

**PROGRAMS AND PROBLEMS IN REHABILITATION
OF THE
HIGH RISK DRIVER**

by

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TABLE OF CONTENTS

	<u>Page</u>
ABSTRACT	v
SUMMARY	vii
INTRODUCTION	1
PREDICTION OF DRIVING BEHAVIOR	5
"Driver Selection for Driver Improvement Programs"	5
ADMINISTRATIVE WARNING LETTERS	19
DRIVER IMPROVEMENT INTERVIEWS	21
DRIVER REEDUCATION	27
GROUP DRIVER IMPROVEMENT DISCUSSION SESSIONS	31
BEHAVIOR MODIFICATION TECHNIQUES	37
Wolpean Approach	38
Skinnerian Approach	39
DRIVER LICENSING AND RELICENSING.....	47
OCCUPATIONAL OR HARDSHIP LICENSES	57
REFERENCES	65
APPENDICES	
APPENDIX A Sample Copies of Administrative Warning Letters... Currently in Use by the Virginia Division of Motor Vehicles	A-1
APPENDIX B Proposed Federal Standard for Driver Licensing....	B-1
APPENDIX C Provisions of the Virginia Code Pertaining to Driver . Licensing	C-1

ABSTRACT

Currently the sanctions applicable to traffic violations emphasize a punitive approach, premised on the assumption that the violation is the result of deliberate risk taking or, at the least, avoidable carelessness, for which punishment will serve as a deterrent to repetitions. This characterization of the traffic offender tends to ignore the complex nature of the psychomotor process called driving.

The purpose of this study was to explore alternatives to the punitive approach with an eye to rehabilitating the driver rather than punishing him. Various alternatives examined included prediction of driving behavior, administrative warning letters, driver improvement interviews, driver reeducation, group driver improvement discussion sessions, behavior modification techniques, driver retesting, and occupational licensing.

SUMMARY

Prediction of Driving Behavior

A driver licensing agency must be able to predict with some degree of certainty those drivers who will be involved in accidents in order to be able to rehabilitate problem drivers. Traffic safety research has shown that the most reliable performance criteria for predicting driving behavior are age and driving-while-intoxicated convictions. That is, those drivers under a certain age and those drivers with DWI convictions are likely to be involved in accidents. Administrators have also used such predictors as prior driving record and personality characteristics such as stability, neurotic tendency, and efficiency of social skills to apply either administrative sanctions or compel introduction into driver improvement programs. Unfortunately, the research reviewed in this study suffered from numerous deficiencies which prevent any generalizations that these factors can be used to predict any aspect of driver behavior. Frequently, attempts to construct tests which correlate a personality trait with future driving behavior are based more on intuition than on objective data. Useful performance criteria for driving behavior must await empirical research which can quantify the driving task.

Administrative Warning Letters

If one were a skeptic, he would tend to doubt the ability of such a brief contact as a warning letter to achieve any significant modification of driving behavior. However, there is evidence that even such brief contacts as the warning letter can effect a significant reduction in traffic entries, at least for a short period of time. There is evidence to suggest that a personalized, soft sell (less threatening) approach is more effective in producing accident and violation free driving than is a standardized form letter. The state of Virginia has recently adopted the practice of sending a soft sell warning letter to persons convicted of speeding and reckless driving when a second offense thereof within a period of twelve months would result in the suspension of their licenses. While the cost of issuing warning letters is slight in relation to the costs incurred in most driver rehabilitative programs, an evaluation of the efficacy of warning letters as a deterrent to avoidable traffic involvements is desirable.

Driver Improvement Interviews

The driver improvement interview has been shown to be an effective means of reducing violation and accident frequencies in a number of instances. Based solely on those few studies available to the researchers, success seems to be partially related to the amount of training given to the driver improvement analyst. Those programs utilizing personnel with training in interview and counseling techniques seem to have experienced somewhat greater success. Nonetheless, there seems to be a tendency for the therapeutic effects of the interview to be restricted to a short interval of time.

Driver Reeducation

Driver reeducation is premised on the assumption that accidents and violations result from a lack of understanding. However not all commentators accept the theory that accidents and violations necessarily result from a lack of training. For example, one theory views the accident involved driver as having acted out hidden intentions with the automobile utilized as a weapon. The limited success shown by a number of driver reeducation programs perhaps lends credence to the view that many accidents are not caused simply by inadequate training. However, given the fact that poor driving may be but one manifestation of rather deep-seated personal maladjustments which are not easily amenable to change, dramatic improvement cannot be expected without a major expenditure in time and personnel.

Group Driver Improvement Discussion Sessions

Group driver improvement discussion sessions appear to represent an attempt to capitalize on the therapeutic benefits of group psychotherapy, where each individual in the group is theorized to have a therapeutic effect on every other member of the group.

The concept represents a laudable trend in rehabilitative efforts in that it recognizes that chronically poor driving is not an isolated phenomenon, but is rather one manifestation of various possible behavioral maladjustments. However, efforts to date have produced equivocal results. Such efforts often fall short of the therapeutic ideal due to insufficiently discriminative selection criteria, short duration programs and inadequately trained group discussion leaders.

Behavior Modification Techniques

The problem drinker who drives and the habitual traffic offender represent social problems which are particularly resistant to administrative countermeasures. Efforts to control these drivers have failed to focus on the aberrant behavior as one facet of an abnormally functioning human. For example, the typical solution of suspending or revoking the license of the habitual offender usually does not keep this individual from driving. The failure of administrative procedures to solve the problem has prompted examination of more pervasive approaches. One such program might use the state to provide behavior therapy for those drivers who recognize their problem and are willing to undergo voluntary treatment. Behavior therapy basically involves positive reinforcement of socially desirable conduct and negative reinforcement of socially damaging behavior. The advantages of behavior therapy over other techniques of changing human behavior are: (1) That the therapy is extremely easy to understand and apply; (2) the techniques are extremely efficient because they are aimed at specific manifestations of behavior; and (3) the selective reinforcement of desired behavior responses can easily be applied to all segments of the population.

Driver Licensing and Relicensing

The use of driver licensing as a means to screen the unfit driver from the traffic system has become increasingly frequent. The licensing procedure usually involves a paper and pencil test on road rules, a vision test, and a behind-the-wheel driving

driving performance test. The assumption is that such procedures deny licenses to those persons who would not adequately perform driving tasks. But research on driving tasks and on the identifiability and stability of human characteristics has not justified reliance on the present system for selecting safe drivers. Although new techniques for driver testing, including automated tests of rules of the road, physical reexamination and automated behind-the-wheel testing ranges, are being developed, their true value cannot be determined until more is known about the variables involved in the driving task. Several commentators have suggested that the role of driver licensing in the future will be one of diagnosing individual driver difficulties and suggesting remedial training keyed to individual problems.

Occupational or Hardship Licenses

Occupational licenses represent a realization that suspension of the driver's license can entail quite harsh economic consequences for certain classes of drivers. Nevertheless, the occupational licensing concept is opposed by most licensing officials on the grounds that restrictions are difficult to enforce and that occupational licenses weaken the deterrent purpose that is served by the sanction of license revocation. Adoption of occupational licensing also calls for a reassessment of the current theory that license suspension represents a determination that the motorist whose license is suspended is an unsafe driver. Most of the debate over occupational licensing is based on subjective judgments rather than empirical study of states in which occupational licenses are authorized. The few empirical studies available show that while the availability of occupational licenses as an exception to license suspension may increase the conviction rate for certain offenses, there exists a potential for abuse in that some individuals who have obtained an occupational license were probably in a position to arrange alternate means of transportation. In reality, every license revocation involves some economic hardship, so it becomes a matter of degree as to when, or if, economic hardship should become a mitigating factor in the decision to revoke a driver's license.

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INTRODUCTION

Currently the sanctions applicable to traffic violations emphasize a punitive approach. Typically the errant driver receives a fine, or in more serious cases loses his operator's license or receives a jail sentence. Inherent in such an approach is the notion that the violation is the result of deliberate risk-taking or, at the least, avoidable carelessness, for which punishment will serve as a deterrent to repetitions. This characterization of the traffic offender tends to ignore the complex nature of the psychomotor process called driving. Additionally, there is evidence that the punitive approach may not be effective with a small, though highly visible proportion of drivers. This same segment of society continues to account for a highly disproportionate amount of activity on the part of enforcement and licensing agencies, despite repeated contacts with law enforcement officials and the courts.

The purpose of this study was to explore alternatives to the punitive approach, with an eye to rehabilitating the driver rather than punishing him. Driver rehabilitation is premised upon the feeling that retribution is no longer in vogue, and that it is perhaps illogical to expect substantial improvement in an activity (driving) during the term of a sentence which utterly forbids that activity (license revocation).¹ Thus the study was focused on means of modifying driving behavior other than through license revocation or suspension. Various alternatives examined included administrative warning letters and driver improvement interviews, driver reeducation, group driver improvement discussion sessions, behavior modification, driver license retesting, and occupational or hardship licenses.

The topic of driver rehabilitation has received considerable attention in the literature. In fact, a large portion of this study consisted of a survey of the literature on various rehabilitative approaches attempted in other states, coupled with an evaluation of program effectiveness whenever data were available. Despite the extensive literature, research has indicated a number of problem areas, as noted below.

- (1) While it is relatively easy to identify certain high risk groups (i. e. young drivers, problem drinkers, persons with patterns of sociopathic behavior, persons with organic medical conditions), identification of high risk individuals is considerably more difficult. A high incidence of false positives and negatives can cause an otherwise valid rehabilitative program to flounder due to inefficiency and lack of public acceptance.² Thus it will be necessary to explore appropriate criteria for selection of program participants.

- (2) An accurate diagnosis of program participants is important in determining the appropriate curriculum and format for the rehabilitative program. Explanations of personality influence in accident experience emphasize two views of the role of the driver — active and passive. The "active influence" viewpoint sees the driver as acting out subconscious hostilities, whereas the "passive influence" proponents view the accident-involved driver as simply being incapable of adjusting to changing conditions in the driving environment. Available evidence does not clearly support one view to the exclusion of the other. Nevertheless, each view of the role of the driver in an accident has its implications as to appropriate countermeasures. If the accident-involved driver is acting out subconscious hostilities, he is in need of therapy; whereas the driver who manifests an incapacity for adjustment may only require retraining.
- (3) A meaningful comparison of different rehabilitative programs is made difficult by a number of factors, not the least of which is the lack of competent evaluation. Far too many studies rely on a simple comparison of pre and post treatment violation records without the use of a control group. Due to the familiar statistical phenomenon of regression to the mean, a driver whose record shows a recent entry will show some improvement regardless of whether a countermeasure is applied. Thus, unless a control group is utilized for comparison purposes, the data prove nothing. Even amongst those programs that have been the subject of competent evaluation, several problems consistently reappear. Two of the major problems are as follows:
 - (a) Several studies admit the possibility of evaluation design contamination resulting from the tension between research and administrative priorities.
 - (b) No exact comparison of any two programs can be made due to marked differences in personnel, curriculum, approach, resources, etc. Thus not only is it difficult to generalize, but generalizations may be misleading.
- (4) Most of the studies of rehabilitative programs that have been conducted show little cause for optimism. While some drivers have shown improvement in either traffic violations or accident frequency after participation in such programs, often such improvement is either slight, or is of short duration, or cannot be attributed solely to the rehabilitative program. The inevitable conclusion is that human behavior does not easily lend itself to long-term modification. As Dr. Julian A. Waller remarked: "It is distinctly likely that those who are at greatest risk of highway crashes are so precisely because their behavior cannot be easily modified." Nevertheless, it is submitted that a study of the available

literature on driver rehabilitation is of value for several reasons:

- (a) Such a study can serve as a source of ideas for development of driver rehabilitative programs in Virginia.
- (b) Such a study can provide legislators and administrators with background information that can enable them to ask critical and relevant questions when such driver rehabilitative programs are proposed.
- (c) Such a study can illustrate that human behavior, as manifested in the driving task and elsewhere, is very difficult to modify over the long run, and therefore that any proposed rehabilitative program should be objectively examined rather than received with boundless enthusiasm which may turn out to be unwarranted. A driver rehabilitative program, in order to be successful, must do more than simply generate enthusiasm. Consequently, some provision for competent evaluation should be an integral part of every proposed rehabilitative program.
- (d) Finally, the report can serve to conserve the state's fiscal resources by discouraging expenditures on programs which have been shown to be of questionable merit.

PREDICTION OF DRIVING BEHAVIOR

"Driver Selection for Driver Improvement Programs"

Presumably the goal of any state's driver improvement program is to prevent accidents. This goal is not attainable unless one assumes that the state can identify potential accident generators and either revoke their operators' licenses or interpose effective countermeasures to change their behavior. Therefore, a driver licensing agency must identify performance criteria for future accident-free driving and define minimum standards of performance. It was the purpose of this section to determine whether high risk drivers can be identified so as to justify the state's intrusion upon individuals' lives.

Cost conscious driver licensing administrators are concerned about using limited resources in the most efficient manner. Inevitably, administrators translate cost effectiveness into year to year reductions in the state's accident statistics. Historically, several specific performance criteria have been used as predictors by states to remove drivers' licenses or compel participation in a driver improvement program. These predictors have included prior driving record, various personality characteristics, and age. As will be outlined in greater detail, each variable has yet to be shown to be anything more than an unstable performance criterion and thus a low validity predictor. Studies have shown that accident status in one time period is not highly related to accident status in another time period.³ The only way to improve the predictive value of prior convictions is to improve the "selection ratio" — that is, decrease the number of drivers chosen for an improvement program or for granting a license by raising the cut-off score. The smaller the percentage that are selected, the greater the likelihood of successful prediction. But such an approach is probably politically unfeasible since driver license administrators have made a value judgement to expand the authorization to drive to the largest possible segment of the population. Most likely a highly favorable selection ratio would remove too many mechanically efficient drivers for no socially acceptable reason.

Studies of personality characteristics have also failed to show anything more than a gross relationship between future driving behavior and such factors as occupation, self-reliance, neuroses and social skills. Even this gross relationship assumes the validity of certain types of paper and pencil personality inventories such as the Minnesota Multiphasic Personality Inventory and the California Test of Personality.⁴

Dr. Richard Henneman, Professor of Psychology at the University of Virginia, has summarized some of the limitations, deficiencies, and criticisms that have been leveled at clinical personality tests**

1. The individual test items are sometimes difficult to interpret accurately, even if the test subject is being completely candid.

*A California study of the records of 95,000 drivers over a 3-year period, which showed that more than 86% were completely accident-free regardless of the number of their moving traffic convictions. See reference 3.

**Letter from Richard H. Henneman, Professor of Psychology, University of Virginia, to Wayne S. Ferguson, Highway Research Analyst, Safety Section, Virginia Highway Research Council, (June 15, 1972).

In effect, two persons whose behavior is nearly identical may give different answers because of differences in interpretation.

2. All personality questionnaires and personality interviews create the considerable risk of faking in order to avoid giving socially undesirable responses or "giving oneself away."
3. Individual test items have been known to induce anxiety or hostility in some cases.
4. A recent, and perhaps frivolous criticism is that all personality testing constitutes an invasion of privacy and therefore should not be used by any state agency as a selection device.

Invariably states allow only those drivers above a certain age to enter the selection pool for driver licensing. Implicit in such a decision is the feeling that those below a certain age (usually 15 to 18) pose too great a hazard to allow them to use the highways. Here again, research findings are equivocal; Goldstein has shown that drivers under age 25 and those over 65 have disproportionately high accident rates,⁵ while another California study showed that raising the minimum licensing age from 16 to 18 would not appreciably decrease accident risk.⁶ Perhaps the only defensible conclusion from such conflicting research is that in selection procedures administrators should not place reliance upon any single gross relationship between personal characteristics and driver performance.

Other characteristics such as prior accident involvement, extremes of emotional response, sociological factors such as criminal violations, and problem use of alcohol have been shown to have some validity for predicting driving behavior. But again, these variables are subject to methodological criticism and sole reliance on them as predictors of accident involvement awaits further research. The importance of finding valid predictors is summed up by Professor John Reese, a persistent critic of current driver licensing.

The importance of predictor validity may hardly be overstated, for if the predictor-to-performance criterion relationship is zero, that particular predictor is of no value in the driver selection-prediction process. It does not matter how "strict" the administration, how tough the "crackdown," how high the cutoff scores, how long the jail sentence, or how few points are to be required before license withdrawal — nothing will serve to make effective a predictor-to-performance relationship of zero. Where a zero relationship exists, new predictors must be devised and substituted if the selection-prediction system is to have any chance of success in achieving the performance criterion of accident-free driving by licensees. In short, the greater the predictor-to-performance criterion ratio, the higher is the validity of the predictor.⁷

Although current research paints a gloomy picture of the inefficiency of selection-prediction criteria, this is not to say that driver licensing administrators should abandon efforts to control drivers through licensing. It should, however, put administrators on guard as to their position so as to prevent overly zealous enforcement of traffic statutes and "driver crackdowns." Political value judgements cannot always be delayed until empirical evidence unequivocally establishes a criterion as highly valid. A selection criteria of 75% validity may deprive 25% of the population of a license to operate a vehicle, for no defensible reason. The legislator in making his decision must weigh the percent of false positives (those removed from the road though their future driving record would be accident-free) against the resulting danger to the community of including a greater percentage of drivers who will be involved in an accident.

Many psychologists believe that before empirical research can establish valid performance criteria for driving behavior a quantified description of the driving task must be devised. Research has not sufficiently specified all of the tasks and skills relevant to safe driving. One helpful attempt at outlining all the factors which influence the efficiency with which people use the automobile has divided the complex environment into four areas.⁸ The important classifications include:

- A. The physical characteristics of the equipment to which drivers respond, e.g. the arrangement of controls and displays within the passenger compartment of the automobile;
- B. The environment in which the equipment must be operated and maintained, e.g. engine noise level, ambient temperature, road and vehicle lighting, and roadway design;
- C. The characteristics of the tasks which people must perform in order to accomplish performance goals, e.g. length and complexity of operating tasks (for automobile driving the complexity of a task may be low, but the number of repetitions high); and
- D. Finally, the capabilities and limitations of the personnel, e.g. their intelligence, visual, auditory and motor acuity, and experience and training in the use of the automobile.

Ongoing research, though raising more questions than it answers, offers some tentative conclusions as to the role human and machine variables play in safe driving.

The efficiency of sensory processes, the method by which man receives information, has long been considered one indicator of ability to operate a vehicle safely. Excellent eyesight allows one to obtain information necessary for decision making in time to apply the knowledge to the driving task. Temperature changes have been shown to affect driving; accidents occur more frequently in cold weather than warm weather (with all other variables controlled).⁹ A heightened sense of smell can also improve the driver's information system. Interestingly, studies seem to indicate that drivers with poor hearing actually drive better than those with good hearing because they compensate for their deficiency with increased attention. Finally, the tactual and kinesthetic senses are related to how well one can drive differing automobiles with automatic or manual control devices.

The process of perception, or how an organism interprets stimuli coming to the sense organs, is closely related to how a driver reacts in an emergency situation. Dynamic visual acuity, or seeing while moving, as contrasted with static visual acuity, or seeing while standing still, is one area of perception which has not been adequately related to the internal car environment and the external environment. Alertness also affects the driver's ability to perceive signs, curves, and traffic hazards. Motor skills and perception are thought to be closely related through such factors as endurance, fatigue, and reaction time, and their relation to human engineering. But again experiments have not sufficiently defined the relationship to justify quantifying these human characteristics for use as criteria of safe driving. One early experiment came to the conclusion that the better performing driver holds the wheel steadier, i. e. turns the wheel less, uses less gasoline, works the accelerator less, and is less severe on the brake than the poorer performing driver.¹⁰

Information processing and decision making as related to safe driving constitute a new area of inquiry in traffic safety research. A University of Michigan researcher has studied the influence of driver judgements of value and probability on driver decision making.¹¹ Every driver's judgements in analyzing a decision while driving is based on a "payoff matrix" of that driver's subjective personal opinion of probable consequences. Unfortunately most drivers fail to accurately evaluate incoming information before making a decision. Evidence shows that drivers aggregate information conservatively.

This suggests, and it is indeed the case, that the more evidence [drivers] have the more conservative they will be. This propensity in turn suggests a hypothesis about why it is so difficult to change people's opinions by piling up item after item of evidence contradictory to those opinions. As advertisers long ago learned, simply to recite the facts, no matter how relevant and conclusive they may be, is a poor way to get a man to change his opinion. Man simply cannot put these facts together properly.¹²

In a real life situation the decision to pass a car while going over a hill involves a very small probability of a very great penalty (accidental death) and a near certainty of a small gain in time. By enforcing traffic sanctions society creates a third possibility — a larger probability (than that of accidental death) of a much less severe legal penalty. As noted, people generally fail to assess the negative value of an accident as highly as they should. Edward's conclusion from this hypothetical situation is that,

The most effective way to educate the driver is to attempt to reduce the value he attaches to the highly probable favorable outcomes of risk taking; the second most effective way of doing this is to attempt to increase his judged probability of a disastrous outcome; and the least effective way of doing it is to attempt to make the driver's assessment of the negative value of an accident still more negative.¹³

Personality and temperament, as they affect driving, have not been subjected to controlled experiments to determine their role in safe driving. Since emotions are generally temporary in duration and thus difficult to test in the driving situations, scientists have not investigated this approach with vigor.¹⁴ Temperament is perhaps easier to control, but once again, personality tests which measure temperament are subject to severe criticism.

