated by Americans and the completely arbitrary work schedules that penalize an employee for an occasional minor tardiness would have to be relaxed or modified. The changes are coming eventually. The goal should be equitable treatment of all concerned and management of limited energy resources.

There has always been an energy shortage, and only now is the American public becoming aware of it. Those who should have known better have acted as though no energy shortage would ever exist. The current crisis has only served to remind us that energy is a limited commodity. Until new systems and new ways of using systems are developed, we will always be under the threat of curtailing our way of life and our ways of transportation. Some aspects of transportation and our way of life could stand improvement. The selection ratio is one possibility for improved driver selection that tends to reduce the great number of fatalities, injuries, and losses related to accidents that are purely "accidental," i.e., they are made up of random distractions, temporary incapacities, frivolous demands, and overly selfish motivations. This selection process does not yet exist, for it has been meaningless to search for one where there was no likelihood of rejecting a reasonable portion of the applicants and where no provisions were made for ensuring that drivers remain qualified and appropriately involved in the actual demands of driving in a complex environment.