Although scientists' attempts at specifying the driving task have been rudimentary at best, efforts at classifying drivers for predictive purposes have not been hampered by lack of effort. On the contrary, studies of personality factors, past driving record and other characteristics correlated with future driving behavior have been numerous. Each study of this kind must be examined closely to determine its usefulness in predicting accident involvement. Frequently the methodology is flawed, the sample may be nonrepresentative or the correlation may fail to show a cause and effect relationship between past behavior and future accidents. These flaws are so pervasive throughout this area of traffic safety research that some spokesmen feel there are no studies showing a cause and effect relationship between any human characteristic or action and future accident involvement of use to a driver licensing administrator as selection criteria.

Many of the early efforts at finding investigative tools for determining the dangerous driver have focused on testing for personality factors and attitudes and then correlating the person's scores with his driving record. One of the first studies¹⁵ found a significant positive correlation between violations and accidents and the psychopathic deviate scale and the hypomania scale of the Minnesota Multiphasic Personality Inventory. Individual profiles showed greater significance than the aggregate because large numbers tended to compensate for individual differences. The author suggests that individuals with undesirable scores could be spotted as potentially troublesome drivers and either prevented from driving or entered in a driver improvement program. The study, however, remains of little use for selection of problem drivers because of the possibly unreliable and invalid nature of the MMPI, failure to extend the scope of the psychological inquiry into the subjects' behavioral patterns, and failure to control such variables as miles driven and emergency driving experience.

Similar experiments have measured personality factors by means of other clinically structured tests such as the Rorschach, the Cattell Anxiety Scale, and the Guilford Personality Inventory. The results of the testing of both accident-free and accident involved drivers tended to show that accident repeaters were more "uncultured, hedonistic, amoral, displeased with family life, uncaredful of personal matters, likely to force their opinions on others, fainthearted, irresolute, subjective thinkers, nervous, autistic, powerless, and paranoid."¹⁶ This is not to say, however, that scores on these tests can be used to discriminate accident-prone drivers from accident-free drivers.

A study of military personnel went considerably beyond use of one personality test in trying to isolate factors that identify the problem driver.¹⁷ The servicemen were first tested on psychomotor functions, objective group personality tests, individual personality tests, values, and anxiety and aspirations tests, and questionnaires. The analysis of accident repeaters' scores on the battery of tests with those of accident-free drivers showed low correlations with differences in driving behavior.

Factor analysis also failed to reveal any significant relationship between the behavioral measures and accident variables of the military drivers. Upon cross-validation, the authors nonetheless felt justified in concluding:

... that persons who are accident repeaters tended to be more nonconforming in their opinions and attitudes as well as their social conduct and at the same time were more tense, less able to handle tension, and therefore more prone to act out emotional conflicts and involvements than non-accident-involved personnel. The degree to which an individual conformed and controlled his impulses for acting out his inner desires were found to be qualities which seemed to be directly related to the number of accidents.¹⁸

A more recent study using military subjects coupled with a cross-validation found a significant relationship between accident frequency and the Armed Forces Qualification test, the number of miles driven, past violations, value of parents' home, family income, and smoking habits.¹⁹ Interestingly the study could demonstrate no relationship between high school driver education and accident frequency. The author speculated that the higher accident rate among smokers could be due to an oxygen deficiency and the possession of other correlated personality traits.

One aspect of personality studied has been the relationship between aggression and aggressive tendencies as a driver-related cause of accidents. To investigate this hypothesis researchers tested problem and nonproblem drivers on a Cartoon Reaction Scale in hopes that the two populations would differentiate themselves. The Cartoon Reaction Scale basically asked test subjects to indicate how humorous they found a series of cartoons related to driving. The test had previously been validated as a scientifically acceptable measure of hostility and aggression. From the test scores the researchers were able to conclude that "a disguised projective test of humor, utilizing cartoon driving situations, was able to distinguish between errant motorists and drivers with good records."²⁰ The study was contaminated, however, in that the experimental group was part of a driver improvement program and the problem drivers having had prior driving failures may have been depressed by the scenes and found little humor in them.

The relationship between attitudes and driving as one aspect of personality characteristics has monopolized a portion of the research effort. Scientists have searched for differences in attitudes as an explanation for differences in driving ability. An attitude basically is any way of thinking or acting in relation to a certain object or principle which is related to the subject's driving behavior.²¹ Regrettably these attempts at establishing attitudes and personal adjustments as causes of accidents have been flawed by the same inadequacies as the studies on personality characteristics and accident causation. Even now these tests are only capable of screening a small group of drivers from a large pool, e.g. bus drivers from the general population.

Early attempts to develop a valid driver attitude inventory used experts in the traffic safety field to select clusters of attitudes about driving from which inventory

items could be constructed.²² From this pool, researchers isolated fourteen clusters such as speed, other users of the road, causes of accidents, rules and laws, mechanical traffic controls, and concept of the "good driver." After inter-correlation, five factors were finally isolated as appropriately related to safe driving. These attitudes were:

- Attitude toward competitive speed.
- Attitude toward other users of the roadway.
- Attitude toward "cops."
- Attitude toward the vehicle.
- A general attitude of care or concern for safety.

The authors of this study were still unwilling, however, to say that scores on these attitude scales could be used to predict accident-free driving.

Case and Steward took a more complicated approach in trying to isolate negligent automobile operators.²³ Negligent drivers were assumed to be differentiated from the general population in basic attitudes toward the law, law enforcers, self-concept, and factors pertaining to the elimination of these conditions. The authors also assumed that these drivers would have abnormal personal and socioeconomic backgrounds which, when coupled with attitudinal scores, would classify them as more likely to be involved in an accident. After structured interviews with 300 negligent drivers, 143 hypotheses were tested. These hypotheses generally were that certain drivers who were young, unmarried, nonwhite and unskilled, had few dependents, a transient residence, and drove more miles than the median would have a higher accident rate than the general population. The second aspect of the test hypothesized that unfavorable attitudes about law, law enforcers and self-concept would differentiate problem drivers. However, only one of the 143 hypotheses turned out to be significant and hold up under cross-validation; statistical analysis confirmed the hypothesis that younger drivers have a greater number of speeding citations. The authors' final conclusion was that they could not isolate a certain attitude or cluster of attitudes which characterizes the negligent driver.

Although a survey of research findings indicates no single cluster of attitudes which can reliably predict future accidents, some new driver attitude surveys hold some hope. The Driver Attitude Survey (DAS) of Shuster and Guilford has been able to predict 40% of the accidents and violations of drivers over a 3-year period, while the McGuire Safe Driver Scale (MSDS) of McGuire and Kersh has correlated highly with the Driver Attitude Survey.²⁴

It remains to examine whether research findings have better substantiated a predictable relationship between prior convictions and future accident involvement than has been shown between personal characteristics and future accident involvement. In this inquiry most of the reputable research efforts have failed to show that prior convictions are a highly valid predictor of accident involvement. Reese, in reviewing the 1963 California Study by Goldstein, noted that accident status in one time period was not highly related to status in another time period. The records of 95,000 drivers over

a 3-year period showed that more than 86% were completely accident-free regardless of the number of their moving traffic violations.

The study demonstrated that more than 50% of the drivers with the worst records of moving violations (nine or more) were, nevertheless, totally free of an accident involvement. These findings show the instability of individual accident status or rate and the fact that the overwhelming majority of drivers are accident free regardless of their driving performance. It is this combination of instability and low incidence of accidents among those who might be expected to have them that makes accident-free driving a difficult performance criterion to predict.²⁵

Two studies by the California Department of Motor Vehicles in 1967 tried to answer the questions of whether prior violations are somehow related to future accident involvement and whether a knowledge of a driver's age, marital status, physical stature and other personal information increases one's ability to predict his accident involvement.^{26, 27}

California operates under a discretionally point system which assigns points to convicted drivers depending on the adjudged seriousness of the offense. The California point system differs from those of other states in that it merely authorizes the Department to take action at a designated level but does not require that some action be taken. Instead, a professional driver improvement analyst reviews the particular case allowing evaluation of individual circumstances before a course of action is undertaken. The assumption is that this system will be fairer than a mandatory system because the analyst can take into account individual factors in each case.

The researchers found a statistically significant relationship between certain violations and future accident involvement. They qualify their conclusion by saying that when large samples are used (as was done in this study) very small relationships and variations can be "statistically significant." The absolute differences, however, may be too small to be of practical benefit to the administrator because of considerations such as administrative feasibility, cost of implementation and absolute gain in decision making efficiency. The authors did not recommend a more complex, specified system because of this small gain in predictability. In fact, they see no justification for assigning extra points for major violations or excluding non-moving violations. The a priori weights assigned certain convictions do not correspond with the empirical analysis of driver record relationships.

The research findings are qualified by methodological flaws in that correlation predictions of concurrent events are inevitably inflated and the assumption that the regression model is linear has not been replicated in other studies. The researchers also realize that inferences from their findings are based upon a number of highly tenuous assumptions, the most blatant being that a driver's record corresponds perfectly with a driver's behavior. The relationship between major convictions and accidents is also difficult to determine because such a small proportion of major violations are detected and recorded.

The later study, which combined knowledge of a driver's age, marital status, physical stature, etc. with his point total, increased the efficiency of accident prediction by one percent for both males and females. The major source of the gain resided in the age, marital status, and traffic density variables, with other biographical data having less predictive significance.

Several methodologically suspect studies purport to establish the usefulness of prior convictions in predicting accident involvement. The Oregon Department of Motor Vehicles sought by random sampling procedures to describe the typical driver by such variables as age, sex, driving experience and traffic record.²⁸ The study also quantified the relationship between accidents and violations, types of accidents and driver age, and driver examination records and subsequent driving record.

By correlating accidents and convictions, the researchers, though admitting certain methodological flaws, found a statistically significant relationship at the one percent level of confidence. Thus, without approaching the cause and effect problem, the data indicate that drivers with higher accident rates are more likely to have higher conviction rates.

Table 1 shows the correlation coefficients based on the accident and conviction entries for 1961-1965 in Oregon. The numbers in parentheses represent theoretical values that significantly differ from zero at the one percent level of confidence to show the large disparity between the obtained values and the theoretical values.

Table 1

Accident — Conviction Correlations — \underline{r}^*
(From reference 28, page 29.)

<u>Age</u>	<u>Males</u>	<u>Females</u>
-24	.239 (.148)	.277 (.208)
25-34	.237 (.104)	.141 (.115)
35-44	.290 (.095)	.224 (.101)
45-54	.303 (.091)	.242 (.108)
55-64	.106 (.106)	.269 (.122)
65	.267 (.112)	.344 (.157)

*Table entries are correlation coefficients based on the accident and conviction entries for 1961-1965. The parenthesized values below each entry are theoretical \underline{r} values that significantly differ from zero at the one percent level of confidence. The latter values differ among themselves because the samples in each sex group differ in size, a determinant of the significant \underline{r} value.

The major shortcoming of the Oregon study was the fact that an indeterminate number of drivers in accidents are cited for traffic violations in connection with the accidents. This introduces a spurious factor in the correlation between accidents and traffic violations, usually exaggerating the degree to which accidents and convictions are related. Further, ambiguity in the data occurs because the records of accidents include all accidents, not just "chargeable accidents." Similarly the violations include all types of violations such as equipment failure, operators license violations, and excessive noise, as well as major moving violations. The removal of all violations that were tabulated as a consequence of an accident would allow a clearer, more exact estimate of the accident-conviction relationship. The same would be true if it were possible to remove all non-serious types of violations from the data and consider only the relationship between serious moving violations and accidents which are not completely fortuitous.

Finally, the report does not differentiate the time relationship between the occurrences of convictions and accidents. In other words, a driver may have an accident followed by a conviction, which will have the same correlative value as a conviction followed within the time period by an accident. It seems that in determining whether to remove the ability to drive, a driver licensing administration would be more concerned with the latter situation, where its license removal function would be most critical to the other users of the highways. The report admits,

That it is impossible to get a completely definitive answer to this question — whether convictions are highly correlated with accidents, even if allowances are made for the over-estimate of the relationship between accidents and violations, it is rather likely that a significant correlation does exist for each age-sex group.

A similar study in the same year by the state of Washington's Department of Motor Vehicles,²⁹ under Douglas Toms, also tabulated the relationship between accident involvement and number of violations, but only for a 1-year period. The data obtained from driver records led the author to conclude that:

- (1) There is a strong positive relationship between accident involvement and number of citations; each citation a driver adds to his driving record increases his likelihood of being involved in an accident.
- (2) Age and sex, separately and in that order, are of importance in interpreting this relationship: (1) A statistically significant greater proportion of male drivers than female drivers were involved in accidents as the number of citations increased; (2) a statistically significant greater proportion of drivers under age 30 than age 30 or older were involved in accidents as the number of citations increased.

- (3) the combination of age and sex provides an even better interpretation of the relationship being studied: Men under age 30 rank highest in accident involvement; women under 30 rank next in order; men age 30 and older rank next; finally women age 30 and older rank lowest.

Table 2 shows the proportion of drivers involved in one or more accidents by number of citations and age group for calendar year 1966. The shaded line delineates an administrative determination of the level of accident probability that justifies removing one's ability to drive.

This study also does not examine the relationship between convictions and future accident involvement; it only correlates accidents and convictions within a set time period. Methodological flaws in this study include use of all accident involvement, regardless of whether a driver was determined to be at fault or not at fault, and failure to control for number of miles driven, time of driving, and driving conditions by males in arriving at the conclusion that women are safer drivers than men.

Table 2

Proportion of Drivers Involved in One or More Accidents by
Number of Citations and Age Group: 1966 Data
(From reference 29, p. 19.)

Number of Citations	16-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & Over	Total
0	$\frac{6,902}{122,811}$.0562	$\frac{7,425}{161,562}$.0460	$\frac{5,748}{139,423}$.0412	$\frac{5,038}{130,602}$.0386	$\frac{4,935}{138,022}$.0358	$\frac{5,377}{150,587}$.0357	$\frac{5,515}{151,886}$.0363	$\frac{4,709}{134,546}$.0350	$\frac{3,746}{112,836}$.0332	$\frac{2,648}{85,859}$.0308	$\frac{1,716}{60,904}$.0282	$\frac{2,016}{77,281}$.0261	$\frac{55,775}{1,466,339}$.0380
1	$\frac{4,080}{18,366}$.2221	$\frac{4,680}{28,870}$.1621	$\frac{2,838}{19,818}$.1432	$\frac{2,146}{15,558}$.1379	$\frac{1,937}{14,777}$.1311	$\frac{2,021}{14,806}$.1365	$\frac{1,932}{14,178}$.1363	$\frac{1,712}{11,602}$.1476	$\frac{1,422}{8,918}$.1595	$\frac{1,078}{6,238}$.1728	$\frac{796}{3,924}$.2029	$\frac{1,221}{4,864}$.2510	$\frac{25,863}{161,919}$.1597
2	$\frac{1,688}{6,556}$.2575	$\frac{2,223}{10,359}$.2146	$\frac{1,086}{5,859}$.1854	$\frac{651}{3,660}$.1779	$\frac{570}{3,126}$.1823	$\frac{518}{2,837}$.1826	$\frac{447}{2,432}$.1838	$\frac{368}{1,809}$.1948	$\frac{296}{1,394}$.2123	$\frac{175}{911}$.1921	$\frac{128}{492}$.2602	$\frac{162}{568}$.2852	$\frac{8,312}{40,083}$.2074
3	$\frac{716}{2,455}$.2916	$\frac{1,009}{4,057}$.2487	$\frac{431}{1,906}$.2261	$\frac{218}{1,025}$.2127	$\frac{147}{771}$.1907	$\frac{150}{669}$.2242	$\frac{135}{557}$.2424	$\frac{95}{418}$.2273	$\frac{69}{267}$.2584	$\frac{38}{146}$.2603	$\frac{27}{92}$.2935	$\frac{22}{74}$.2973	$\frac{3,057}{12,437}$.2458
4	$\frac{384}{1,121}$.3426	$\frac{537}{2,006}$.2677	$\frac{210}{738}$.2846	$\frac{81}{318}$.2547	$\frac{46}{226}$.2035	$\frac{39}{182}$.2143	$\frac{34}{141}$.2411	$\frac{20}{94}$.2128	$\frac{10}{61}$.1639	$\frac{7}{34}$.2059	$\frac{9}{20}$.4500	$\frac{7}{20}$.3500	$\frac{1,384}{4,961}$.2790
5+	$\frac{403}{1,164}$.3462	$\frac{585}{1,907}$.3068	$\frac{158}{524}$.3015	$\frac{50}{201}$.2488	$\frac{38}{135}$.2815	$\frac{19}{80}$.2375	$\frac{15}{55}$.2727	$\frac{9}{32}$.2813	$\frac{9}{29}$.3103	$\frac{3}{11}$.2727	$\frac{0}{3}$.2500	$\frac{1}{4}$.2500	$\frac{1,290}{4,145}$.3112
TOTAL	$\frac{14,173}{152,473}$.0930	$\frac{16,459}{208,761}$.0788	$\frac{10,471}{168,268}$.0622	$\frac{8,184}{151,364}$.0541	$\frac{7,673}{157,057}$.0489	$\frac{8,124}{169,161}$.0480	$\frac{8,078}{169,249}$.0477	$\frac{6,913}{148,581}$.0465	$\frac{5,552}{123,525}$.0449	$\frac{3,949}{93,199}$.0424	$\frac{2,676}{65,435}$.0409	$\frac{3,429}{82,811}$.0414	$\frac{95,681}{1,689,684}$.0566

Conclusion:

The inescapable impression one gathers from the considerable research cited in the area of driver attitudes and personal characteristics is that one should draw few firm conclusions from the results of these investigations. Perhaps the only valid conclusion of unequivocal use to driver license administrators is that age can be used as a criterion for determining the probability of future convictions or accidents. However, based on these investigations it cannot be stated with any degree of certainty which personal characteristics, attitudes, or convictions are related to accidents, violations, or any other aspect of driver behavior. Attempts to construct tests and personality scales are based more on intuition than objectively obtained data.

The utility of research efforts has suffered from methodological flaws and deficiencies of samples in terms of restricted geographical, occupational or socio-economic distributions. These deficiencies inevitably affect how far generalizations can be extended. The fact that human behavior is an extremely difficult phenomenon to study and control does not excuse haphazard research. More basic research on specified variables is required in order to be able to make meaningful conclusions as to the predictability of drivers' actions.

ADMINISTRATIVE WARNING LETTERS

The use of administrative warning letters is widespread among licensing agencies conducting driver rehabilitation programs. Kaestner, Warmoth, and Syring, in their report on the effectiveness of warning letters of Oregon, state two functions of the warning letter:

- (1) As a device to indicate to the recipient that he has received an excessive number of entries on his record and that his driving performance will henceforth be under scrutiny, and
- (2) as a deterrent to avoidable traffic involvements.³⁰ According to the authors, the first function alone constitutes sufficient justification for use of the letters.

The aforementioned study, however, was an attempt to assess the effectiveness of the warning letter in light of the second function — as a deterrent device. From a pool of 944 drivers whose records were such that a warning letter would ordinarily have been sent, four subgroups were developed: (1) The control group — individuals who did not receive a warning letter at the time when they ordinarily would have had this study not been under way; (2) the standard form letter group — individuals who received the standard Xeroxed letter then in use in Oregon, (3) the personalized standard letter group — individuals who received a letter whose content was identical to the standard form letter except that there was no driver license number typed below the addressee's name and address and the letter's appearance was somewhat altered by using a robotypewriter and by affixing the actual signature of the manager of the Driver License Division in order to give the impression of an individually typed and signed letter of warning, and (4) the personalized "soft-sell" letter group — individuals who received a letter whose content was presumably less threatening and more encouraging than the standard letter previously employed. The soft-sell letter was also typed by a robotypewriter and personal signatures were affixed.

Subsequent to assignment to a subgroup, the individuals' driving records were evaluated to determine whether the deterrent effect of the standard letter could be improved by personalizing it. A driving record was classified as a success if it included no entries, or only minor violations or nonchargeable accidents; otherwise the record was classified as a failure. Records were then compared between the four groups over both 6- and 12-month intervals. The comparison over a 6-month interval revealed that the standard form letter as then used did not have any appreciably different effect than no letter at all; although the no letter group was slightly more prone to failure. In contrast, the personalized standard letter was significantly better than no letter and the personalized, soft-sell letter achieved an even better response in terms of reduced violations and accidents. Over the 12-month interval, only the soft-sell, personalized letter achieved a significant reduction in traffic entries over the control and standard form letters groups (at the 5% level of confidence). Even with the soft-sell group, however, only slightly more than one-half of the drivers contacted were able to drive trouble free for a full year.

Due to similar age stratifications in all four groups, it was possible to determine whether the warning letter device was differentially effective with various age groups.

It was found that the advantage of the personalized letters was due primarily to the more favorable response on the part of the under -25 drivers, whereas the over -25 drivers showed practically no difference in response to any of the various types of letters.

The above data provide support for the contention that it may be possible to modify nonverbal behavior by a single written communication; however, content and appearance appear to be of considerable importance. Two California studies have also lent support to this contention.^{31,32}

Both of these studies were evaluations of countermeasures other than warning letters, but in which individuals who participated in the countermeasure did not have a significantly better post-treatment driving record than those drivers who received a notice to attend but did not. In one case³³, this result led the authors to ask whether the same reduction in post treatment convictions might not result from a warning letter approach alone. In the other study,³⁴ the authors cautioned against inferring that a mere warning letter would necessarily have the same impact as the overall individual negligent operator hearing program.

The state of Virginia instituted use of administrative warning letters in February 1972.* Such letters are used in only two cases — speeding and reckless driving convictions where a second conviction within a year's time would result in a mandatory revocation of the recipient's driver's license.

The letters definitely take the soft-sell approach (see Appendix A for copies of the two letters), and, thus represent an attempt to capitalize on the findings of the Oregon warning letter study. No attempt has been made to evaluate the effectiveness of the warning letter approach in Virginia; however, given the fact that the program is not without its attendant costs**, a statistically valid evaluation would appear to be desirable.

Conclusion:

If one were of a skeptical nature, he would tend to doubt the ability of such a brief contact as a warning letter to make any significant changes in subsequent driving behavior. However, reports such as that on the Oregon study show that even such brief contacts as the warning letter can effect a significant reduction in traffic entries, at least for a short period of time subsequent to receipt of the letter. Given the economies of the warning letter program, use of the device appears warranted. However, a competent statistical evaluation of the program is desirable.

*Interview with Mr. Richard Spring, Driver Services Administrator, Division of Motor Vehicles, Richmond, Virginia, July 25, 1972.

**For example, postage alone runs approximately \$650-\$950/month.

DRIVER IMPROVEMENT INTERVIEWS

The driver improvement interview is usually but one part of a multistage approach to the rehabilitation of the problem driver which might begin with a warning letter and end, assuming no improvement, with a license suspension. The interview is seen as a part of the "watchdog" function of the driver licensing agency. Review is based on the premise that an operator's license must be maintained in good standing by avoiding excessive traffic entries.³⁵

While some sort of administrative hearing prior to license action is an integral part of most state programs, only three states (Oregon, California, and New Jersey) appear to have subjected their interview procedures to close scrutiny to determine if the driver improvement interview actually deters poor driving.³⁶

The Oregon driver improvement interview has been the subject of a number of studies by Kaestner and Syring. An early unpublished study in Oregon revealed that the interview as then conducted was not particularly effective.³⁷ While drivers who had participated in a driver improvement interview had 5% fewer violations than controls who had had no driver improvement contact, this small gain was cancelled by the fact that interviewed drivers had 3% more accidents than did the controls. A review of voice tapes made of the initial interview procedure revealed considerable rambling and moralizing, which the authors speculated might have detracted from the productiveness of the interview.

Subsequently, an effort was made to restructure the interview procedure to create a more productive program. First, four major difficulties of problem drivers were identified:

- (1) Faulty self-perception, i. e., the inability or unwillingness of the driver to recognize the atypical nature of his driving record;
- (2) the driver's inadequate knowledge of traffic laws;
- (3) poor driving attitudes such as excessive competitiveness, aggressiveness behind the wheel, and general immaturity; and
- (4) serious personality maladjustments as manifested by alcoholism, psychosis, and severe neurosis.

In designing the interview procedure, the researchers attempted to respond to only the first three problem types. In its final form, the interview consisted of five parts, with each part responding to one of the three aforementioned areas of difficulty of the problem driver:

- (1) The introduction — An enumeration of the objectives of the interview and reassurances of confidentiality;
- (2) A Review of Oregon Traffic Laws — A self-test pertaining to speed, traffic signs and signals, turning movements and right of way;

- (3) The Involvement Interview — A systematic elicitation of the special circumstances surrounding each of the traffic involvement entries within the 12 months preceding the interview date;
- (4) The Graphic Driver Record Data — Four or five charts which present the driving records of typical drivers in the interviewee's age group;
- (5) The Summation — A review of the interview findings with emphasis on defects in knowledge of traffic laws and faulty driver adjustments in past traffic involvements.

In addition to the structuring of the interview in such a manner as to parallel the types of problems that drivers have, attempts were made to capitalize on the driver's own selfish motivations. The needless expense and inconvenience incurred by an excessive number of traffic entries were constantly emphasized. In this manner, the researchers hoped to substitute self-serving motivations for the preexisting aggression, competitiveness, and exhibitionism that often had resulted in poor driving.

The study design consisted of 1,320 problem drivers who were randomly assigned to either the control or interview groups (660 each). Since it was impossible to avoid later court or DMV action, three post treatment criteria were adopted: (1) The number of drivers who drive for one full year without either a serious moving violation or avoidable accident; (2) the time elapsed between the treatment assignment and the first traffic involvement, and (3) the number of traffic involvements prior to any DMV interventions.

The two groups were compared at the end of the first full treatment year. It was found that 277 interviewees as compared with 186 controls drove a full year with no traffic entries. (The 49% greater success rate was statistically significant.) As for accidents, 66 controls and 50 interviewees were involved in avoidable accidents; however, the 24% fewer accidents for the interview group was not statistically significant due to the small absolute numbers. Additionally, 336 controls were involved in serious moving violations as contrasted with 286 interviewees. These data are illustrated in Figure 1.

Further comparisons were made to determine the average number of days from the treatment assignment date to the first traffic involvement for both groups. These data are presented in Figure 2. Thus the study found that the interview procedure, as then conducted, was significantly effective in reducing post treatment violations and in reducing the time to the first traffic entry. The authors found this conclusion particularly noteworthy, given the considerations that only a brief interview involving regular department personnel was involved and that other studies had found mixed results.

In a later study³⁸, which undertook to extend the interview and control group comparisons through a second post interview year, the results were not as encouraging. The inquiry was designed to determine if those drivers who participated in the 30-50 minute interview maintained their first year superiority over the control group through the second year.

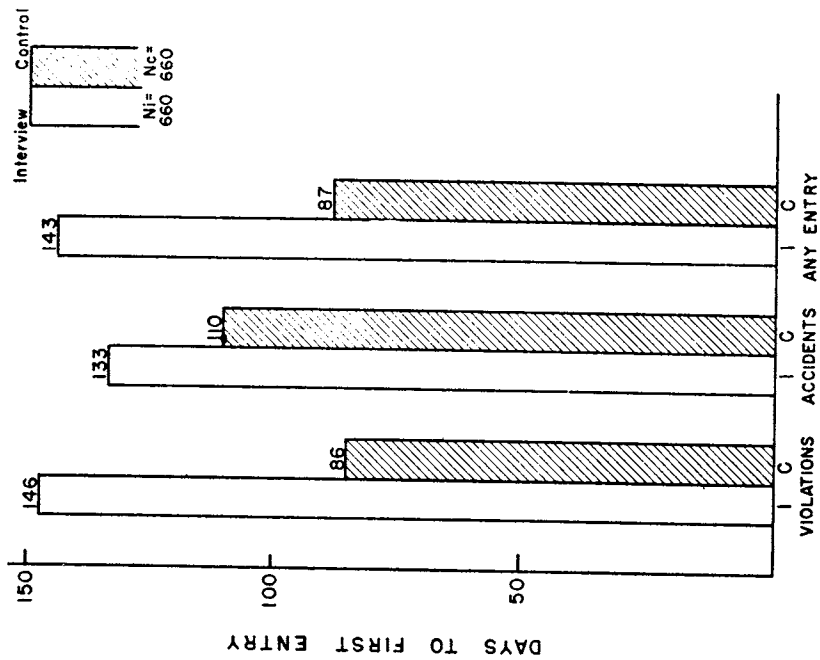


Figure 2. Time to first traffic involvement. (From reference 35, p. 122.)

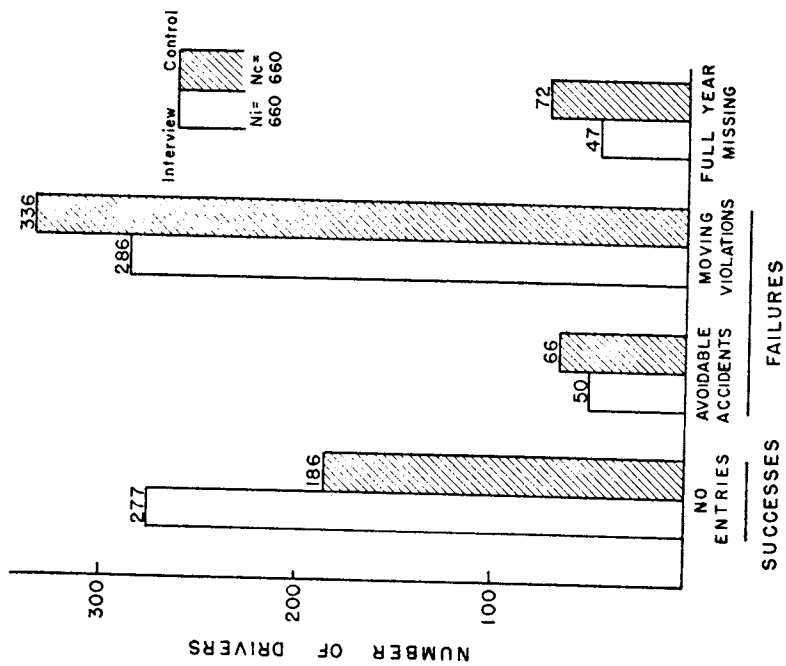


Figure 1. Successes and failures of interviewees and controls (From reference 35, p.122.)

The study sample consisted of those interviewees and controls who had driven the first full post treatment year without a serious moving violation or chargeable accident on their records. This sample was reduced to 261 interviewees and 171 controls by removal of those drivers who did not maintain their residence in Oregon as licensed drivers for the full two years. Of the 261 interviewees, 137 succeeded in completing a second full year of driving without a traffic entry on their records. This 52.5% success rate was nearly identical to the slightly less than 52.6% success rate recorded for the controls. The median intervals of time prior to traffic entries were also similar for both groups. Thus the authors concluded that the primary impact of the driver improvement interview as devised for the Oregon program was restricted to the first driving year subsequent to the treatment. This result led the authors to recommend that a program of successive appearances over an extended time interval be instituted in an effort to extend the therapeutic effect of the program over a longer interval.

The state of California has also scrutinized its driver interview procedures.³⁹ The Negligent Operator Informal Hearing is one method of post-licensing control whereby the negligent operator is informed of his driving record and is given the opportunity to present his case to the driver licensing administration. The hearing is generally a 30-40 minute session in which the driver improvement analyst discusses the subject's record and makes various suggestions for improvement. The analysts have not been given training in counseling techniques due to the legalistic, social-control (rather than therapeutic) orientation of the program. The analyst's basic goal is to impress upon the subject the importance of safe driving habits and the consequences of continued traffic law violations and accidents. Final review and a decision as to license action (if any) follow the interview. Typically, the subject is placed on probation for a minimum of one year; although occasionally license suspension results.

In a study of this program by Coppin, Peck, Lew, and Marsh⁴⁰, 501 individuals scheduled for hearings were matched with a control group of similar individuals. The hearing group was further subdivided on the basis of response to the hearing notice into: (1) Those who appeared, (2) those who received a notice but did not appear, and (3) those whose notice was returned unclaimed by the post office. The violation and accident frequencies of the various groups were then compared over a 2-year period. Subject to the possibility of research design contamination, the following findings emerged:

- (1) The hearing groups had significantly fewer citations in the first subsequent year than did the control group, however this difference did not retain significance into the second subsequent year.
- (2) No significant differences with respect to accident frequency were found between the hearing and control groups in either the first or second subsequent years.
- (3) The hearing was neither more nor less effective with one age group than another.
- (4) The subsequent citation and accident frequencies of those who attended their scheduled hearings were not significantly different from those who received a hearing notice but failed to attend. Thus the reduction in

citations for the hearing group could not be attributed to the face to face contact with the hearing analyst. However, the authors cautioned against speculation that a mere warning letter without the backup of the hearing process would have the same impact as the overall program.

In conclusion, the authors made the following speculative interpretations of the data:

- (1) The individual hearing program is an effective means of reducing citation frequency, but the effects diminish with time.
- (2) The hearing program does not significantly reduce subsequent accident frequency.
- (3) Receipt of a hearing notice probably constitutes an important part of the program, apart from the face to face contact with the hearing analyst.

Although given the name "Driver Improvement Clinics", a New Jersey program seems to fit within the definition of the driver improvement interview. One study of this program found it a successful procedure for both accident and violation reduction; although it could not be determined which particular elements of the program were successful in effecting the change.⁴¹

Officers of the Bureau of Enforcement of the Division of Motor Vehicles conduct the interviews. Each officer has had special training in human relations, interviewing and counseling techniques, and psychophysical test administration and interpretation. Each officer's client load is only three to four persons per day. The primary emphasis of the program is on effecting a change in attitudes and behavior through diagnosis, advisement, reeducation, counseling, evaluation and research.

The sample group consisted of 9,546 drivers (5,973 experimentals and 3,573 controls) who fell into one of three categories:

- I — drivers over 60 years old and involved in one accident.
- II — drivers with two or more reportable accidents within a 12-month period.
- III — drivers involved in any accident in which there was a fatality.

The authors alluded to the possibility that assignment of subjects to either the experimental or control groups was not entirely random. Motorists having the poorer driving records were probably assigned to a class. Thus, the cards were inadvertently stacked in favor of the controls. Additionally, controls had a longer time to accumulate traffic entries due to efforts to equalize exposure time after clinic processing. Nevertheless, after a driving exposure time of several years, the experimentals were found to have significantly better accident and violation records than did controls after the countermeasure.

Conclusion:

The driver improvement interview has been shown to be an effective means of reducing post treatment violation and accident frequencies in a number of instances. Based purely on those few studies available to the researchers, success seems to be partially related to the amount of training given driver improvement analysts. Those programs utilizing personnel who have had training in interview and counseling techniques seem to have experienced somewhat greater success. Nonetheless, there does seem to be a tendency for the therapeutic effects of the interview to be restricted to a short interval of time subsequent to treatment.

DRIVER REEDUCATION

Driver reeducation in a rehabilitative context is aimed at those drivers who have already gotten into trouble, through too frequent violations or accident involvement. The assumption underlying such programs is that accidents or violations result from a lack of understanding, and if the driver can be made to understand why he acts as he does he will become both capable of and willing to change.⁴² Inherent in such a program is the conviction that it is better to educate the motorist in an effort to have him improve his driving behavior than it is to punish him with a fine, imprisonment, or suspension of his license.⁴³

Yet not all commentators accept the view that accidents or violations necessarily result from a lack of training. Current explanations of personality influence in accident experience emphasize two roles of the driver — active and passive.⁴⁴ From the active viewpoint, the driver is seen as acting out hidden intentions with the automobile utilized as a weapon. This aggression may be directed toward others with the driver seen as actually wanting to have a collision, or may be directed against the self.⁴⁵ Under such circumstances, psychotherapy rather than retraining would seem to be indicated.

On the other hand, proponents of the passive viewpoint see the accident as a result of a blunder by the driver. The collision is seen as the result of the driver's incapacity for adjustment to the hazards built into the traffic system. Under these circumstances, retraining would appear to be an appropriate countermeasure.⁴⁶

Though evidence supports neither view to the exclusion of the other, perhaps the failure to discriminate between those who need therapy and those who require only retraining in order to better their driving habits partially explains the limited success that driver reeducation programs have thus far enjoyed.

For example, Schuster⁴⁷ compared the follow-up records of accidents and violations of 265 negligent drivers* in California who had voluntarily attended an 18-hour driver improvement class upon completion of a standard 1-hour interview with a driver improvement analyst with the records of 405 similar drivers who attended the interview but not the volunteer class. The course stressed self-protection or defensive driving, the concept of personal responsibility in such acts as turning and stopping, financial responsibility, etc. Driving maneuvers, technical points of law, and the negligent operator program were also studied. The last class session consisted of a final exam and an evaluation of traffic accidents reports. Psychophysical testing and traffic safety films were utilized throughout the course.

At the end of a 3-year follow-up period it was determined that there was no significant difference at the 1% level of confidence in either violation or accident frequency

*A negligent driver was defined as an individual who had accumulated 4 points in a 12-month period, 6 points in a 24-month period, or 8 points in a 36-month period. Drivers received 1 point for each moving violation or responsible accident, while more serious violations such as drunk driving received 2 points.

between class attendees and drivers who did not attend the class. The author concluded that the class did not help to improve driving behavior any more than the improvement interview alone. While all problem drivers improved considerably, their records were still appreciably worse than that of the average California driver. The improvement shown was interpreted as the usual phenomenon of regression toward the mean.

At least one disadvantage in the evaluation format could have limited the utility of the data; that is that class members selected themselves. Thus, there was the possibility of biases operating since only certain types of people volunteered to attend the class. Further comparison of the two groups revealed that there were certain significantly different demographic and personality variables between the class attendees and the stay-at-homes. Nevertheless, this disadvantage was compensated for by matching experimentals with controls on significant personality and biographical variables.

In another study by Schuster⁴⁸, the accident and violation frequencies of Marine drivers from three battalions at Camp Pendleton, California, were compared in order to evaluate the effectiveness of regular driver education and special driver education programs. The three battalions were divided between those receiving no driver education, those receiving a conventional driver education course, and those who attended a special emphasis class with instructors receiving their training from an expert. The follow-up period had to be cut to 10 months due to world events which resulted in one of the battalions leaving Camp Pendleton. Nevertheless, at the end of 10 months, the frequency distributions of violations and accidents were not significantly different among the three groups at the 5% level of significance.

A number of programs have operated on the assumption that ignorance of good driving habits is not the primary problem of the chronic law violator, but rather it is a failure to utilize already existing knowledge — thus a change in attitude is potentially more valuable in effecting safe driving behavior than an increase in knowledge. According to one author:

Most authorities at the present time consider attitudes as the most important factor in safe driving. The term is used rather loosely and very often a clear distinction is not made between attitudes, habits, knowledge, and certain other aspects of driving.⁴⁹

One program which attempted to evaluate the effectiveness of various instructional approaches in modifying attitudes was conducted by the Traffic Safety School at Madison, Wisconsin.⁵⁰ Initially, observers noted differences in student responses ranging from rationalizing or defending their driving performance to trying to more fully understand their driving behavior, depending on the instructor's approach. Two approaches were utilized — positive and negative. In the positive approach, the instructor emphasized what the student said or did correctly while ignoring errors or inappropriate responses. In the negative approach, the instructor consistently pointed out what the student had done wrong. A third group of drivers took the regular course.

Driver attitudes were tested through the use of the semantic differential, a technique which purports to measure the meaning various concepts have for an individual through analysis of his responses to a series of 7-step, bipolar adjective scales. The two concepts tested were Traffic Laws and Traffic Police.

At the end of six weekly sessions of two hours each, attitudes were again evaluated and no statistically significant differences were found between the three groups. The trend was for the negative treatment group to describe Traffic Courts and Traffic Laws as more necessary and fair than did the positive treatment and control groups. Traffic accidents and violations were also analyzed during the 6 months following the program's completion. Again no significant differences appeared between the three groups.

In light of the above data, the authors concluded that traffic school programs are rather limited in helping youth cope with negative feelings toward authority which manifest themselves in dangerous and inappropriate driving behavior. The authors further concluded that didactic instruction procedures may not be effective in promoting necessary attitude changes.

In another study by Schuster⁵¹, 121 problem drivers were tested before and after attending a Traffic Survival School in Corona, California, in order to evaluate changes in attitude. Testing was accomplished through the use of the Driver Attitude Survey. The only significantly changed attitude score was the Faking Attitude Variable. There were two possible causes for this change: (1) A changed attitude toward safety-mindedness, and (2) an increase in faking tendency due to the course's influence. Further analysis of the Faking Scale caused the researchers to give credence to the former explanation. However, the increase in safety-mindedness was on a superficial level only, as shown by the fact that the violation and accident attitude scales did not change significantly. Thus the deeper driving attitudes relative to personality and temperament were unaffected by the course.

Conclusion:

As can be seen, those driver reeducation programs that have been competently evaluated show little cause for optimism. Despite the fact that educational counter-measures have considerable more appeal than the punitive approach, efforts to date have not been notably successful.

In one sense, however, dramatic changes in driving behavior cannot realistically be expected. Chronically poor driving, which is often the criterion for participation in a driver reeducation program, is often but one manifestation of rather deep-seated personality maladjustments which are not amenable to change. One commentator has described the problem driver as follows:

Problem drivers are readily identifiable by their records of traffic accidents and convictions for moving violations maintained by motor vehicle departments. Although small percentagewise,

they represent millions of licensed drivers in the nation. This group will tend to be, for the most part, maladjusted persons. They have tendencies toward the following: aggression toward society as a whole, manifestations of instability, resentment to any type of authority, egocentric behavior, failure to assume responsibility, lack of respect for the rights of others, emotionalism, lack of attention, exhibitionism, and other undesirable personal characteristics.⁵²

Given this characterization, it would be unrealistic to expect large-scale changes in behavior given the severity of the personality defects. Other factors which make the modification of individual behavior difficult include the facts that the theoretical underpinnings of the learning process are not yet firmly established nor has the kind of behavior related to crash-free driving been clearly identified.⁵³ A 1962 study by Malfetti and Fine⁵⁴ of 6 truck drivers selected from 2,003 drivers who had received the National Safety Council's Safe Driving Award for 20 years or more of accident-free driving found that such drivers were unexceptional either physically or intellectually and had only average road knowledge as measured by pencil and paper tests. Instead, two personality traits were outstanding — social stability and conformity.

Tillman and Hobbes, as far back as 1949, summed up the situation in these classic lines:

It would appear that the driving habits, and the high accident record, are simply one manifestation of a method of living that has been demonstrated in their personal lives. Truly it may be said that a man drives as he lives.⁵⁵

Thus, in a situation where program participants are chronically poor drivers, where poor driving is but one further manifestation of any number of various personality defects, where improvement requires the continuous, active cooperation of a large number of variously motivated individuals who are constantly subject to influences which compete with safe driving, any substantial degree of improvement cannot be expected without a large investment in time, personnel, and resources.

GROUP DRIVER IMPROVEMENT DISCUSSION SESSIONS

A number of states have attempted to utilize group interaction as a means of changing driver attitudes. For example, in 1964 the state of Washington initiated a pilot program whose goal was the treatment of errant drivers based on the nondirective technique of group dynamics. Attempts were made to make participating drivers more aware of their own attitudes and feelings toward the driving task, other drivers, rules of the road, and law enforcement. The concept of personal responsibility was also stressed.

After the program had been in operation for one year, a statistical evaluation was made of the violation records of those drivers who had participated in the program during the first six months of the year.⁵⁶ The study sample consisted of 2,000 problem drivers who were randomly divided into control and study groups. The study group had participated in three, 2-hour sessions. Upon evaluation, the authors found a statistically valid difference between the two groups. They reported a strong association between the study group and no subsequent violations and the control group and subsequent violations. Thus they concluded that the group discussion method was an effective means of reducing violations.

At least two factors limit the utility of these data. The first is the short duration (6 months) of the follow-up period. The second is the fact that only subsequent violations were counted and not accidents. Given the assumption that the goal of driver rehabilitation is the reduction of accidents, and that violations do not necessarily result in accident involvement in the short run, then the failure to tabulate subsequent accident data is critical.

The fact that a rehabilitative program can reduce traffic citations without affecting accident frequency was illustrated by a study of the California Driver Improvement Meeting (DIM) program.⁵⁷ Basically, the program consisted of meetings of a Driver Improvement Analyst with groups of 10-15 negligent drivers in an attempt to sell safe driving.

The study sample consisted of 1,440 individuals who were sent notices scheduling them for Driver Improvement Meetings and 610 controls who were given no such notice. The meeting group was further divided into three subgroups: (1) Those who appeared for the Improvement Meetings, (2) those who presumably received a notice but did not appear, and (3) those whose notices were returned unclaimed by the post office.

When the conviction frequencies of the two groups were compared for the first post treatment year, a significant difference was found with the experimental (meeting) group having significantly fewer convictions than the control group. However, there were no significant differences between the three meeting subgroups. The data raise the question as to whether the group meeting process made any contribution toward modifying driving behavior beyond what would have been accomplished by receipt of the written notice alone.

Concurrently, when the accident frequencies of the experimental (meeting) and control groups were evaluated, no significant differences were found. Thus, the study concluded that the DIM program did not result in any overall reduction in accidents.

The aforementioned data led the authors to pose the following questions:

- (1) Since there was no apparent difference between the effect of receiving a DIM notice and attending the meeting, might not the same reduction in convictions result from a warning letter approach?
- (2) In view of the fact that the DIM program does not appear to reduce accidents, which is the primary goal of the driver improvement concept, should the department modify the present approach or adopt some alternative program(s) in an attempt to achieve this goal?⁵⁸

Despite the somewhat equivocal results generated by these group driver improvement programs, the concept represents a laudable trend in rehabilitative efforts in that it recognizes that chronically poor driving is not an isolated phenomenon but is rather but one manifestation of various possible behavioral maladjustments. The concept of group discussions appears to be an effort to capitalize on the potential therapeutic benefits of group psychotherapy. Yet one must realize that there are marked differences between group psychotherapy as a recognized psychotherapeutic technique and the type of group discussions conducted by licensing agency personnel.

The term "group psychotherapy" was reportedly coined by Dr. J. L. Moreno in 1932.⁵⁹ Since that time the group method of psychotherapy has become an increasingly popular clinical technique. One factor which accounts for this popularity is the savings in terms of time and professional manpower which results from group meetings.

However, the justification for the group technique extends beyond mere economy. In principle, each individual in the group — not just the physician — is theorized to have a therapeutic effect on every other member of the group.⁶⁰

One authority describes the group's interaction thus:

... The group acts as a laboratory in which the individual projects and watches the operation of his impulses and strivings in relation to other human beings. He will play specific roles with different group members, often shifting his attitudes as the members assume a modified meaning for him. He will set up nuclear situations with the different members, utilizing one, perhaps, as a maternal object, another as a paternal substitute, and a third possibly as a sibling symbol. By observing the activities and projections of the other patients, the patient gains added insight. He is provided with a constant medium for reality testing and with opportunities to think critically about himself. Personality problems are most responsive to a group approach.⁶¹

The group psychotherapeutic method capitalizes on the general tendency towards groupmindedness that pervades our society; yet the therapeutic power of therapy groups depends on certain factors which set them apart from the usual groups to which individuals belong. One of these factors is that the therapy group values free, open expressions of feelings and attitudes. Therapy groups value honest expression of feelings more than the poise, politeness, and achievement which usually determine one's social status.⁶²

The emphasis on free discussion is designed to make the patient aware of his social roles and defenses on the theory that the individual can be adequately helped only if a change is brought about in him through resolution of his unconscious conflicts. One source describes the principles operating in group psychotherapy as follows:

- (a) Facilitating accurate perception of one's own social roles and defenses,
- (b) providing emotional support in order to reduce guilt and anxiety and to permit the individual to accept the task of seeking new ways of behaving,
- (c) producing understanding of the circumstances under which inadequate defenses are used and the reasons underlying their use, and
- (d) providing opportunities for testing new understanding and consolidating new behaviors. The provision of opportunities for emotional release might be added as a separate principle, but it seems more properly to be an aspect of several of the others.⁶³

The problem with attempts of licensing officials to capitalize on the group therapy technique is that such group discussions are not structured in such a manner that the aforementioned principles are likely to operate. This is due to several factors. The first factor is the failure to utilize sufficiently discriminative criteria for the selection of subjects. The criteria used by licensing officials is the accumulation of a sufficient number of points through traffic violations or accident involvement. Among this group of high risk drivers is an entire spectrum of personality types, ranging from mildly neurotic to psychotic. Yet group therapy has not been found to be particularly effective with certain personality types. Wolberg lists the following conditions and personality types as poorly suited for group therapy:

- (a) Psychopathic personalities
- (b) Acute depressives
- (c) Aggressive homosexuals
- (d) Extreme masochistic personality disorders
- (e) Hallucinating patients
- (f) Patients with marked paranoid tendencies

- (g) Patients who "act-out" too readily
- (h) Patients with a low intelligence⁶⁴

To this group other authorities have added alcoholics, stutterers, and hypermanic patients.⁶⁵

In contrast, group therapy has been found to be a successful technique with the neurotic patient. However, even here attempts are often made to take into account differences in age, sex, race, intelligence, socioeconomic level, etc. All of these factors are important given the fact that different group compositions will tend to stimulate different patterns of behavior.⁶⁶ When necessary, regrouping is undertaken. Yet such factors are rarely considered, much less acted upon, in structuring a group of chronic traffic violators.

A second difference between actual group therapy and driver improvement sessions is the degree of self-awareness of the participants. The neurotic patient undergoing group therapy is generally aware that he has a problem even though he may be unaware of the nature of his difficulties. At the least, he suspects his ability to successfully form satisfactory relationships with others. Often a number of individual interviews have preceded entrance into the group in order to make the individual more aware of the nature of his neurotic patterns.

In contrast, the individual who is coerced into attending a group driver improvement session may not even be convinced of the atypical nature of his driving record. He will likely feel that he is the victim of an impersonal selection system; that rather than being a bad driver he is merely an unlucky one in that he was caught committing a violation. At a minimum, the individual who attends a group discussion under the threat of license revocation will have a different attitude than the individual who volunteers to attend.

The failure of an individual to be convinced of the atypical nature of his driving performance might result in his attempting to shift responsibility from himself to others. He will convey information in an attempt to create in the group an emotional climate that will provide other members of the group with the experience of identification.⁶⁷ The identification process will be facilitated by the fact that other members of the group are similarly situated. If the individual is successful in shifting responsibility to others, his behavior is likely to be contagious. Unless the group therapist or discussion leader is sufficiently trained to recognize the cues and able to disengage the group from this sort of response, the discussion is likely to degenerate into a gripe session.⁶⁸

Another factor which separates group psychotherapy from the typical group driver improvement session is the short duration of the latter. Sheer economy restricts most driver improvement programs to a few sessions of a couple of hours each. While with some therapists the desired length of contact is only a few meetings, the period of contact is usually much longer, with some periods stretching into years.⁶⁹ The somewhat extended duration of the contact is necessitated by the fact that patients in a group do not enter the group ready to reveal their innermost feelings to a group of strangers. Rather they enter with the same feelings of cautiousness, embarrassment, fear, and, perhaps, hostility as in any other group situation. In some groups, these feelings

form the first topic of discussion. One source describes the process of group therapy in three phases:

- (1) The period of defensiveness and resistance which answers the questions, "Who are you?" and "What are your problems?" (2) The period of confiding which aims at the production of genetic material, dreams, and memories and which answers the question, "Why are you this way?" (3) The integrative period in which the total therapeutic force of the group is aimed at integrating the material of the period and generalizing the questions discussed in this stage are "Where are you going?" "What will you become?"⁷⁰

The problem inherent in the short duration of the group driver improvement session is that participants may never get past the first stage. Brief group therapy programs are often characterized by little more than anxiety discharge.⁷¹ Even if the group discussion leader is able to establish safety-mindedness as a group goal, the attitude is likely to exist on a superficial level only. Furthermore, unless a heightened sense of the importance of safe driving is established as the goal of the individual as well as that of the group, any new attitudes developed are unlikely to survive the disbanding of the group.

Given the brief duration of the sessions, it is therefore all the more important that the discussion leader be highly qualified. Yet such programs are too often administered by licensing agency officials who have had little or no training in the techniques of group therapy. This does not say that gifted lay individuals cannot effectively handle group interactions so as to produce the desired therapeutic effect, but rather that the average individual is unlikely to have any intuitive understanding of the individuals in the group or of group dynamics.⁷² If an untrained leader must be used, he must be carefully selected. He should have an ability to listen to others and be able to react accordingly; his sense of empathy is perhaps more important than his sense of authoritarianism.⁷³ Given the importance of the group leader as communications analyst, much attention should be given to his selection and training.

Conclusion:

While group driver improvement discussion sessions represent an attempt to capitalize on the therapeutic benefits of group psychotherapy, such efforts often fall short of the therapeutic ideal due to insufficiently discriminative selection criteria for participation, short duration programs, and inadequately trained group discussion leaders.

BEHAVIOR MODIFICATION TECHNIQUES

The problem driver has been variously defined by state driver licensing agencies, usually in terms of an habitual offender statute or the accumulation of a certain point total under that state's point system. Virginia, in its habitual offender statute⁷⁴, labels as habitual offenders those drivers who are convicted of three violations such as voluntary or involuntary manslaughter, driving while intoxicated or any offense punishable as a felony, etc., or 12 or more convictions which are reportable to DMV, each of which requires a minimum license suspension for 30 days or more within a 10-year period. The previously mentioned serious offenses are also counted in the total. The Code provides as a penalty a 10-year license suspension for which the right to drive can be restored only by order of a court of record. The punishment for an habitual offender who later drives is confinement in the penitentiary for one to five years.⁷⁵ Most point systems operate in a similar fashion, usually applying points for offenses depending on the adjudged seriousness of the charge.

For purposes of this section, however, a much wider classification for the problem driver will be used. The term "problem driver" will refer to the medically impaired, the aging driver, chronically negligent drivers, drivers who use the automobile as a lethal instrument, and the driving alcoholic. One case study of a 5-fatality accident clearly illustrates the tragic problem of the problem personality who drives. The culpable driver, who escaped serious injury, was traveling on a primary highway 25 miles per hour above the speed limit. He crossed the center line, meeting head on with another vehicle which resulted in death to the five occupants of the other car. Upon examination the culpable driver registered a .26% blood alcohol reading. Records from this driver's local city police department show an accumulated charge record over 23 years of:

<u>Offense</u>	<u>Number of Charges</u>
(a) Reckless Driving	5
(b) Speeding	5
(c) DWI	3
(d) Drunk in Public	5
(e) Other charges including disorderly conduct and assault	28

This record must be viewed as an underestimation of the driver's total deviant behavior because of the failure to obtain complete records from neighboring jurisdictions and the widespread practice of selective enforcement. At the time of the accident he was driving under a license suspension and with a forged license bearing a fictitious name.

The sheer number of charges testifies to the inability of normal administrative procedures in extinguishing maladaptive driving behavior. Anyone looking at this driver's record would probably correctly guess that eventually his lifestyle would result in a tragic

conclusion for himself, his family, or innocent victims. Aggressive behavior both behind the wheel and in his daily living is manifested throughout his record. But in spite of the overwhelming number of citations, the driver was never required to serve a jail sentence before this accident and his fines for traffic convictions were frequently low or nonexistent. In retrospect, the necessity for interjecting effective countermeasures to change this person's driving style is self-evident. Perhaps it is also a comment on the ineffectiveness of existing administrative procedures.

Though this case study may be a statistical aberration, it plainly points out the need for stronger, innovative procedures designed to prevent the recurrence of similar accidents. Suspending or revoking licenses would have no effect whatsoever in keeping this type of individual from driving. In the absence of effective procedures for behavioral change, applied through either state or federal agencies, only confinement would have saved five lives. This failure to reach the underlying psychological dynamics of the deviant personality has led some commentators to advocate more pervasive governmental intervention in an attempt to change the behavior of deviant drivers rather than merely revoking their licenses or imposing jail sentences.

One of the more promising approaches to correction of abnormal psychological functioning is behavior therapy.^{76,77,78} Behaviorism's tenets are based upon the reinforcement theory of learning. That is,

... that the learning of an association between a stimulus and a response requires the presence of some sort of reward or reinforcement. Reinforcement, in turn, is defined in terms of drive reduction. Thus, if making a certain response in the presence of a stimulus leads to a reduction in the strength of a drive (the latter being a state of tension resulting from an unsatisfied need), the individual will be more likely to repeat that response when confronted with the same or similar situations on subsequent occasions. Conversely, if the response is not drive-reducing, it will not be learned.⁷⁹

Behavior therapists now fall into two schools: (1) The traditional Pavlovian approach of classical conditioning espoused by J. Wolpe, which is applied primarily for treatment of phobias, inhibitions and sexual disorders, and (2) the operant conditioning model of B. F. Skinner, which is generally used for hospitalized psychotics and younger patients.

Wolpean Approach

In Pavlov's thinking an innocuous stimulus with no response generative characteristics may through fortuitous circumstances be paired with a stimulus which does elicit a particular response. The continued pairing strengthens the response, and the stimulus tends to become generalized. Thus a driver having

marital difficulties may start to exhibit his aggressive tendencies through speeding and other risk-taking behavior while driving. Usually his wife will lavish attention on the driver by pleading with him to stop his dangerous driving. But such attention is exactly the response the deviant driver is trying to elicit. The Wolpean approach tries to "unlearn" the response by reinstating the original anxiety situation and evoking an antagonistic response. In the hypothetical situation this procedure might involve confrontation therapy sessions with the husband and wife followed by a redirection of aggressive tendencies toward more useful directions.

The clinician following Wolpe's theories generally uses desensitization and counter conditioning as his chief therapeutic tools. Wolpe begins by using extensive interviews to determine the nature of the patient's problem and the therapeutic techniques to be used. Usually the patient experiences intense anxiety in certain situations and lesser forms of discomfort in others. The result is a hierarchy of situations which cause mild to extreme anxiety.⁸⁰

The clinician begins therapy by teaching the patient deep muscle relaxation combined with hypnosis. The therapist then has the patient imagine possible scenes from his anxiety hierarchy beginning at the low end. In our case, the patient might imagine his wife castigating him for being unemployed. As soon as the patient experiences any anxiety he must notify the therapist and return to a more relaxed position. Eventually desensitization occurs when the patient is able to imagine previously anxiety generative scenes without experiencing anxiety. It is hoped that this relaxation will generalize to real life situations.⁸¹ Reciprocal inhibition is a related technique designed to train the patient to make an antagonistic response incompatible with a maladaptive response. This usually takes the form of a stronger, more direct response. So our driver after quarreling with his wife may be taught to face the problem through rational discussions rather than the maladaptive use of an automobile to remove frustrations. Aversive conditioning is also used by Wolpeans, particularly self-administered electric shock and antabuse (an emetic drug) for alcoholics. Aversive therapy for the habitual offender could take the form of movies of the gruesome effect of highway accidents on humans. Most drivers who have taken a driver education course have experienced color movies or slides showing what a rapidly moving vehicle can do to the human body. Although the movies have an immediate sobering effect, most researchers agree that their effect on modifying driver behavior is short-lived at best. A stronger form of aversive therapy can be instituted in the form of low-intensity electric shocks administered to a habitual offender simultaneously with the presentation of movies or slides of a driver committing an offense. Similar techniques in extinguishing other poor habits have been highly successful.

Skinnerian Approach

The critical emphasis of Skinner's approach is on voluntary or operant behavior. An individual learns to operate on the environment at an early age. He is reinforced in his actions by positive consequences or avoidance of negative ones. Usually the therapist is intent on shaping behavior toward more socially acceptable directions. The common characteristic of all of the techniques is an emphasis on modification of overt behavior

as opposed to the patient's inner state. Skinner's learning theory,

...is designed to change the consequences of a given response. In general, the therapeutic aim is either to increase the likelihood that a response deemed desirable or adaptive will occur or to decrease the likelihood of deviant or maladaptive behavior. To accomplish this objective the therapist must bring the consequences of a given form of behavior under his control ... to achieve behavior change the therapist frequently employs deprivations of various sorts to influence the patient's behavior.... In hospital settings, patients are often rewarded for prosocial behavior by tokens which can be exchanged for cigarettes, movie tickets or other privileges.⁸²

An habitual offender may continue his deviant driving habits because of the attention and time given him by police and state authorities. The frequent contacts with police may be nothing more than attempts to alleviate debilitating loneliness. The town drunk who spends much of his time in the drunk tank so as to experience the camaraderie of others in a similar plight may be another likely patient for behavior therapy. Behavioral techniques applied in such situations necessarily require education of the public officials with whom the patient will be in contact.

For the habitual offender, the police might be instructed to handle his violations perfunctorily with no special attention either sympathetically or disrespectfully. Such an offender may have masochistic tendencies whereby the mere fact of a conviction may be sufficiently rewarding to reinforce that behavior. For therapeutic reasons, the behaviorist in this situation might want to replace convictions with unpleasant, anxiety-producing therapy sessions. Also the offender who seeks only the "friendship of the jail" may be isolated from others while in jail, given bland nondescript food and treated with nonchalance and unconcern by the staff. One must remember, however, that in seeking to extinguish long reinforced maladaptive modes of coping, consistency is required. Every time an undesirable action occurs it must be negatively reinforced and every time a desired response occurs it must be positively reinforced. So for the habitual offender, failure to be apprehended for an offense for a given time period may be positively reinforced by congratulatory letters, visits by community organizations, or opportunities to engage in therapy for others.

If an administrative agency feels that therapeutic techniques are justified in terms of time and money for the habitual offender or the problem drinker, behavior therapy offers several unique advantages over more traditional types of psychotherapy.

- (1) If the environment of the patient is sufficiently controlled, the techniques to be applied are easy to understand and simple to use. They do not require the extensive training that other psychotherapy does and relatively untrained personnel can be used in the therapeutic

process. Police officers, the judiciary, and the driver's family are all capable of understanding what is necessary to extinguish the driver's poor habits.

- (2) Behavior techniques are aimed at specific manifestations of behavior rather than underlying deep-seated psychological difficulties. For this reason behavior therapy may be particularly economical from the state's point of view. The state is interested only in re-directing a driver's deviant behavior for his own and the community's protection. Any further psychological therapy would not be justified in terms of return in a driver licensing agency's point of view.
- (3) Behavior therapy does not require highly articulate patients; the selective reinforcement of desired behavior responses can easily be applied to all segments of the population. Traditionally, the seriously disturbed, the poorly educated, and the culturally disadvantaged have not benefited from other psychotherapeutic techniques, but behavioral therapy places less of a premium on either highly developed verbal skills or motivation.
- (4) In a political environment concerned about return on dollar investment from new social programs, behavior therapy offers an easily quantifiable alternative. Not only have claimed success rates of behavior therapy exceeded those of other types of psychotherapy, but the figures are also less amenable to rigging. The criterion of success — specific changed behavior — is easier to measure than the traditional categories of "improved" or "substantially improved."

In summary, "... the preponderance of the evidence indicates that behavioral techniques are effective in certain conditions, and their economy in terms of time, manpower, therapeutic effort and cost constitute a powerful argument in their favor."⁸³

Criticisms of behavior therapy for use in curing deviant drivers stem from political and methodological considerations. Many scientists are concerned that behavior therapy oversimplifies complex situational reactions. In other words, people do not learn a simple response to a simple stimulus. They rather acquire a set of strategies needed to reach a given objective. By ignoring such mediational variables as motivation and repression, the behaviorists inevitably create too simple a picture of action dynamics. As Breger and McGaugh state:

To sum it up, it would seem that the behaviorists have reached a position where an inadequate conceptual framework forces them to adopt an inadequate and superficial view of the very data that they are concerned with. They are then forced to slip many of the key facts in the back door, so to speak, for example, when all sorts of fantasy, imaginary and thought processes are blithely called responses. This process is, of course, parallel to what has gone on within S-R learning theory where all sorts of central and mediational processes have been

cumbersomely handled with S-R terminology. Thus we have a situation where the behavior therapists argue strongly against a dynamic interpretation of neurosis at some points and at other points behave as if they had adopted such a point of view.⁸⁴

Nevertheless, in a political environment such an approach probably works to the advantage of behaviorists. Legislators are more willing to invest the state's money in programs which are easy to explain and amenable to quick, simplistic cost-benefit analysis. The uncertainties of psychoanalysis and group therapy and the emotional response their names sometimes evoke would probably discourage state financing of any far-reaching programs of this nature.

A behavioral therapy program also must overcome serious political acceptability difficulties before a driver licensing agency would feel justified in initiating it. Inevitably, mention of such a program would raise the spectre of the state being able to control the populace like rats in an operant conditioning box. Though this red herring would probably be sufficient to kill any state behavioral program involving compulsion of some sort, there are legitimate questions about the state's role in use of behavior therapy. The inability to isolate reliable criteria of future accident involvement may not justify the pervasive state control of the violator's environment needed to effectuate behavior therapy.

Behavior therapy can also be criticized both by those who are worried about coddling criminals and those who favor more humane treatment of prisoners. Substitution of therapy for imprisonment would be unacceptable to the more conservative and deprivation and aversive conditioning would be unacceptable to the reformers.

These arguments do not, however, work so strongly against a voluntary state program for habitual traffic offenders. If the driver realizes the necessity for changing his behavior, the state should provide any scientifically acceptable means for changing his behavior.

Some legislators may feel that the state should not bear the burden of paying for a program designed to cure citizens of individual problems. But as noted earlier, behavior therapy is less costly than other means of changing socially unacceptable modes of behavior. In any case, an expanded notion of future cost savings in the courts, law enforcement, and in property and human costs would make the program rather inexpensive.

Currently the state uses a form of behavior therapy on a segment of problem drivers — the alcoholic who drives. The statewide system is characterized more by its lack of direction than by a clearly defined management hierarchy. There is no exact route whereby a traffic offender who is deemed a problem drinker comes to the attention of state rehabilitation authorities. In fact, the vast majority of problem drinkers are handled through private medical care, and frequently the true nature of their illness is disguised. But if a persistent traffic offender is deemed an alcoholic by the courts, a judge may sentence him to Western State Hospital. Presently there are

about 600 alcoholic patients at Western State Hospital.* But rarely do judges concern themselves with the underlying psychological behavior problem which causes frequent contact with the law. Instead repeat offenders generally receive stiffer penalties for each succeeding offense.

The state also provides other therapeutic agencies for alcoholics, but these are all voluntary and may only be suggested by a judge who suspects that an offender is a problem drinker. These possible sources of therapy for the alcoholic include: (1) the Bureau of Alcohol Studies operating under the Board of Health in Richmond, (2) Alcoholics Anonymous and Halfway Houses, (3) area mental health centers which offer outpatient psychiatric care in the form of group psychotherapy, individual psychotherapy, and medical therapy, and (4) area medical hospitals which provide inpatient medical care and inpatient psychiatric care.⁸⁶

Dr. A. W. Jeffreys, who controls the alcoholic rehabilitation program at Western State Hospital, characterizes his treatment as focusing on the moral responsibility of the alcoholic. His staff attempts to instill responsibility in the patient by using a three phase approach of "admit, accept and do." The patient must first admit that he is an alcoholic and continue to do so during rehabilitation and in daily living. The patient slowly begins to accept the fact of his alcoholism and to do something daily to maintain his sobriety.**

Since alcoholism is seen as primarily a psychological problem, Western State utilizes negative motivation in the form of punishment unless the alcoholic completes the rehabilitation program. Under a program labeled "police therapy," the patient is required to continue taking the program until he successfully graduates. Once he has left the class, the patient must report his first drink or Dr. Jeffreys issues a simulated police warrant for his arrest. Dr. Jeffreys feels strongly that the alcoholic's guilt is the symptom that must be solved first. In order to overcome guilt feelings there must be retribution. In other words, the alcoholic must learn to make some payment; he must do something for someone else.

Academicians, however, have strongly criticized the emphasis on negative motivation. Skinner particularly feels that response suppression through punishment is merely temporary and may evoke unwanted side effects such as fear and other inabilities to operate effectively outside of the hospital milieu. Skinner's position is that reward is a more effective means of controlling behavior than punishment.⁸⁷

Dr. Jeffreys feels that the medical approach used by the Mental Health Clinic and the Bureau of Alcohol Studies and Research, which sympathizes with the alcoholic and offers him pills for his pain, instills very little self-dignity. The social worker's

*For an examination of voluntary and involuntary commitment procedures see Va. Code Ann. § 37.1-64 through § 37.1-67.⁸⁵

**Conversation with Dr. A. W. Jeffreys, Psychologist, Western State Hospital, from a memo from Lindsay Dorrier to Thomas J. Smith, November 3, 1971, p. 2.

approach, using positive motivation coupled with emetic drugs is inadequate because it fails to get the patient to help himself.⁸⁸

Mrs. Irene Schneiderman, Director of the Bureau of Alcohol Studies in Fairfax, Virginia has characterized her voluntary program for alcoholics in similar terms.* Most of the program referrals are through contact calls from relatives of the alcoholics. When a patient first appears a social worker makes a case study containing a personal history form and a record of visits and treatments. This procedure is followed by group counseling sessions with the BASR staff. The basic unit of the therapy, however, is the use of antabuse, an emetic drug which causes vomiting when mixed with alcohol. Disulfiram (the generic name for Antabuse) must be taken regularly for it to function as a pharmacological barrier against the intake of alcohol. However, if the patient feels he cannot survive without alcohol he has only to stop taking the pill for three or four days. The use of disulfiram has been criticized on the grounds that individual tolerance differences make safe dosages difficult to determine and that severe side effects may occur in many patients. Also, the use of disulfiram may create an undesirable psychological dependence on the maintenance drug, and thus creates an unwillingness to continue other forms of treatment.⁸⁹

This approach doesn't necessarily reform the patient, but does convince him that he cannot ingest any ethanol for 48 hours after taking antabuse. This behavioral technique is clearly designed to pair a type of undesirable experience with an unacceptable personality pattern. This aversive therapy has shown a 60% effectiveness rate, with most patients either totally abstaining or functioning at a significantly improved rate. (In the Fairfax program, the rating system for measuring treatment success uses three levels of behavioral change: Category A is the previously mentioned judgement; the B level patient shows some improvement, but no maintenance of sobriety or realization that he is an alcoholic; at the C level the patient drops out of the program and returns to drinking.)

A similar technique of reciprocal inhibition of anxiety for treatment of alcoholics has obtained excellent results.⁹⁰ A prominent researcher, A. A. Lazarus, believes that alcoholism can be equated with compulsive drinking and involves two processes: A conditioned automatic drive, usually anxiety, from which motor reactions develop. Treatment begins with aversion therapy conducted at the doctor's office and also at the patient's home. The treatment consists of pairing the sight, taste, and smell of alcohol, and the desire to drink with strong faradic shocks to the alcoholic's palm and forearm. The patient is also equipped with a portable faradic unit for which he is told to administer an electric shock if he feels the desire to take a drink. Coupled with systematic desensitization and hypnosis, one patient was able to remain a social drinker for 14 months. This newer type of deconditioning technique using controlled electric shock rather than chemical means now allows therapists to employ aversion methods with greater precision and safety.

*Conversation with Mrs. Irene Schneiderman, Director of Bureau of Alcohol Studies, Fairfax, Virginia, from a memo from Lindsay Dorrier to Thomas J. Smith, October 5, 1971.

At Patton State Mental Hospital in California, psychiatrists have simulated the home drinking setting appropriate to the actual drinking patterns of the patients. The patients are then placed in the setting, fitted with electrodes and allowed to order either alcoholic or nonalcoholic beverages. If the patient orders alcoholic drinks he is negatively reinforced by a shock; if he orders a nonalcoholic drink he is positively reinforced with tokens that can be used to buy other privileges.⁹¹

Frequently this aversive type of conditioning (teaching the patient what not to do) can be followed by operant conditioning (teaching the patient what to do). Operant conditioning rewards a desired response which the patient is free to make or not to make in contrast to aversive conditioning in which the response is forced and then negatively reinforced. Operant conditioning as an educational tool holds much future promise because it allows the gradual shaping of behavior to a desired goal by approximations.⁹²

Conclusion:

Although research has not been able to isolate valid predictors of future driving behavior, behavior modification techniques do offer a possible alternative rehabilitative procedure for the repeating traffic offender. The failure to isolate valid predictors of future driving behavior possibly forecloses any compulsory program of behavior therapy for frequent offenders. It seems that such a pervasive state intrusion on an individual's environment would not be justified given the unreliable predictors available. If in the future such behavior as prior accidents or prior convictions of specific kinds can be validated as predictors to the extent that alcohol use has been, then state compulsory behavior modification programs may be appropriate.

The unstable nature of present predictors does not foreclose the state from financing a voluntary program open to any repeating traffic offender who recognizes his problem and desires to change his behavior. A program similar to alcoholic aversion therapy could be structured within existing, locally run traffic offender schools. A voluntary program could be set up by the Division of Motor Vehicles under the general administrative grant of power allowing wide leeway in measures to rehabilitate drivers. Any program with compulsory entrance would appear to require legislative sanction.

DRIVER LICENSING AND RELICENSING

Licensing of drivers by the states began at the turn of the century. Originally the procedure was intended to perform a revenue raising and identification function. Although even today this remains the primary purpose of driver licensing procedures in many states, increasingly, administrators are defining the purpose of state licensing in terms of the screening of unfit drivers. The accepted method for accomplishing this goal is usually a three-part examination: First, a paper and pencil test where the applicant exhibits his knowledge of braking distances, laws and rules of the road; second, a vision test usually involving depth perception subtests; and, finally, a behind the wheel driving performance test, which may or may not include many of the hazards encountered in normal day-to-day driving. After the series of tests are administered, those who meet minimum standards are accepted as licensed drivers; those who do not are rejected.

Unfortunately, the degree of nonuniformity of testing procedures is extreme among the states. Although the Federal Highway Safety Program standard area on driver licensing has set minimum requirements for licensing procedures if states are to receive federal funds,* these proficiency requirements are inevitably low so as to allow a wide range of acceptable minimum standards. The greatest diversity of requirements is in the areas of visual acuity (state requirements range from 20/30 to 20/70), liquor and drug abuse penalties, test procedures and standards, reexamination, minimum age, and suspension and revocation contingencies.⁹³ The existing federal standard does not, however, mention the need for retraining or relicensing. Thirty-two states and the District of Columbia require a vision test at renewal, while Maine requires the eye exam of applicants 65 or older, and Alaska requires the exam for those over 70. Only 12 states require a written test upon reexamination and only 6 states require a road retest.⁹⁴ These wide variations in practices and procedures by state licensing agencies frequently result in undesirable effects on the population. In many cases, differences in the results achieved by varying administrative procedures lead to seeming unfairness to some drivers. Any unfairness usually is coupled with a loss of respect for the law. Other adverse effects of nonuniformity are reflected in drivers' lack of familiarity with traffic ordinances and road practices of other states, differences in the proficiency levels of drivers, and a proliferation of the bureaucratic red tape which a new resident must cut through before he can be licensed in the state of his residence.⁹⁵

For any state licensing procedure to be effective as a safe driver selection system, certain minimum requirements must be met. (1) There obviously must be more applicants for licenses than there are licenses to be issued. This "selection ratio" frequently determines how effective the state will be in approaching its goal of reduced accidents. Thus a ratio of 1 successful applicant to 10 applicants is more likely to select future accident-free drivers than a ratio of 9 successful applicants to every 10 applicants. (2) The driver licensing agency must be able to quantify the driving task and select an acceptable criterion of performance. It must be a stable characteristic of the population applying for the license so that it is valid for use as a predictor. (3) Finally, this individual characteristic must be measurable and related to the desired criterion of

*See Appendix B for the Proposed Federal Driver Licensing Standard.

behavior. This predictor is typically a test score. The relationship of the predictor to the criterion is usually a correlation and is referred to as "predictive validity."⁹⁶

As noted throughout this report, the limited research on the driving task and on the identifiability and stability of human characteristics has not allowed driver licensing administrators to determine highly valid predictors. Admittedly, the lower the selection ratio, the higher the standard of acceptable performance can be. But political pressures have not allowed states to adopt low selection ratios. The need for most of the populace to drive requires that a large percentage of applicants be granted operators' licenses regardless of their test performance. Typically, states pass 85% to 99% of all applicants for operators' licenses. A predictive variable of any more than minimum validity has not yet been isolated. One study postulated that a licensing test battery with a predictive validity of + .20 (as an accident criterion) in order to reduce accidents by one-third would take 23 million out of 100 million drivers off the road.⁹⁷ Not only would this be politically unfeasible, but it would remove 18 million false negatives, or drivers who, although scoring low on the battery of tests, would nevertheless be accident free.

Within this conceptual framework, the purpose of driver licensing remains the reduction of accident probabilities for all drivers. The acceptable level of risk should be a national political decision rather than an arbitrary administrative determination. But the requirements of a high selection ratio, the inability to establish stable "safe driving" performance criteria, and the failure to adequately define valid, measurable personality characteristics probably preclude driver licensing from being an effective screening process. Available information about driver characteristics and driving performance is summarized in Table 3.

The Division of Motor Vehicles has authority in Virginia for conducting testing and licensing programs for operators licenses.* Those citizens who have never held a driver's license must pass a paper and pencil examination on Virginia's motor vehicle laws and a vision test, whereupon they are issued a temporary or instruction permit. This permit allows the applicant to learn safe driving habits from a licensed driver who must accompany the applicant when he drives. An applicant, if he is over 16 and has never held a Virginia license or has let his license expire, may receive a regular operator's license by passing an examination on Virginia motor vehicle laws, a vision test, and a road test. However, the road test requirement may be waived if the citizen holds a valid license from a reciprocating state. For citizens who are renewing their driver's license, personal appearance is required, and the citizen must at a minimum pass a visual examination. The Commissioner may at his discretion also require the applicant to pass a written or oral test on traffic regulations and a road test, providing that the applicant has more than one traffic conviction within the past four years. For citizens who (a) are qualified to operate only under restricted conditions such as with the use of hand controls or during daylight hours, and (b) whose driving history shows a mandatory revocation of their license, a complete examination is required prior to the issuance or reissuance of a driver's license.⁹⁹ Licenses issued to those under

*See Appendix C for relevant provisions of the Virginia Code Annotated.

Table 3

Driver Characteristics and Driving Performance
(From reference 98.)

<u>Characteristic</u>	<u>Relation to Driving Performance</u>
Vision	Reduced acuity in older drivers may contribute to accidents; very little other evidence.
Chronic Medical Conditions	Some association with accidents; may be a factor in 15% — 25% of accidents; stronger relation with accidents among older drivers.
Physical Disabilities	Any relation that may exist appears to be negative, i.e., drivers with physical disabilities have fewer accidents.
Alcohol	Factor in 25% — 50% of accidents; importance as a contributory factor increases with accident severity, and alcohol is a factor in over 50% of fatal accidents.
Drugs	Affect driving skills, no clear-cut relation to accidents. Convicted drug addicts, however, have high accident rates.
Age	Youngest and oldest have highest accident rates; youngest drivers have about twice the accident rate of middle-aged drivers.
Sex	Women have fewer accidents per time period; may have fewer accidents per mile driven, but evidence is conflicting.
Marital Status	Married drivers generally have fewer accidents than single drivers except for young males.
Past record	Positive relation between accidents and violations. Both are correlated with future accidents and violations, but relation is not strong.
Sensorimotor Abilities	No significant relation.
Intellectual Ability	Very slight negative relation may exist; i.e., better educated may have fewer accidents.
Mental Health	Suggested, but inconclusive, positive relation between mental health and driving performance.
Personality Measures	Item analyses of personality tests show some items are related to driving performance. Temperamental and emotional factors seem relevant to accidents, but little confirmed evidence exists.
General Adjustments to Society	Increasing evidence that "an individual drives as he lives"; i.e. individuals known unfavorably to social service agencies have higher accident rates.

the age of 18 must be revalidated within 12 months from the date of original issuance and for each succeeding 12-month period thereafter. The court may at its discretion upon a finding of not innocent revoke these persons' licenses.

The Division of Motor Vehicles tabulates convictions to identify those drivers with sufficient traffic violations to require revocation of their operators' licenses. Occasionally, a formal hearing is used instead of mandatory revocation for citizens repeatedly involved in accidents or traffic violations. These hearings usually result in a suspension of the operator's permit. A medical evaluation and control section of the DMV investigates and monitors persons who must periodically file doctor's statements attesting to their physical and mental ability to operate a motor vehicle with safety. Those with medical disabilities are detected by reports from hospitals, re-examinations, notations on crash reports that the citizens blacked-out or have a physical condition that would cause loss of control of a motor vehicle, and referrals by the courts, friends, and relatives. The Division can use its medical advisory board for opinions relating to medical condition.

In 1967 the Virginia Traffic Safety Study Commission under C. Harrison Mann made the first comprehensive legislative inquiry into the traffic safety needs of Virginia.¹⁰⁰ Part of the report examined the driver licensing procedures and made several recommendations which have subsequently been enacted into law. Some of the recommendations, however, have not been acted upon, including issuance of drivers' licenses on a provisional basis up to the age of 21 and total mandatory periodic reexamination of all drivers. The following reasons were advanced for implementation of mandatory reexaminations:

- (a) Nothing in the current law enables the Division to act in anticipation of future accidents and violations. The present statutory scheme is designed only to eliminate those drivers who have demonstrated their potential for harm. This is too limited an approach, which accomplishes too little, too late.
- (b) The requisites for a good driver undergo constant change. Rules of the road and driving conditions, such as the introduction of high-speed Interstate highways, change every year. Drivers themselves do not automatically become aware of these changes and should be educated or required to educate themselves of changes in statutes, rules of the road and road conditions. Moreover, the physical condition and visual acuity of drivers can deteriorate with age. The findings of any initial examination, no matter how well drawn up, cannot hold true in light of these changed circumstances.

- (c) Periodic reexamination serves both to keep drivers aware of changing laws by encouraging them to study and review the rules of the road and to reveal those drivers whose vision has lessened and who may have developed some type of handicap which would require a limited license.¹⁰¹

Licensing programs in other states have incorporated several new developments not yet used in Virginia. Driver relicensing has probably received more attention in recent years than initial licensing procedures. However, very little evaluation of the actual effectiveness of new procedures has been carried out. A Michigan study attempted to evaluate the most effective items to include on a paper and pencil retest.¹⁰² The basic premise behind an objective paper and pencil test is that a driver who is well informed about traffic laws, emergency procedures, and defensive driving concepts will be better equipped to drive safely than one who is not. These tests are also thought to be administratively efficient because of the ease of administration and scoring. The researchers included as test items the type of information they thought relevant to situations and conditions likely to be encountered by the driver. The general categories were: (1) rules of the road, (2) safe driving procedures (including emergency procedures), (3) accident information (i. e. the how and why of accidents), (4) licensing regulations (including financial responsibility, laws, and insurance requirements), (5) alcohol and implied consent, and (6) vehicle equipment. After field testing, the Michigan authorities concluded that,

Generally, drivers did better on questions relating to the "Rules of the Road" than they did in the other categories. Applicants were, on the whole, less informed on such matters as implied consent, insurance regulations, etc., items which are admittedly less relevant to driving performance.

Most drivers (74%) stated, during subsequent interviews, that they did learn some new information from the test.

The average test score did not vary for those drivers having different previous accident or violation experience. (Based on a check of 148 records.)

On "opinion type" items, 37% of those taking the test indicated that they favored such an exam. Another 35% expressed the feeling that all drivers should show evidence that they are also physically fit to drive. Twelve percent favored a road test at renewal.¹⁰³

Of course, research findings in the traffic safety field have so far failed to isolate a highly positive correlation between knowledge of any kind and driving behavior.

The state of Washington, in their test procedure, has made a significant improvement on the knowledge testing system by automating the examination.¹⁰⁴ The

system operates continuously and independently, utilizing 81 coded question color slides of actual driving situations. The applicant must respond, not with memorized answers, but with a subjective determination of the proper course of action. The hypothesis behind the new test is that presentation of realistic driving predicaments demanding situation analysis will make it easier to make the proper decision in an actual driving situation. The exam requires realistic application of concepts rather than memorization and recall of the answers supplied in the driver's manual. This type of test is also easy to edit by changing or manipulating the slides to reflect new knowledge or changed laws.

The total failure rate for the group taking the automated test series was 47%, compared with the 15-20% failure rate for the conventional written exam. Several reasons were advanced for the disparity, including: (a) Lack of familiarity with the new visual type of test format, (b) incomplete or poor verbal instructions given to the applicants before they took the machine test, and (c) lack of ability on the part of the applicant to associate the facts which appear in the visual situation with the correct answer.¹⁰⁵ The researchers were also concerned that poor scores may have correlated with poor attitudes toward the test or lack of public acceptance. But 73% of all the applicants "liked" the exam even though there was a significant relationship between passing or failing the exam and system preference. In spite of the relationship between exam performance and test preference, 60% of the people who failed the exam also liked it. Although Washington's driver licensing agency is pleased with the administration and acceptance of the automated test, the test's usefulness must await an analysis to determine its validity in identifying high risk drivers.¹⁰⁶ Also, the fact that a greater percentage of applicants failed the test does not necessarily prove it has greater validity in classifying "good" vs. "bad" drivers than the written test.

One state, California, has made a tentative attempt to cut back on extensive re-test costs by rewarding safe drivers with a 1-year extension of their driver licenses without being required to appear for reexamination.¹⁰⁷ State officials maintain that this administrative program is not a form of budget cutting, but rather a program which allows the DMV to concentrate on the small percentage of problem drivers. This justification, of course, ignores research findings tending to show that accident-free and violation-free driving are extremely unstable performance criteria.

Physical reexamination, although a part of some states' driver retesting programs, has generally been thought to be too expensive for widespread implementation. The most extensive experience with periodic physical examinations has occurred in Pennsylvania, where a program begun in the early 60s rejected 1.7% of the applicants for physical reasons. The evaluation of the program by the legislature, nevertheless, concluded that the effectiveness of the program did not justify the cost.¹⁰⁸ Of the first 169,000 drivers tested, only 311 lost their licenses, and this figure included 100 drivers who had either moved out of the state, died, or had not been driving anyway. The average cost to the applicant of being examined was estimated at \$8.50. The evaluation for the project also found that 3% of the medically unfit drivers detected by the program had had recent accidents — one-half the rate for all other Pennsylvania drivers. None of the 30,000 medically rejected applicants had had a fatal accident in the prior 10 years. A greater benefit may have been received, however, than is apparent from focusing on the rejection rate. Some drivers may have voluntarily corrected a physical defect or become aware of a physical condition not directly applicable to the driving task.

Most states have adopted an approach of selective reexamination of drivers, which is aimed at those drivers whose physical condition apparently makes them high accident risks. Although there are no definitive data on high accident risk groups, the experience of driver license administrators tends to show that the following groups should receive the highest priority for examinations: Individuals with known pathological states, problem drinkers who drive, drivers over 60, drivers involved in fatal accidents, accident repeaters, and male drivers under 25 years of age.¹⁰⁹

As a further step in attempting to identify persons who are unfit drivers, some writers advocate imposing a duty on physicians to report to the Division of Motor Vehicles those patients whom they consider incapable because of either physical condition or mental attitude toward driving safely.¹¹⁰ The medical advisory board in Virginia performs an important function in screening medically unfit drivers and preventing unnecessary denial of operators' licenses from handicapped persons who are nonetheless safe and qualified drivers. Unfortunately, the advisory board reports to the DMV directly and frequently fails to make decisions on all potential medically impaired drivers. Perhaps a form of local advisory board would have a more pervasive influence by working in close relationship with local licensing authorities.

Any program which would require mandatory reporting of physical or mental conditions by private physicians to DMV has been vigorously opposed by medical lobby groups as an ethical violation of the traditional confidential relationship between the physician and his patient. However, there is no violation if the physician is required by law to report.* Legislation requiring mandatory reporting has been attempted in several states but with mixed results.¹¹¹ The National Committee on Uniform Traffic Laws and Ordinances in 1968 voted down a mandatory reporting provision which would have exempted the medical profession from civil or criminal action as a result of any required reporting. Driver license administrators reason that doctors who detect a serious disease of possible danger to others treat the disease and report it to public health authorities. But the analogy to physical impairments which create a danger to others when the patient drives breaks down in view of the low correlation between physical condition and high-risk driving behavior.

Three new projects which are designed to improve the screening function of testing and licensing of drivers in Virginia have been initiated under a grant authorized by the Highway Safety Act of 1966. These new projects are basically designed to modernize and increase the administrative efficiency of the traditional driver licensing function of screening unfit drivers. The projects for which federal funds have been appropriated include:¹¹²

- (1) A mobile examining station project which will determine the feasibility of using mobile examining stations in remote areas of the state now serviced by traveling examiners. If the project is found to be feasible and cost-effective, the state will acquire two mobile examining stations and conduct experiments to verify the practicality and public acceptance of the stations.

*A physician may not reveal the confidences entrusted to him in the course of medical attendance, or the deficiencies he may observe in the character of patients, unless he is required to do so by law or unless it becomes necessary in order to protect the welfare of the individual or of the community.

- (2) A visual display driver testing project will resemble the state of Washington's experience by studying the feasibility of replacing written examinations with visual display driver testing devices. The new slide test would not only recreate a closer approximation of the driving task, but also permit greater utilization of existing manpower.
- (3) An automated driver testing project will develop a fully automated driver testing facility for written examinations and road testing on an automatically scored driving range in Hampton, Virginia. The new facility will also allow a comparison of the accidents and traffic violations of persons tested in nonautomated, partly automated, and fully automated test procedures.

Conclusion:

The present concept of driver licensing and relicensing as a screening function ignores many of the realities of present knowledge. Traffic safety research has not been able to isolate stable human characteristics as highly valid predictors of either accident-free or violation-free driving. Psychometric tests are frequently inadequate for discovering underlying psychological disabilities which may affect driving behavior. Political reality inevitably forces driver license administrators to grant a license to virtually all those who want one. Recognizing the fact that nearly everyone who wants a license will ultimately receive one, an alternative approach to the screening process would be a diagnostic-remedial approach. This approach would apply at all steps of the licensing program and would attempt to diagnose shortcomings in the performance of individual drivers and provide remedial training for their weaknesses.¹¹³ The long-term goal would not be to develop procedures to select the best drivers, but to reveal whatever deficiencies the applicant has and develop a training program to fit his needs. No state has adopted such an approach to driver licensing, but the effect would be to drastically alter the current practice.

The applicant would first have to provide a detailed personal information sheet of all possible data relevant to the driving task. A computer bank could then subclassify the driver as to his a priori probability of accident involvement. The applicant could then take several scientifically validated tests such as vision tests and performance tests on clearly understood maneuvers. A computer would then determine abilities that need to be strengthened and the rehabilitative courses that should be taken. After taking the prescribed course of retraining or practicing the relevant manual maneuvers, the applicant would return and take only those tests which he failed earlier. On this second trip the applicant may also be required to demonstrate his proficiency in an on-street performance test. One report summarizes this model as follows:

In the first place, the process would take much longer, perhaps as much as three hours, and involve the use of longer tests than are presently used. In the second place, the process would probably be a multi-stage process, that is, the

likelihood of an applicant receiving his license the very first time around would be extremely low. In the third place, the applicant would probably undergo experiences similar to those which drivers or prospective drivers now undergo in driver education or driver improvement programs. In other words, licensing as a diagnostic-remedial process would assume some of the functions currently assumed by the driver education and driver improvement programs. In the fourth place, the applicant would probably have to pay a larger licensing fee.¹¹⁴

But before such an expanded concept of driver licensing can be implemented to accomplish educative and improvements objectives, it must be clearly understood what the individual must be taught to do. This requires a better understanding of the tasks involved in operating a vehicle safely than is currently available. Once development of tests and an adequate formulation of the driving task are available, licensing procedures will be able to accomplish the goal of raising the quality of performance of all drivers.

OCCUPATIONAL OR HARDSHIP LICENSES

The term "occupational license" refers to an operator's permit limited to job-related travel issued to an individual whose license would normally be suspended or revoked due to an excessive number of traffic entries. (However, in some cases, issuance may be related to non-job related exigencies.) The issuance of such a license is conditioned upon a showing of some special hardship, usually economic in nature, which would befall the individual if his license were revoked. Thus, if the individual is able to demonstrate that retention of his driver's license is necessary to the performance of his job, and that suitable substitute forms of transportation are not available, he is a potential recipient of such a license.

The occupational licensing concept represents a recognition of the fact that the professional driver (one whose income is directly dependent upon the use of a driver's license) is one of a class of persons for whom the suspension of the driver's license entails quite harsh economic consequences. The occupational license also represents an alternative to license suspension or revocation, which is deemed to have little rehabilitative effect. As one writer has remarked:

What is the purpose of a driving prohibition?
Retribution is no longer in vogue and presumably is not a factor in sentencing. Rehabilitation is a most unrealistic object. Indeed, it would be inconsistent to expect improvement in an activity during the term of a sentence which utterly forbids that activity....¹¹⁵

The rehabilitative effect stemming from issuance of an occupational license is theorized to result as follows:

...as part of the driver improvement process the extension of limited driving privileges may provide a turning point in the driver's attitude concerning safe and lawful operation of a motor vehicle. At the point when an offender is subject to suspension or revocation he may well recognize the potential effects such action may have on his livelihood and the economic well-being of his family. (It has often been stated by driver licensing officials that once the threshold of suspension or revocation has been crossed, the department is at a psychological disadvantage in gaining the future voluntary cooperation of an errant driver.)¹¹⁶

According to a report issued in 1971 by the Highway Users Federation,¹¹⁷ at least twenty-three states provide for issuance of some form of occupational license to persons otherwise subject to suspension or revocation. The report analyzes the applicable statutes in terms of eleven variables; a few of the more relevant comparisons are as follows:

- (1) The responsibility for authorizing the issuance of an occupational license is vested in the courts in ten states, is within the discretion

of the department of motor vehicles in nine other states, while in four states either the courts or the department each exercise some measure of responsibility. While those who favor the courts as the exclusive authorizing agency argue that the court has closer contact with the individual and has better knowledge of local conditions and needs, the more persuasive argument appears to favor vesting discretion as to issuance in the driver licensing agency. One justification for this position is the lack of uniformity which prevails when courts exercise such authority. Other reasons include the driver licensing agency's easy access to the applicant's total driving record, and the potential usefulness of the investigative and medical advisory staffs within the agency.

- (2) The report states that nonuniformity amongst states is perhaps greatest in application of the law to specific offenses. For example, 12 states authorize issuance of occupational licenses to persons subject to suspension or revocation on a mandatory as well as a discretionary basis, while in six states issuance of such licenses is predicated on convictions requiring mandatory suspensions and revocations, which may also include convictions under the point system.

Bills introduced into the 1970 and 1972 Virginia General Assembly by Senator George M. Warren, Jr. (S 50 Warren § 18.1-591 and § 46.1-417 in 1970; and S 525 Warren § 18.1-591 and § 46.1-417 in 1972) would have mitigated the effect of license revocations that are presently mandatory, in that the bills would have authorized issuance of occupational licenses by the court to those persons who had been convicted of first offenses of driving under the influence or impaired driving.* It is interesting to note that states responding to the question of whether there is any predominant type of conviction resulting in loss of driving privileges of persons who later apply for an occupational license indicated that driving while intoxicated was overwhelmingly the most frequent type of offense reported.¹¹⁸

In the state of Virginia, issuance of occupational licenses probably could not feasibly be restricted only to offenses for which license suspension is discretionary. At least in operation, most discretionary license suspensions involve a determination that the driver is unfit to drive, and it in precisely such circumstances that occupational licensing is least desirable. Thus, the class of offenses to which occupational licenses would apply would probably have to include some offenses for which license revocation is presently mandatory.

*There is a question as to whether the need for such an amendment is as pronounced now that Va. Code Ann. § 18.1-59 has been amended to change the previous 12 month mandatory license revocation applicable to a first offense conviction for DWI to not less than 6 mo. nor more than 12 mo. upon a first conviction (effective July 1, 1972).

- (3) In addition to a showing of some special hardship as a precondition to issuance of an occupational license, at least twelve states provide other special conditions covering the eligibility of persons for restricted driving purposes.¹¹⁹ For example, in California the department may require a person to attend a driver education and training program as a condition to eligibility.
- (4) As has been noted, the occupational license is usually limited to employment purposes only. Specific restrictions include limitations as to time and area of use, specific routes, operation of specific vehicles, particular conditions of traffic, etc. The inability of enforcement officials to effectively police these kinds of restrictions is often cited by opponents of the occupational licensing concept. While the enforcement problem could be partially alleviated through the use of spot checks perhaps coupled with some version of coded license plates, it must be admitted that problems of enforcement constitute a major stumbling block to implementation of the occupational license concept.

By now it should be clear that the topic of occupational licensing is subject to widely divergent views. Most licensing agency administrators appear to oppose provisions which would allow issuance of occupational licenses. In addition to the enforcement problems that arise upon issuance of limited driving privileges, critics also cite occupational licenses as weakening the deterrent purpose that is served by the sanction of license revocation. Typical of this viewpoint is the statement of Virginia Commissioner of Motor Vehicles Vern L. Hill made at the third Annual Institute of Motor Vehicles and Traffic Law (August 8-11, 1971, University of Colorado) in his presentation, "Hardship and Mitigating Circumstances in Driver License Suspensions: A Non Sequitur":

. . . In this system (Virginia) it is assumed that every suspension and revocation represents a hardship to the affected individual, and that every individual who values his driving privilege should control his behavior behind the wheel accordingly. In other words, why should an individual's occupation entitle him to specialized privileges which in effect discriminate against other motorists?

Our concern lies more with the social aspects of those persons who have suffered serious hardships such as loss of a husband, a father, a wife . . . or has suffered personal injury, as a result of a motor vehicle violator's complete disregard for the safety and welfare of other users of the highways.

To support the "occupational license" theory would seriously weaken the laws enacted for the explicit purpose of controlling the motoring public through the revocation and suspension of the license to drive. It would in effect bring about permissive laws that would remove the one factor that all licensed drivers fear, Revocation of the License to Drive.¹²⁰

The same position is reflected in resolutions adopted by the American Association of Motor Vehicle Administrators in 1970 and the International Association of Chiefs of Police in 1961.

The premise underlying license revocation is that the threat of withdrawal of the driving privilege operates as a deterrent to intentional risk taking. A second premise is that those whose licenses have been revoked are unfit drivers, therefore their removal from the roads is justified. One commentator has poignantly asked whether, if a motorist is judged to be unfit to drive, is he any more qualified to drive simply because the withdrawal of that privilege is attended by grave economic consequences?

If a person is conclusively categorized as an unqualified driver is he not unfit wherever he may be driving on the highway, or for whatever purpose? If he is unfit and unqualified to take his family for a drive in the evening, is he not equally unfit and unqualified to drive in the course of his employment? If not, what distinguishes the restriction from a penalty? We say the purpose of driver licensing is to prevent an unfit person from venturing forth in a motor vehicle on the highway. But when we say one's driving may be restricted to certain routes, or certain times of day, or for certain purposes, do we not have to drop all such pretense and frankly admit we are penalizing him for his past offense by curtailing his methods of locomotion? If he is unfit at one time, is he not equally unfit at another, other considerations being equal?¹²¹

The contra argument is made by Professor John H. Reese, who in essence attacks the premise that those for whom the law mandates license revocation are necessarily unfit drivers. In discussing issuance of occupational licenses, Professor Reese states:

Many licensing officials object to the issuance of licenses on any of these grounds. They assert that such licenses are aberrational because they disregard the public interest in preventing driver failure and afford unwarranted protection of individual liberty at the expense of other individuals on the highways. The unarticulated premise on which this objection is based is the assumption that the predicator policies structured into current driver selection systems are accurate in identifying those drivers who should be removed from the roads. However, as has been stated repeatedly, empirical

research has not established a high degree of reliability for any single predictor used with the exception of alcohol. If the premise of the argument is thus destroyed, restoring licenses by these techniques is not really objectionable on grounds of safety. Conversely, the social and economic significance of the motor vehicle contends for recognition of the individual interest in driving. Legislatures that allow probationary and hardship licensing may not know that the predictor policies of driver selection systems are not scientifically valid; nevertheless, they may be demonstrating good judgement in providing a means for restoring licenses that would otherwise be withdrawn. As was suggested earlier, perhaps an expanded scheme of restricted licensing would be as effective as withdrawal or denial of licenses on the basis of most predictor policies currently used.

Therefore, it does not follow that probationary or hardship licensing is improper. It is clear that these statutory provisions for license restoral indicate formal governmental recognition of the importance of motor vehicles in contemporary American society. Some states go as far as to permit hardship licensing where withdrawal of the license is made mandatory. It may take the form of "probation" awarded or recommended by the convicting court. Such formal legislative policies tend to destroy the simplistic idea that driving a motor vehicle is a "privilege" which permits licensees to be dealt with severely on the basis of safety "folklore." The concept of hardship licensing is particularly incongruous in states where the courts have formally stated that driving is a "privilege." If driving is a privilege why adopt hardship licensing programs? If hardship licensing programs exist, is licensing really a privilege as the courts say?¹²²

It should be clear to the reader at this point that much of the debate over the validity of the occupational licensing concept is based on subjective judgements. Very little in the way of empirical research has been conducted. One exception is an evaluation conducted by the Washington State Department of Motor Vehicles of that state's occupational licensing program. A sample group of 48 recent court approved petitions for occupational driver's licenses was compared with a random sample of 45 drivers receiving mandatory traffic citations and who were eligible for occupational licenses but did not apply for them as well as a similar number of individuals from the general driving population. The purpose of the study was to define the type of driver who applies for and receives an occupational driver's license and to determine if the occupationally

deferred, suspended driver actually needs an occupational license to conduct his daily business. The researchers reached the following conclusions.

1. While the scope of this preliminary investigation generated data of limited depth and fidelity related to the validation of the petitioners' requirements for occupational licenses, it does appear that in many cases the issuance of an occupational license by the court authorities is of questionable justification. Even though a myriad of possible private and/or individual alternatives to an occupational license which might have been available to the individuals could not be considered (family, friends, etc.), it still was possible to isolate 10 subjects (21% of the sample) who in all probability did not require an occupational license in order to conduct their daily business.
2. Many of the reasons given for the need for an occupational license were suspect, and in a few cases were found to be actually false. It is the opinion of the investigators that employer confirmation (when possible) of these reasons should be a part of the petition procedure. It is doubtful that such a requirement would compromise employee-employer relationships beyond a level which would not be commensurate with the severity of the traffic infraction involved.
3. The occupational license group is not representative of the general driving population in terms of driving performance. Thus the assumption that the members of this group, as presently constituted, are normally responsible citizens who are simply isolated victims of circumstance is highly suspect. Even though it is true that 25% of the group had had no prior driving problems, as shown by the Department's records, and that none of the differences between groups reached statistical significance, there are some serious practical implications to be considered here. Over 35% of the group had had prior contact with the Department regarding their poor driving, one individual had had 5 accidents within the last 5½ years, one subject had received 13 traffic citations over the same time period, and over 21% of the group had previously received one or more serious traffic citations (negligent driving). When one considers the above data it is improbable that these drivers as a group are particularly deserving of an occupational license. Their prior driving records indicate that they are familiar with the sanctions which can be taken against their driving privilege if they transgress the law, and thus if their jobs are as important to them as they would have the court and the Department of Motor Vehicles believe, it would seem that they would not have committed the mandatory violations in the first place. In addition, the occupationally-deferred group was much the same as the non-deferred group in terms of driving history and thus it is improbable that of the people receiving first time mandatory citations, the occupational license is being granted to those who most deserve it in terms of risk potential. Since the occupationally deferred drivers are usually

older, as a group, it is reasonable to suspect that some may receive their occupational license simply because of factors related to their age (i. e., assumed relationship between age, maturity and responsibility, greater familiarity with court structure and procedures, and exploitation thereof, etc.)¹²³

Somewhat more encouraging results were found by a study¹²⁴ of the North Carolina law that allows the court to grant limited driving privileges to individuals who have been convicted of a first offense of driving while under the influence of intoxicating liquor (DWI). The law had been passed in hopes of increasing the DWI conviction rate. It had been theorized that the difficulties attendant to obtaining a DWI conviction in North Carolina stemmed from the harshness of the 1-year license revocation mandated upon a first offense conviction of DWI. Apparently the new law was a success in that respect, for an examination of the court's disposition of DWI cases for periods before and after the law became effective revealed an increase of 18.5% in DWI convictions and a decrease of 33.8% in amended charges. The authors also conducted an evaluation of the violation and accident frequencies of the limited license recipients as compared with a random sample of drivers. The recipients' violation rate (4.6/100 drivers) was significantly lower than that of drivers selected at random (12.9/100 drivers). However, their accident rate (7.8) was not significantly different from that of the random sample (7.5)

Conclusion:

Every license revocation involves some economic hardship, so it becomes a matter of degree as to when, or if, economic hardship should become a mitigating factor in the decision to revoke a driver's license. While licensing officials cite the sanction of license revocation as a major control over drivers, and thus oppose issuance of hardship licenses as weakening the deterrent purpose served by license revocation, administrative experience to date is inconclusive. Available evidence does suggest that there is a premium on drafting. William W. Melvin, in discussing the North Carolina law,¹²⁵ suggests that the following points be covered by statute:

. . . I would therefore, suggest that if such legislation be proposed in your jurisdiction, thought be given to related problems surrounding an operator's license when the legislation is drafted. Many questions have come to our office which should have been, but were not, covered specifically by the draftsman of the bill, such as: under G.S. 20-179 (B), can a limited driving privilege be allowed a defendant who is not licensed to operate a motor vehicle?; Can the court allow a limited driving privilege to a non-resident?; Since the limited driving privilege is automatically suspended pending final disposition when the holder therefore is charged with a violation of the restriction contained therein,

what disposition should be made of the defendant's copy of the judgement allowing limited driving privilege?; Defendant has been convicted of driving while under the influence of intoxicating liquor in another jurisdiction. If he is now convicted of the offense of driving under the influence of intoxicating liquor in North Carolina, will he be eligible for a limited driving privilege?; Does this act apply to offenses committed before its effective date in which the trial is held after the effective date?; After judgement allowing a limited driving privilege has been entered, may its term be subsequently modified?; On a previous occasion, defendant was charged in another state for driving under the influence of intoxicating liquor and forfeited bail. If the defendant is now convicted of another such offense in this or any other state, will he be eligible for a limited driving privilege under the provision laws of 1969?126

The foregoing excerpt makes it clear that the concept of a limited operator's license raises a host of questions in addition to those normally covered by statute. In summary then, each state must make its own decisions as to the value of the limited license concept based on an assessment of the availability of alternate forms of transportation, the degree of social censure attaching to traffic offenses for which license revocation is presently mandatory, the deterrent purpose served by the threat of license revocation, the difficulty of enforcing restrictions placed on limited licensees, and the extent to which the limited licensee will change his own driving behavior upon receipt of such a license.

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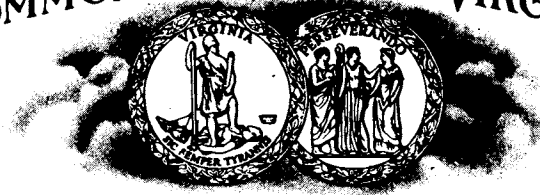
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APPENDICES

APPENDIX A

SAMPLE COPIES OF ADMINISTRATIVE WARNING LETTERS CURRENTLY IN USE
BY THE VIRGINIA DIVISION OF MOTOR VEHICLES

COMMONWEALTH OF VIRGINIA



C. E. EMSWILER, JR.
INFORMATION SYSTEMS ADMINISTRATOR

K. E. HARMAN
VEHICLE SERVICES ADMINISTRATOR

J. C. SKELTON
FIELD SERVICES ADMINISTRATOR

R. E. SPRING
DRIVER SERVICES ADMINISTRATOR

R. P. VAN BUREN
MANAGEMENT OPERATIONS ADMINISTRATOR

DIVISION OF MOTOR VEHICLES

2220 WEST BROAD STREET
RICHMOND

MAIL ADDRESS
P. O. BOX 27412
RICHMOND, VIRGINIA 23261

WE NEED YOUR HELP TO MAKE THE VIRGINIA HIGHWAYS SAFER FOR YOU AND THE OVER THREE MILLION DRIVERS WHO ARE USING OUR HIGHWAY SYSTEM. WE BELIEVE IT ESSENTIAL THAT ALL DRIVERS KNOW AND OBEY OUR TRAFFIC LAWS IF WE ARE TO REDUCE THE NUMBER OF DEATHS AND INJURIES RESULTING FROM HIGHWAY CRASHES.

IN REVIEWING YOUR DRIVING HISTORY RECORD AT THIS DIVISION, WE FIND A RECENT CONVICTION OF SPEEDING, AS SHOWN ABOVE. THIS IS A SERIOUS OFFENSE. IN FACT, IF YOU ARE CONVICTED OF A SECOND SPEEDING OFFENSE OR AN OFFENSE OF RECKLESS DRIVING COMMITTED WITHIN 12 MONTHS OF THE ABOVE OFFENSE, VIRGINIA LAW REQUIRES THAT YOUR DRIVER'S LICENSE BE REVOKED FOR 60 DAYS.

THE REVOCATION OF YOUR LICENSE TO DRIVE WOULD UNDOUBTEDLY INCONVENIENCE YOU, SINCE YOU WOULD NOT BE ALLOWED TO DRIVE A MOTOR VEHICLE DURING THE PERIOD OF REVOCATION. A REVOCATION MAY ALSO CAUSE AN INCREASE IN YOUR AUTOMOBILE INSURANCE RATES AND PROBABLY RESULT IN OTHER PERSONAL OR ECONOMIC PROBLEMS.

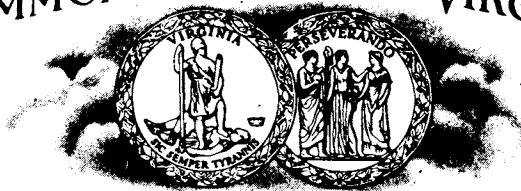
WE FEEL IT IS OUR RESPONSIBILITY TO INFORM YOU OF THESE FACTS IN THE HOPE THAT YOU WILL NOW REVIEW YOUR DRIVING HABITS AND MAKE ANY CORRECTIONS WHICH YOU BELIEVE ARE NECESSARY TO AVOID FUTURE TRAFFIC OFFENSES. MEANWHILE, PLEASE PROTECT YOUR PRIVILEGE TO DRIVE.

SINCERELY,

A-2

W. E. McLean MANAGER
DRIVER IMPROVEMENT DEPARTMENT

COMMONWEALTH OF VIRGINIA



C. E. EMSWILER, JR.
INFORMATION SYSTEMS ADMINISTRATOR

K. E. HARMAN
VEHICLE SERVICES ADMINISTRATOR

J. C. SKELTON
FIELD SERVICES ADMINISTRATOR

R. E. SPRING
DRIVER SERVICES ADMINISTRATOR

R. P. VAN BUREN
MANAGEMENT OPERATIONS ADMINISTRATOR

DIVISION OF MOTOR VEHICLES

2220 WEST BROAD STREET
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RICHMOND, VIRGINIA 23261

WE NEED YOUR HELP TO MAKE THE VIRGINIA HIGHWAYS SAFER FOR YOU AND THE OVER THREE MILLION DRIVERS WHO ARE USING OUR HIGHWAY SYSTEM. WE BELIEVE IT ESSENTIAL THAT ALL DRIVERS KNOW AND OBEY OUR TRAFFIC LAWS IF WE ARE TO REDUCE THE NUMBER OF DEATHS AND INJURIES RESULTING FROM HIGHWAY CRASHES.

IN REVIEWING YOUR DRIVING HISTORY RECORD AT THIS DIVISION, WE FIND A RECENT CONVICTION OF RECKLESS DRIVING, AS SHOWN ABOVE. THIS IS A SERIOUS OFFENSE. IN FACT, IF YOU ARE CONVICTED OF A SPEEDING OFFENSE COMMITTED WITHIN 12 MONTHS OF THE ABOVE OFFENSE, VIRGINIA LAW REQUIRES THAT YOUR DRIVER'S LICENSE BE REVOKED FOR 60 DAYS. IF, HOWEVER, YOU ARE CONVICTED OF A SECOND RECKLESS DRIVING OFFENSE COMMITTED WITHIN 12 MONTHS OF THE ABOVE OFFENSE, VIRGINIA LAW REQUIRES THAT YOUR DRIVER'S LICENSE BE REVOKED FOR 1 YEAR.

THE REVOCATION OF YOUR LICENSE TO DRIVE WOULD UNDOUBTEDLY INCONVENIENCE YOU, SINCE YOU WOULD NOT BE ALLOWED TO DRIVE A MOTOR VEHICLE DURING THE PERIOD OF REVOCATION. THIS ONE YEAR REVOCATION ALSO REQUIRES THE SUSPENSION OF ALL REGISTRATION CERTIFICATES AND LICENSE PLATES IN YOUR NAME, UNLESS YOU HAVE PREVIOUSLY FILED OR FILE AND MAINTAIN, PROOF OF FINANCIAL RESPONSIBILITY FOR EACH MOTOR VEHICLE OWNED AND REGISTERED IN YOUR NAME. A REVOCATION MAY ALSO CAUSE AN INCREASE IN YOUR AUTOMOBILE INSURANCE RATES AND PROBABLY RESULT IN OTHER PERSONAL OR ECONOMIC PROBLEMS.

WE FEEL IT IS OUR RESPONSIBILITY TO INFORM YOU OF THESE FACTS IN THE HOPE THAT YOU WILL NOW REVIEW YOUR DRIVING HABITS AND MAKE ANY CORRECTIONS WHICH YOU BELIEVE ARE NECESSARY TO AVOID FUTURE TRAFFIC OFFENSES. MEANWHILE, PLEASE PROTECT YOUR PRIVILEGE TO DRIVE.

SINCERELY,

A-3

W. C. McLean MANAGER
DRIVER IMPROVEMENT DEPARTMENT

APPENDIX B
PROPOSED FEDERAL STANDARD FOR DRIVER LICENSING

PROPOSED STANDARD 5:
DRIVER LICENSING*

I. SCOPE

This standard establishes performance requirements for a State highway safety program related to the examination, reexamination and licensing of drivers; the administration of driver improvement programs; and the development and maintenance of a driver information system.

II. PURPOSE

This standard is designed to provide a program to improve the quality of driving by insuring that only persons physically and mentally qualified will be licensed to operate a motor vehicle by implementing more effective and uniform licensing procedures. The program is designed further to prevent needlessly removing the opportunity of the citizen to drive through application of driver improvement techniques.

III. DEFINITIONS

Driver information system -- an orderly set of data equipment procedures for: (1) establishing and maintaining records which describe the State's licensed and unlicensed drivers who have been identified through traffic accidents or traffic violations; and (2) extracting useful and timely information from those records for use in driver improvement, retraining, and referral in the case of alcoholics for appropriate care and treatment.

IV. REQUIREMENTS

Each State shall operate a driver licensing program which shall require:

A. That an initial license is issued only to a person who:

1. Is at least 18 years of age and has satisfactorily completed a State-approved driver training program, or is 16 years of age and has satisfactorily completed a certified State-approved driver education and training course.

2. Submits proof of identity including date and place of birth.

3. Meets physical and mental standards and demonstrates visual performance of the level prescribed by the State for obtaining a driver's license for the vehicle(s) for which he seeks to be licensed.

4. Demonstrates the ability to interpret traffic signs, signals, and road markings.

*Draft November 23, 1971

5. Obtains a passing score on a test of knowledge of selected highway traffic safety information which is relevant to the operation of the class of vehicle(s) for which he seeks to be licensed, including a knowledge of the effect of alcohol and drugs on driver performance.

6. Demonstrates operational skills, including response to emergency situations, that are necessary for the safe operation of the class of vehicle(s) to be driven.

7. Is fully informed that the license is provisional for a period of four years and may be withdrawn if the person is involved as a driver in an accident or is convicted for committing a traffic law violation during this period of time.

B. The reexamination of all drivers so that a test of visual skills and knowledge of safe driving practices, occurs:

1. After conviction of two hazardous traffic law violations within a one-year period.

2. When the driver has been involved in two accidents within a one-year period.

3. Whenever the State has reason or cause to believe an individual's driving ability should be reevaluated.

4. At least once every four years.

C. The establishment of:

1. A system to assure that each driver holds only one license, which identifies the type(s) of vehicle(s) he is authorized to drive, and the license is issued for a specific term not to exceed four years. The system shall further insure that operators of vehicles receiving points for traffic violations and/or accidents for which they are held at fault may not have such points transferred or counted on a different classification of license, or shall be issued a different class of license to avoid suspension or revocation.

2. Physical and mental standards, including licensing criteria related to the use of alcohol and drugs, and licensing procedures which distinguish among the requirements for the safe operation of the various types of classes of motor vehicles.

3. Coordination procedures with groups working on alcohol countermeasure programs for the purpose of early detection and treatment of problem alcohol and other drug users.

4. An Advisory Board to assist in the development of physical, visual and medical criteria for safe vehicle operation and to advise driver licensing authorities on specific cases involving those factors where licensing or relicensing a person is an issue.

5. A procedure which includes the use of the National Driver Register that will provide, on a timely basis, each applicant's driving history from all previous

licensing jurisdictions for review prior to licensing or relicensing. Special emphasis shall be placed on the prior record of denials, withdrawals, limitations and restrictions of each individual's driver's license.

6. Training and retraining programs designed or endorsed by the Administrator, NHTSA, for driver license and driver improvement personnel.

7. Criteria for the certification of driver licensing personnel and facilities.

8. A Driver Improvement Program to identify problem drivers for record review and other appropriate action designed to reduce the frequency of their involvement in traffic accidents or traffic violations.

9. A driver information data system to provide a record for each driver which includes as a minimum the following:

- a. convictions of traffic law violations
- b. incidents of driving without a license
- c. involvement as a driver in motor vehicle accidents
- d. all actions taken by the agency (e.g., warning letters, driver improvement, suspensions, etc.)
- e. medical reports of pertinent physical or mental conditions.

10. Reciprocity and compacts with other jurisdictions regarding licensing and examination requirements for previously licensed drivers.

11. A procedure to notify judges prior to sentencing of convicted drivers as to the status of the individual's driver licensing history.

V. EVALUATION

The driver licensing program shall be evaluated by the State for the purpose of measuring the effectiveness of all licensing procedures. The results of the evaluation shall be used to revise the comprehensive program plan so that resources may be re-allocated to maximize the effectiveness of the licensing program. The National Highway Traffic Safety Administration shall be provided with a summary of the evaluation annually.

The evaluation shall include an analysis of driving records to determine the effectiveness of the driver examination and reexamination program in modifying driver performance as well as the degree of recidivism experienced by drivers following various actions designed to improve driver performance (e.g., driver improvement actions, medical rehabilitation, license denials, etc.). Additionally, the driver information system will be evaluated as to the effectiveness of the system in providing timely response to requests for information from traffic courts and enforcement agencies as well as for other traffic safety purposes.

APPENDIX C

PROVISIONS OF THE VIRGINIA CODE PERTAINING TO DRIVER LICENSING

§ 46.1-26.1. Medical Advisory Board

- (a) For the purpose of enabling the Division of Motor Vehicles to comply with the provisions of § 46.1-361 and its responsibilities under the provisions of Title 46.1 of the Code of Virginia, there is hereby created a Medical Advisory Board of the Division to consist of seven qualified and practicing physicians appointed by the Governor. Members of the Board shall be appointed initially as follows: Three members to serve for two-year terms and four members to serve for four-year terms. Thereafter appointments shall be for four-year terms and vacancies shall be filled by appointment for the unexpired portion of a term. The Governor shall designate the chairman of the Board.
- (b) The Commissioner of the Division of Motor Vehicles may refer to the Board for an advisory opinion, the case of any person applying for an operator's or chauffeur's license or renewal thereof, or of any person whose license has been suspended or revoked, or any person being examined under the provisions of §§ 46.1-383 and 46.1-383.1, when he has cause to believe that such person suffers from such physical or mental disability or disease as will serve to prevent such person from exercising reasonable and ordinary control over a motor vehicle while operating the same upon the highways. In addition the Board shall assist the Commissioner through the development of medical and health standards for use in the issuance of operator's and chauffeurs' licenses by the Division of Motor Vehicles so as to avoid the issuance of licenses to those persons suffering from such physical or mental disability or disease that will serve to prevent them from exercising reasonable and ordinary control over a motor vehicle while operating the same upon the highways.
- (c) The Board shall meet at the pleasure of the Commissioner of the Division of Motor Vehicles. Each member shall receive as compensation forty dollars a day for each day spent in the performance of his duties and be reimbursed for his necessary expenses, such payments, to be made from funds appropriated to the Division of Motor Vehicles.

§ 46.1-357. Persons under eighteen; exception as to and procedure for licensing persons of sixteen and under eighteen. — No operator's license shall be issued to any person under the age of eighteen years except as hereinafter provided and no chauffeur's license shall be issued to any person under the age of eighteen years except that:

- (1) An operator's license may be issued to a minor of the age of sixteen years upon proper application therefor and upon satisfactory evidence that the minor has successfully completed a driver education course which has been approved by the State Department of Education and is mentally, physically and otherwise qualified to drive a motor vehicle with safety. The application must be signed by the father and the mother of the applicant, except that if there be only one surviving parent or one parent has sole custody of the minor, as indicated by an appropriate statement on the application, or if in any case the Commissioner determines that for good cause it is not feasible to secure the signature of both parents, it shall be sufficient that the application be

signed by the surviving parent, or parent having sole custody of the minor, or the parent whose signature can be obtained, otherwise by the guardian having custody of such minor or in the event a minor has no father, mother or guardian, then an operator's license shall not be issued to the minor unless his application therefor is signed by the judge of the juvenile and domestic relations court of the city or county in which the applicant resides. If the minor making such application is married, in lieu of the consent required in the preceding sentence, upon proper evidence of the solemnization of the marriage, the spouse of such minor may sign the application, if the spouse is over the age of eighteen years. Any father and mother, surviving parent, parent having custody, or, in the discretion of the Commissioner, either parent, in case both are not present within the State, spouse or guardian, as the case may be, may thereafter file with the Division a written request that the license of said minor so granted be cancelled. Thereupon, the Division shall cancel the license of said minor and such license shall not thereafter be reissued by the Division until a period of six months has elapsed from the date of cancellation. The minor shall be required to state in his application whether or not he had been convicted of an offense triable by, or tried in, a juvenile and domestic relations court. If it appears that such minor has been adjudged not innocent of the offense alleged the Division shall not issue a license without the written approval of the judge of the juvenile and domestic relations court making an adjudication as to such minor or the like approval of a similar court of the county or city in which the parent, guardian, spouse or employer respectively of the child resides.

- (2) Each operator's license issued pursuant to the provisions of paragraph (1) hereof shall contain thereon a suitable legend that such license must be revalidated by the Division of Motor Vehicles within twelve months from the date of original issuance and each succeeding twelve-month period thereafter until the holder thereof attains the age of eighteen years, unless such license is sooner revoked, suspended or cancelled in accordance with other provisions of law. The absence of such evidence of revalidation appearing on such license shall be considered sufficient to prohibit and make unlawful the operation of any motor vehicle in this State by the licensee if such operation occurs after twelve months from the date of issue or last revalidation stamp appearing on such license. The holder of each such operator's license issued pursuant to the provisions of paragraph (1) hereof must apply in person to any point designated by the Division for the examination of operator's or chauffeur's licenses and must be accompanied by a parent, spouse or guardian from whom the original consent for the issuance of such license was obtained and such consent shall be reaffirmed by such person at the time of appearance; provided, however, the Division may waive this requirement of good cause shown. The Division, upon receipt of application for revalidation, shall examine the driving record of each such applicant and may revalidate the license or take such other action as may be appropriate in accordance with any other provision of law.
- (3) The Division upon receiving from any person over the age of fifteen years, eight months, an application for a temporary instruction permit may in its discretion issue such a permit, entitling the applicant while having such a

permit in his immediate possession, to drive a motor vehicle upon the highways for a period of six months, when accompanied by a licensed operator or chauffeur who is actually occupying a seat by the driver.

[The amendment in 1972 eliminated the introductory paragraph and subdivisions (2) and (3), apparently through inadvertence.]

§ 46.1-357.2. Persons having defective vision; minimum standards of visual acuity and field of vision; tests of vision. — (a) The Division shall not issue an operator's or chauffeur's license or temporary instruction permit on and after January one, nineteen hundred seventy, to any person otherwise qualified unless such person demonstrates a visual acuity of at least 20/40 in one or both eyes without or with corrective lenses or to any such person unless he demonstrates at least a field of one hundred degrees of horizontal vision in one or both eyes; except that a license permitting the operation of motor vehicles during a period beginning one-half hour after sunrise and ending one-half hour before sunset, may be issued to a person otherwise qualified who demonstrates a visual acuity of at least 20/70 in one or both eyes without or with corrective lenses provided such person demonstrates at least a field of seventy degrees of horizontal vision and further provided that if such person has vision in one eye only, he demonstrates at least a field of forty degrees temporal and thirty degrees nasal horizontal vision.

(b) The Division shall not issue an operator's or chauffeur's license or temporary instruction permit to any person authorizing the operation of (1) passenger carrying buses equipped with more than thirty-two passenger carrying seats, or (2) any vehicle or combination of vehicles having three or more axles with an actual gross weight in excess of forty thousand pounds, unless such person demonstrates a visual acuity of at least 20/40 in each eye and at least a field of one hundred and forty degrees of horizontal vision; provided, however, that upon presentation of special application to the Division by any such person who was licensed to operate any vehicle described in (2) hereof prior to January one, nineteen hundred seventy, such person may be issued the appropriate license if his operation of such vehicle would not unduly endanger the public safety, as determined by the Commissioner.

(c) Every person making application as provided for by § 46.1-380.1 of this title to renew an operator's license expiring on and after January one nineteen hundred seventy and required to be reexamined as prerequisite to the renewal of such license, shall (1) appear before a license examiner of the Division of Motor Vehicles to demonstrate his visual acuity and horizontal field of vision, or (2) accompany his application with a report of such examination made within ninety days prior thereto by an ophthalmologist or optometrist.

(d) The test of horizontal visual fields made by license examiners of the Division of Motor Vehicles shall be performed at thirty-three and one-third centimeters with a ten millimeter round white test object. The report of examination of visual acuity and horizontal field of vision made by an ophthalmologist or optometrist shall have precedence over an examination made by a license examiner of the Division of Motor Vehicles in administrative determination as to the issuance of a license to drive. Any such report may in the discretion of the Commissioner of the Division of Motor Vehicles be referred to a medical advisory board if such be established, or to the State Health Commissioner, for evaluation.

§ 46.1-358. Persons with suspended or revoked licenses. — The Division shall not issue an operator's or chauffeur's license to any person whose license, either as operator or chauffeur, has been suspended, during the period of such suspension; nor to any person whose license, either as operator or chauffeur, has been revoked or should have been revoked under the provisions of this title until the expiration of one year after such license was revoked unless otherwise permitted by the provisions of this title.

§ 46.1-359. Drunkards or drug addicts. — The Division shall not issue an operator's or chauffeur's license to any person who it has determined is an habitual drunkard or is addicted to the use of any drug which may impair the ability of person to operate a motor vehicle.

§ 46.1-360. Idiots, etc. — No operator's or chauffeur's license shall be issued to any applicant, who has previously been adjudged insane or an idiot, imbecile, epileptic or feeble-minded and who has not at the time of such application been restored to competency by judicial decree or released from a hospital for the insane or feeble-minded upon a certificate of the superintendent of the hospital that such person is competent, nor then unless the Division is satisfied that such person is competent to operate a motor vehicle with safety to persons and property.

§ 46.1-361. Sick or afflicted persons. — (a) The Division shall not issue an operator's or chauffeur's license to any person when in the opinion of the Division such person is afflicted with or suffering from such physical or mental disability or disease as will serve to prevent such person from exercising reasonable and ordinary control over a motor vehicle while operating the same upon the highways, nor shall a license be issued to any person who is unable to understand highway warning or direction signs.

(b) The words disability or disease shall not be construed to mean inability of a person to hear or to speak, or both, when such person has good vision and can satisfactorily demonstrate his ability to drive an automobile or truck and has sufficient knowledge of traffic rules and regulations.

§ 46.1-362. Persons convicted of certain offenses. — (a) The Division shall not issue an operator's or chauffeur's license or temporary instruction permit to any person, resident or nonresident, who has been convicted or has forfeited bail within one year of the application for such license or permit:

(1) Upon the following charges or offenses committed in violation of any federal law or law of this State or law of any other state or political subdivision thereof: (i) Voluntary or involuntary manslaughter resulting from the operation of a motor vehicle; (ii) perjury, the making of a false affidavit to the Division under any law requiring the registration of motor vehicles or regulating their operation on the highways or the making of a false statement in any application for an operator's or chauffeur's permit; (iii) any crime punishable as a felony under the motor vehicle laws or any felony in the commission of which a motor vehicle is used;

(2) Upon the following charges of offenses committed in violation of any federal law or law of this State or law of any other state or any valid town, city, or county ordinance of this State or of any other state: (i) Driving while under the influence of intoxicants or drugs in violation of § 18.1-54 or 18.1-60 or driving after forfeiture of license for a conviction under § 18.1-54 or 18.1-60 or similar federal or State laws or ordinances of any town, city or county of this State or of any other state; (ii) reckless driving, for the second time, when the offenses upon which the charges are based were

committed within a period of twelve consecutive months; (iii) failure of a driver of a motor vehicle, involved in an accident resulting in death or injury to another person, to stop and disclose his identity at the scene of the accident.

(3) Upon a charge of operating or permitting the operation, for the second time, of a passenger automobile for the transportation of passengers for rent or for hire, without having first obtained a license for such privilege as provided in § 46.1-149.

(b) The Division shall not issue an operator's or chauffeur's license or temporary instruction permit to any person convicted of a crime mentioned in paragraphs (a) 1 (i); (2) (i), (ii) or (iii) of this section for a further period of three years after he shall become entitled to a license or permit under this section, unless and until he shall prove to the Commissioner his ability to respond in damages as provided in article 6 (§ 46.1-467 et seq.) of chapter 6 of this title or any other law of this State now in effect or subsequently enacted requiring proof of financial responsibility.

§ 46.1-368. Application for operator's or chauffeur's license. — (a) Every application for an operator's or chauffeur's license or temporary or instruction permit shall be made upon a form approved and furnished by the Division and the applicant shall write his usual signature in ink in the space provided.

(b) Every application shall state the name, year, month and date of birth, social security number, sex and residence address of the applicant, whether or not the applicant has theretofore been licensed as an operator or chauffeur and if so, when and by what state and whether or not such license has ever been suspended or revoked, and, if so, the date of and reason for such suspension or revocation. The Division may as a condition for the issuance of any operator's or chauffeur's license or temporary or instruction permit require the surrender of any license to operate a motor vehicle issued by another state and held by such applicant upon adoption by Virginia of the Driver License Compact. Such applicant shall also answer any and all questions constituting a part of the form of application used or otherwise propounded by the Division incidental to the estimation of such applicant for operator's or chauffeur's license.

(c) Every application for an operator's or chauffeur's license shall, on and after July one, nineteen hundred sixty-nine, include a color photograph, front face of the applicant supplied under arrangements made therefore by the Division. Such photograph shall be processed by the Division so that the photograph may be made part of the issued license and so that the year the photograph was taken is indicated thereon.

§ 46.1-369. Examination of applicants. — The Division of Motor Vehicles shall examine every applicant for an operator's or chauffeur's license before issuing any such license, except as otherwise provided in § 46.1-349; provided, that no applicant shall be examined or further considered for licensing within any period of twelve months in which he has been previously examined three times. The Division shall examine the applicant as to his physical and mental qualifications and his ability to operate a motor vehicle in such manner as not to jeopardize the safety of persons or property and as to whether any facts exist which would bar the issuance of a license under §§ 46.1-357 through 46.1-362, but such examination shall not include investigation of any facts other than those directly pertaining to the ability of the applicant to operate a motor vehicle with safety, or other

than those facts declared to be prerequisite to the issuance of a license under this chapter and no applicant otherwise competent shall be required to demonstrate ability to park any motor vehicle except in an adequate parking space between horizontal markers and not between flags or sticks simulating parking vehicles. Applicants for license to operate motor vehicles of the classifications referred to in § 46.1-373 of this title and motorcycles shall submit to examinations which relate to the operation of motor vehicles referred to herein.

§ 46.1-370. Qualifications of school bus driver; examination. — No person shall drive any school bus upon a highway in this State unless such person has had a reasonable amount of experience in driving motor vehicles, and shall have satisfactorily passed a special examination pertaining to the ability of such person to operate a school bus with safety to the school children thereon and to other persons using the highways. The Division of Motor Vehicles shall adopt such rules and regulations as may be necessary to provide for the examination of persons desiring to qualify to drive such buses in this State and for the granting of permits to qualified applicants.

§ 46.1-370.1. Examination and road test required for license to operate motorcycle; rules and regulations. — No person shall operate any motorcycle upon a highway in this State unless such person shall have passed a special examination, including written material and a road test, pertaining to the ability of such person to operate a motorcycle with reasonable competence and with safety to other persons using the highways. The Division of Motor Vehicles shall adopt such rules and regulations as may be necessary to provide for the special examination under § 46.1-369 of persons desiring to qualify to operate such motorcycles in this State and for the granting of licenses or permits suitably endorsed for qualified applicants.

§ 46.1-371. Designation of persons to examine applicants for licenses; conduct of examination; reports. — The Commissioner shall designate such persons within this state as he shall see fit to act for the Division for the purpose of examining applicants for operator's and chauffeur's licenses. Any such person so designated or appointed shall conduct examinations of applicants for operator's and chauffeur's licenses under the provisions of this chapter and make a written report of findings and recommendations upon such examination to the Division.

§ 46.1-372. Register of applications; records of licenses issued, denied, suspended, or revoked. — The Division shall file every application for an operator's or chauffeur's license and index the same by name and number and maintain suitable records of all licenses issued and all applications for licenses denied, and also a record of all licenses which have been suspended or revoked.

§ 46.1-373. Division to issue licenses; endorsements authorizing operation of certain vehicles. — The Division shall issue to every person licensed as an operator, an operator's license and to every person licensed as a chauffeur's license. Every such license applied for and issued or renewed, on and after July one, nineteen hundred seventy, shall contain the appropriate endorsement or indication where applicable that the licensee has been licensed (1) to operate passenger carrying buses other than school buses equipped with more than thirty-two passenger seats, or (2) to operate any vehicle or combination of vehicles having three or more axles with an actual gross weight in excess of forty thousand pounds, or (3) to operate a motorcycle, as defined in paragraph (14) of § 46.1-1 excluding four-wheeled vehicles, or (4) to operate a school bus as defined in paragraph (37) of § 46.1-1.

Every applicant intending to operate one or more of the motor vehicles described in categories (1) or (2) above, when applying for an operator's or chauffeur's license shall state in his application, if applicable, that he has driven at least five hundred miles in the vehicle of the classification which he intends to operate and for which he seeks to be licensed, or such person shall submit to, and pass, the examination provided for in § 46.1-369, using the type of vehicle for which he seeks to be licensed.

Every applicant intending to operate a motorcycle as defined in category (3) above, when applying for a license endorsed to authorize the operation of a motorcycle, shall submit to and pass the examination provided for in § 46.1-370.1. An endorsement on any license to operate such motorcycle shall indicate that such license is endorsed for the purpose of authorizing such licenses to operate only motorcycles; provided, however, that if such applicant has a valid operator's or chauffeur's license at the time of application for an endorsement to operate a motorcycle or if such applicant at the time of such application applies for a regular operator's or chauffeur's license and submits to and passes the examination provided for in § 46.1-369, he shall be granted an endorsement on his operator's or chauffeur's license to operate motorcycles in addition to such other vehicles as his operator's or chauffeur's license may authorize him to operate.

The Division shall be vested with authority to effect such changes in the endorsement during the validity of the license as may be appropriate.

The provisions of this section shall be applicable to persons applying for temporary instruction permits or otherwise provided for in this title.

Every person issued an operator's or chauffeur's license on or after July one, nineteen hundred seventy, who operates any motor vehicle of the classifications herein described, and whose operator's or chauffeur's license does not carry an endorsement or indication that such licensee is licensed as herein provided shall be guilty of a misdemeanor.

§ 46.1-375. What license to contain. — Every such license shall bear thereon the number assigned to the licensee and his social security number, which may be the number assigned to the licensee, a dated color photograph of the licensee, the licensee's name, year, month and date of birth, residence address including the city or county of actual residence, a brief description of the licensee for the purpose of identification, and also a space for the signature of the licensee and any other information deemed necessary by the Commissioner for the administration of this title. The license shall be cardboard or other suitable material or combination thereof and in a form to be determined by the Commissioner.

§ 46.1-375.1. Manner of issuing original operators' licenses where applicants are under eighteen. — The Division shall forward all original operators' licenses so issued to applicants who at the time of application for operator's license had not attained the age of eighteen years, to the judge of the juvenile and domestic court in the city or county in which the person to be licensed resides. Such judge shall issue to each person to be licensed the license so forwarded, and shall, at the time of issuance, conduct a formal, appropriate ceremony, in which he shall illustrate to the licensee the responsibility attendant upon the privilege of operating a motor vehicle. If the licensee has not attained the age

of eighteen years of age at the time such application was made, he shall be accompanied at such ceremony by a parent, his guardian, spouse or other person in loco parentis; provided, however, such judge, for good cause shown, may mail or otherwise deliver such operator's license to any person who is a student at any educational institution outside of the Commonwealth of Virginia at the time such license is received by such judge as hereinbefore prescribed.

§ 46.1-375.2. Law enforcement personnel to be provided with imprinting equipment. -- It shall be the duty of each law-enforcement agency, including the Department of State Police, charged with the duty to enforce those provisions of this title or parallel and conforming and local ordinances which cover violations reportable to the Division of Motor Vehicles under § 46.1-413 to provide its personnel with imprinting equipment of a type which will permit the transfer, without handwriting, of information embossed on operator's and chauffeur's licenses to summonses and which shall be approved by and may be made available at cost to other agencies by the Department of State Police.

§ 46.1-377. Temporary driver's permit. -- The Division, upon determining after an examination that an applicant is mentally, physically, and otherwise qualified to receive a license, may issue to such person a temporary driver's permit entitling such person while having such permit in his immediate possession to drive a motor vehicle upon the highways for a period of ninety days before issuance of an operator's or chauffeur's license.

§ 46.1-378. Special restrictions on particular licensees. -- (a) The Division upon issuing an operator's or chauffeur's license may, whenever good cause appears, impose restrictions suitable to the licensee's driving ability with respect to the type of, or special mechanical control devices required on, a motor vehicle which the licensee may operate or such other restrictions applicable to the licensee as the Division may determine. When it shall appear from the records of the Division that the licensee has failed or refused to comply with the restrictions imposed on the licensee's operation of a motor vehicle, the Division may, after ten days' written notice to the address indicated in the records of the Division, suspend the operator's or chauffeur's license of such person and such suspension shall remain in force and effect until the provisions of this section have been complied with.

(b) Any person issued an operator's or chauffeur's license on which there are printed or stamped restrictions as provided by this section and who operates a motor vehicle in violation of such restrictions shall be guilty of a misdemeanor and upon conviction shall be punished as provided in § 46.1-387.

§ 46.1-379. Duplicate license certificates and chauffeur's badges. -- In the event that an operator's or chauffeur's license or a chauffeur's badge issued under the provisions of this chapter shall be lost or destroyed, the person to whom it was issued may obtain a duplicate or substitute thereof upon furnishing proof satisfactory to the Division that such license or badge has been lost or destroyed or that there are good reasons why such duplicate should be issued and upon the payment of a fee of one dollar for each such duplicate license or badge.

§ 46.1-380.1. Expiration and renewal of licenses after January 1, 1970; examination required. -- (a) Any operator's license issued in accordance with the provisions of this

chapter on and after January one, nineteen hundred seventy shall be issued to expire four years from the birthday month of the applicant nearest to the month in which the license is issued. Thereafter any such operator's license shall be renewed in the birthday month of the licensee and shall be valid for four years.

Any chauffeur's license issued in accordance with the provisions of this chapter on and after January one, nineteen hundred seventy, shall be issued to expire one year from the birthday month of the applicants nearest to the month in which the license is issued. Thereafter, any such chauffeur's license shall be renewed in the birthday month of the licensee and shall be valid for one year.

Any operator's or chauffeur's license issued prior to January one, nineteen hundred seventy shall expire upon the date shown thereon and upon such expiration shall be renewed so as to expire thereafter in the month and year as provided above.

(b) Within ninety days prior to the date shown on the operator's license as the date of expiration, the Division shall mail notice, to the holder thereof, at the address shown on the records of the Division in its operators' license file, that such license will expire on a date related therein, whether the holder must be reexamined and when he may be reexamined. Nonreceipt of such notice shall not serve to extend the period of validity of such operator's license beyond the expiration date shown thereon.

Any operator's license issued in accordance with the provisions of this chapter may thereafter be renewed only upon proper application and, in the cases enumerated below, upon the applicant's having taken and successfully completed those parts of the examination provided for in §§ 46.1-357.2 and 46.1-369, including visual and written tests, other than the parts of such examination requiring the applicant to operate a motor vehicle. All operators applying for renewal of a license shall be required to take and successfully complete such examination in the following cases: (i) in the renewal year most immediately prior to the year of his thirtieth birthday; (ii) in the renewal year most immediately prior to the year of his thirty-eighth birthday; (iii) in the renewal year most immediately prior to his forty-second birthday; and (iv) each renewal year thereafter.

(c) Any chauffeur's license issued in accordance with the provisions of this chapter may thereafter be renewed only upon proper application and, in the cases enumerated below, upon the applicant's taking and successfully completing those parts of the examination provided for in §§ 46.1-357.2 and 46.1-369, including visual and written tests, other than the parts of such examination requiring the applicant to operate a motor vehicle. All chauffeurs applying for renewal of a license shall be required to take and successfully complete such examination in the following cases: (i) in the renewal year of his thirtieth birthday; (ii) in the renewal year of his thirty-eighth birthday; (iii) in the renewal year of his forty-second birthday; and (iv) each fourth renewal year thereafter.

(d) Any operator or chauffeur applying for renewal of his license who must be reexamined shall be required to obtain an appointment for reexamination in his birthday month in accordance with rules and regulations adopted by the Division.

(e) Notwithstanding any other provision of this section, the Commissioner in his discretion may require any applicant for renewal be fully examined as provided in §§ 46.1-357.2 and 46.1-369. Furthermore, the Commissioner shall waive the requirement or the taking of the written test as provided in subsection (b) and (c) hereof and § 46.1-369 for any applicant for renewal if the applicant's operator's or chauffeur's license record on file at the Division contains, for the four years prior to the expiration date of the license being renewed, a record of no more than one conviction for any offense reportable under §§ 46.1-412 and 46.1-413; provided, that in no case shall there be any waiver of the visual examination required by said subsections or § 46.1-357.2.

(f) Every applicant for renewal of a license under the provisions of this chapter, whether renewal shall or shall not be dependent on any examination of the applicant shall appear in person before the Division to make application for renewal, unless specifically exempted from this requirement by administrative regulations duly adopted by the Commissioner. Such regulations shall exempt only those persons, such as servicemen and out-of-state students, whose prolonged absence from the State makes such personal appearance a hardship.

(g) The provisions of this section shall take effect on and after January one, nineteen hundred seventy, provided, however, that on and after July one, nineteen hundred seventy-five the examinations provided for in paragraph (b) hereof shall be required in each renewal year and the examinations required in paragraph (c) hereof shall be required in each fourth renewal year.

(h) The provisions of this section shall not be deemed to modify the provisions of § 46.1-382 (1968).

§ 46.1-380.2. Fees. — (a) On and after July one, nineteen hundred sixty-eight for each operator's license issued under the provisions of this chapter, the fee shall be seven dollars, and for each operator's license renewed under such provisions the fee shall be seven dollars. On and after July one, nineteen hundred sixty-eight, for each chauffeur's license issued under the provisions of this chapter, the fee shall be four dollars, and for each chauffeur's license renewed under such provisions the fee shall be four dollars.

(b) On and after January one, nineteen hundred sixty-nine, for each operator's license issued with an endorsement to operate motorcycles and other vehicles under the provisions of this chapter, the fee shall be ten dollars, and for each such license renewed under such provisions, the fee shall be nine dollars. On and after January one, nineteen hundred sixty-nine, for each chauffeur's license issued with the endorsement to operate motorcycles and other vehicles under the provisions of this chapter, the fee shall be five dollars, and for each such license renewed under such provisions the fee shall be four dollars.

(c) On and after January one, nineteen hundred seventy, for each operator's license and on and after July one, nineteen hundred seventy, for each operator's license with an endorsement to operate a school bus issued under the provisions of this chapter, the fee shall be nine dollars, and for each such operator's license renewed under such provisions the fee shall be nine dollars. On and after January one, nineteen hundred seventy, for each chauffeur's license issued under the provisions of this chapter, the fee shall be six dollars, and for each chauffeur's license renewed under such provisions the fee shall be six dollars.

On and after January one, nineteen hundred seventy, for each operator's license issued with an endorsement to operate motorcycles and other vehicles under the provisions of this chapter, the fee shall be twelve dollars, and for each such license renewed under such provisions the fee shall be eleven dollars.

On and after January one, nineteen hundred seventy, for each chauffeur's license issued with an endorsement to operate motorcycles and other vehicles under the provisions of this chapter, the fee shall be seven dollars, and for each such license renewal under such provisions the fee shall be six dollars.

(c1) No additional fee above the fee charged for an operator's license shall be assessed for a chauffeur's license or for an endorsement to operate motorcycles and other vehicles against any employee of the Commonwealth, or of any county, city or town who operates a motorcycle or other vehicle solely in the line of his duty and for which a license or endorsement fee is assessed. The Commissioner is authorized to prescribe such forms as may be requisite for completion by persons claiming exemption from such additional fees under the provisions of this subsection.

(d) One dollar of such fees shall be paid into the driver education fund of the State treasury, and expended as provided for in § 22-235.1 —; provided, however, that on and after January one, nineteen hundred seventy, one dollar and thirty-three cents of all such fees shall be paid into the driver education fund of the State treasury, and expended as provided for in § 22-235.1. Unexpended funds from the driver education fund shall be retained in such fund and be available for expenditure in ensuing years as provided therein.

(d1) On and after July one, nineteen hundred seventy-two, the fee for reinstatement or reissuance of any operator's or chauffeur's license that has been suspended or revoked shall be twenty-five dollars, except that no reinstatement fee shall be required under the following conditions:

To any person whose license is suspended pursuant to §§ 46.1-442, 46.1-443 or 46.1-446 (b) [§ 46.1-447] when the insurance carried by him was in a company authorized to transact business in this State and which subsequent to an accident and prior to the settlement of any claim went into liquidation so that the person is unable to satisfy the judgement arising out of the accident:

To any person when any order of suspension or revocation issued under the provisions of chapter 3, or chapter 5 through chapter 6 of Title 46.1, was caused to be issued by reason of an error committed in the reporting or the processing of any report of a motor vehicle accident, abstract of conviction, certificate of insurance or any other document required to be filed with the Division of Motor Vehicles.

(e) The provisions of this section shall be deemed to supersede any other provision of this chapter to the contrary.

§ 46.1-382. Extension of licenses for persons in armed forces. — The operator's license of any person issued under the provisions of this article shall be held not to have expired during the period of his service, if any, outside the Commonwealth of Virginia,

in the armed forces of the United States and six months thereafter; provided, however, that any such extension granted under the provisions of this section shall not exceed four years from the date of expiration shown on the individual's operator's license. Any person whose license is extended under the provisions of this section shall have documentary or other proof when operating any motor vehicle that he is entitled to the benefits hereof.

§46.1-383. Examination of licensee believed incompetent; suspension, revocation or restriction of license; license application to include questions as to physical or mental conditions of applicant; false answers.

§46.1-383. Driver improvement interviews; examination of licensee believed incompetent; suspension, revocation or restriction of license; license application to include questions as to physical or mental conditions of applicant; false answers; examination of applicant; physician's statement. — (a) The Division may upon written notice by certified mail of at least fifteen days require the driver whose operating record reflects multiple traffic violations and/or accident involvement to appear for a driver improvement interview in an effort to help change his driving habits and performance. The Division may suspend the operator's or chauffeur's license of any person who fails to appear for a scheduled driver improvement interview until such time as the person has attended a scheduled driver improvement interview in his residence jurisdiction. The Division having any good cause to believe that an operator or chauffeur is physically or mentally incompetent to operate a motor vehicle safely may upon written notice of at least fifteen days to the person require him to submit to an examination to determine his fitness to operate a motor vehicle upon the highways of this State. As a part of such examination, the Division may require a physical examination by a licensed physician and report on the results thereof. Upon the conclusion of such examination, the Division shall take such action as may be appropriate and may suspend or revoke the license or privilege to operate a motor vehicle in this State of such person or permit him to retain such license or privilege to operate a motor vehicle in this State, or may issue a license subject to such restrictions as are authorized to be imposed by §46.1-378. Refusal or neglect of the person to submit to such examination or comply with such restrictions shall be grounds for suspension or revocation of his license or privilege to operate a motor vehicle in this State.

(b) The Commissioner shall include as a part of the application for an original operator's or chauffeur's license, or renewal thereof, questions as to applicant's ability to operate a motor vehicle safely. Any person knowingly giving a false answer to any such question shall be guilty of a misdemeanor. If the answer to any such question indicates the existence of such condition, the Commissioner shall require an examination of the applicant by a licensed physician as a prerequisite to the issuance of the operator's or chauffeur's license. The report of such examination shall contain a statement that in the opinion of the physician, the applicant's physical or mental condition at the time of such examination does or does not preclude his safe operation of motor vehicles.

§46.1-383.1. Examination prior to renewal of license of person convicted of certain traffic violations during license period. — Upon the expiration of the operator's or chauffeur's license of any person who has been convicted of two or more traffic violations occurring within the preceding license period of the applicant in which the vehicle operated

by him was in motion, and provided such violations would have required revocation of such person's license under the provisions of this title had they occurred within a period of one year, the operator's or chauffeur's license of such person shall not be renewed until he shall have submitted to an examination to determine his fitness to operate a motor vehicle in this State, unless such person shall have undergone and passed the examination provided for by §46.1-369 subsequent to the violation resulting in conviction requiring examination hereunder. Upon the conclusion of such examination, the Division shall take such action as may be appropriate and may withhold renewal of such license or privilege to operate a motor vehicle in this State of such person or may renew such license or privilege, or may renew the license subject to such restrictions as are authorized to be imposed by §46.1-378. Refusal or neglect of the person to submit to such examination or comply with such restrictions shall be grounds for suspension or revocation of his privilege to operate a motor vehicle in this State.